



Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
Pune- 411028.



Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Marathi

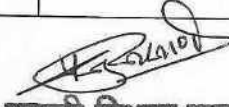


Pune District Education Association's
Annasaheb Magar Mahavidyalaya
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Name of the Programme: B. A. Marathi

PO. No.	Outcomes
PO1	मराठी विषयाची पदवी घेऊन विद्यार्थी त्याचे व्यावहारिक उपयोजन करू लागला.
PO2	विद्यार्थ्यांस प्रकाशन व्यवसायामध्ये काम करण्यास संधी निर्माण झाली.
PO3	व्यावसायिक कार्यक्रमांचे निवेदन, सूत्रसंचालन, वक्तृत्व करण्यास सक्षम बनला.
PO4	प्रिंट आणि इलेक्ट्रॉनिक मिडियामध्ये काम करू लागला. पत्रकार, निवेदक, संपादक, मुद्रितशोधक, जनसंपर्क अधिकारी आदी.
PO5	मराठी साहित्याचा इतिहास समजावून घेऊन भाषेचे व्याकरण, स्पर्धा परीक्षां मधील मराठीचा परिचय झाला.
PO6	प्रतिभा शक्ती असणारा विद्यार्थीस कस साहित्याच्या वाचनातून परिपूर्ण बनला.
PO7	भाषिक संशोधनासाठीची पूर्वतयारी पदवी आणि पदव्युत्तर अभ्यासक्रमातून झाली.
PO8	अध्यापन क्षेत्रात जाण्यासाठी रुची निर्माण झाली.

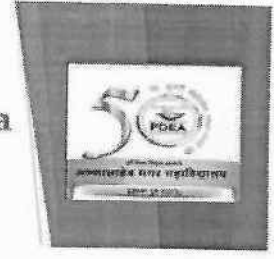

मराठी विभाग प्रमुख
अण्णासाहेब मगर महाविद्यालय
हडपसर, पुणे-४११ ०२८.


Co-ordinator
IQAC Committee
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-28.


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Name of the Programme: B.A.Marathi

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
F.Y.B.A	11021 A	सामान्य स्तर अभ्यासपत्रिका क्र.०१ 'समकालीन मराठी कथा	CO1	साहित्याभ्यासातून जीवनविषयक समज विकसित झाले .
			CO2	समकालीन मराठी कथांचा अभ्यास केला.
			CO3	व्यक्तिमत्त्वविकासात भाषेचे स्थान स्पष्ट झाले.
			CO4	जागतिकीकरणात विविध क्षेत्रांना सामोरे जाण्यासाठी भाषिक क्षमता विकसित केली.
			CO5	साहित्याभ्यासातून जीवनविषयक समज विकसित केला.
			CO6	समकालीन मराठी कथांचा अभ्यास केला..
SEMESTER II				
F.Y.B.A	12021	एकांकिका मराठी साहित्य. एकांकिका आणि भाषिक कौशल्ये विकास,	CO1	एकांकिका या साहित्यप्रकारची ओळख करून घेतली.
			CO2	एकांकिका या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून घेतली.
			CO3	मराठी साहित्यातील निवडक एकांकिकाचे विद्युल तो आला व हांडभर चादण्या या एकांकिकाचे अध्ययन केले.

		विठ्ठल तो आला आला-पु. ल. देशपां डे, हंडाभर चांदण्या- दत्ता पाटील		
SEMESTER III				
S.Y.B.A	23023 A	G2 भाषिक कौशल्यवि कास आ णि आधुनिक मराठी साहित्यप्र कार :कांद बरी	CO1	कांदबरी या साहित्यप्रकाराचे स्वरूप . घटक, प्रकारआणि वाटचाल समजून घेतली.
			CO2	नेमेलेल्या कांदबरीचे आकलन आस्वाद आणि विश्लेषण करण्यास सक्षम बनला.
			CO3	कौशल्य विकास होण्यासाठी मदत झाली.
SEMESTER IV				
S.Y.B.A.	24023	G2 भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्यप्र कार: ललितग द्य	CO1	द्य गद्य , या साहित्यप्रकाराचे स्वरूप ,घटक प्रकार आणि वाटचाल समजून घेतली.
			CO2	या अभ्यास पुस्तकातील ललित गद्यचे आकलन आणि विश्लेषण बनला.
			CO3	कौशल्य विकास होण्यासाठी मदत झाली.
SEMESTER III				
S.Y.B.A.	23021	S1	CO1	चरित्र या साहित्य प्रकाराचे स्वरूप समजावून संकल्पना घेतले.

		आधुनिक मराठी साहित्य: प्रकाशवाटा -डॉ. प्रकाश	CO2	आत्मचरित्र या साहित्य प्रकाराचे प्रेरणा आणि वाटचाल यांची ओळख करून दिली .
			CO3	ललित गद्य तील अन्य साहित्यप्रकाराच्या तुलनेत आत्मचरित्र्येचे वेगळेपण समजावून घेतली.
			CO4	या या आत्मचरित्राचे आकलन ,आस्वाद आणि विश्लेषण करून.
SEMESTER IV				
S.Y.B.A.	24021	S1 आधुनिक मराठी साहित्य: प्रकाशवाटा -डॉ. प्रकाश आमटे	CO1	रित्र या साहित्य प्रकाराचे स्वरूप समजावून संकल्पना घेतले.
			CO2	आत्मचरित्र या साहित्यप्रकाराचे प्रेरणा आणि वाटचाल यांची ओळख करून दिली .
			CO3	ललित गद्य तील अन्य साहित्यप्रकाराच्या तुलनेत आत्मचरित्र्येचे वेगळेपण समजावून घेतली.
			CO4	या या आत्मचरित्राचे आकलन ,आस्वाद आणि विश्लेषण करणे. करून दिले.
SEMESTER III				
S.Y.B.A.	23022	S2 साहित्य विचार	CO1	भारतीय आणि पाश्चत्य साहित्यातील आधारे साहित्याची संकल्पना ,स्वरूप आणि प्रयोजन विचार समजून घेतले..
			CO2	साहित्याची निर्मितीप्रक्रीया समजावून घेतले.
			CO3	साहित्याची भाषा आणि शैली विषयक विचार समजावून घेतले..
SEMESTER IV				
S.Y.B.A.	24022	S2 साहित्य समीक्षा	CO1	समीक्षेची संकल्पना ,स्वरूप यांचा परिचय करून
			CO2	आणि समीक्षा यांचे परस्पर संबध समजावून घेतले.व अभ्यासले
			CO3	प्रकारानुसार समीक्षेचे स्वरूप समजावून घेतले.व अभ्यासले
			CO4	चय .परीक्षण यातील फरक समजावून घेतले..
SEMESTER III				
S.Y.B.A.	23025	(SEC	CO1	प्रकाशन व्यवहार आणि संपादन यांचे उपयोजन समजून घेतली .


) प्रकाश न व्यवहार आणि संपादन	CO2	ग्रंथनिर्मिती प्रक्रिया समजून घेतली.
			CO3	संहिता संपादन समजून घेतले.
SEMESTER IV				
S.Y.B.A.	24025	उपयोजित लेखन कौशल्ये SEC	CO1	जाहिरात,मुलाखत लेखन आणि संपादन यासाठी आवश्यक कौशल्ये मिळविणे.
			CO2	जाहिरात,मुलाखत लेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण मिळविणे.
			CO3	जाहिरात,मुलाखत लेखन आणि संपादन यासाठी आवश्यक उपयोजन कौशल्ये मिळविणे
			CO4	माहितीपर नोंदीची ओळख करून घेतली.
SEMESTER V				
T.Y.B.A.	35023	आधुनिक मराठी साहित्य आणि व्यवहारिक कव उपयोजित मराठी	CO1	आधुनिक मराठी साहित्यातील विविध वाङ्मय प्रकारांचा परिचय वाढला.
			CO2	प्रवास वर्णन या साहित्य प्रकारचा परिचय झाला
			CO3	भाषेचा यथायोग्य वापर करण्याची क्षमता विकसित झाली.
			CO4	ग्रंथ परीक्षण करण्याची क्षमता विकसित झाली.
SEMESTER VI				
T.Y.B.A.	36023	G3 मराठी भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार रूप	CO1	मराठी साहित्य कौशल्य विकास आणि शासन व्यवहार यांची ओळख झाली.
			CO2	राज्यघटनेतील भाषा विषयक तरतुदी माहिती करून घेतली.
			CO3	मराठी राजभाषा अधिनियम माहिती झाली .
			CO4	मराठी कवितेचे स्वरूप आणि वाटचाल समजली.

		कवितेचे		
SEMESTER V				
T.Y.B.A.	35021	S3 मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास	CO1	साहित्य इतिहासाची संकल्पना मराठी साहित्याचा उगम समजावून घेतला.
			CO2	यादवकाल आणि बहामनी काळातील साहित्य निर्मिती समजावून घेतली.
		इ.स. प्रारंभ ते १६००	CO3	महानुभाव व वारकरी संप्रदायातील साहित्याच्या प्रेरणा, प्रवृत्ती आणि स्वरूप समजावून घेतले.
		CO1	साहित्य इतिहासाची संकल्पना मराठी साहित्याचा उगम समजावून घेतला.	
SEMESTER VI				
T.Y.B.A.	36021	S3 मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास	CO1	शिवकाल आणि पेशवेकालातील वाङ्मयीन मराठीचे स्वरूप समजले.
			CO2	संत तुकाराम, रामदास, अनंतफंदी, मोरोपंत, रामजोशी, प्रभाकर इ. संत, या पंडित व शाहीर कवींचे योगदान अभ्यासले.
		इ.स. १८१७ ते १६०१	CO3	बखर वाङ्मय प्रेरणा व स्वरूप समजले.
		CO4	सभासद बखर, भाऊसाहेबांची बखर, पानिपत बखर आज्ञापत्र शिव शिवछत्रपतींचे अभ्यासले ..	
SEMESTER V				
T.Y.B.A.	35022	S4 भाषाविज्ञान	CO1	कुलाची संकल्पना जाणून घेऊन मराठी भाषेच्या उत्पत्तीचा अभ्यास केला.
			CO2	ठी भाषेचा उत्पत्तीकाळ जाणून घेऊन तत्कालीन भाषिक स्थित्यंतराचा आढावा घेतला .
			CO3	गा व १७ व्या शतकातील मराठी भाषेची स्थिती गती जाणून घेण्याची क्षमता प्राप्त झाली..
			CO4	हणून मराठीच्या वाटचालीचा ऐतिहासिक आढावा घेता येऊ लागला.
SEMESTER VI				

T.Y.B.A.	36022	S4 वर्णनात्म क भाषा विज्ञान DSE 2 D (3+1)	CO1	रूपविन्यास आणि मराठीची रूप व्यवस्था समजावून घेणे.
			CO2	वाक्यविन्यास आणि मराठी भाषेसंदर्भात वाक्यव्यवस्थेचा परिचय करून देणे.
			CO3	अर्थविन्यास या संकल्पनेचा भाषा विज्ञानाच्या अंगाने परिचय करून देणे.
			CO4	क्षेत्रभेटीचे व संशोधन प्रकल्पाचे महत्व सांगणे.
SEMESTER V				
T.Y.B.A.	35025	कार्यक्रम संयोजना तील भाषिक कौशल्ये: भाग १ SEC	CO1	मराठी साहित्य भाषिक कौशल्ये विकास व यांची माहिती झाली .
			CO2	कार्यक्रमाचे स्वरूप व प्रकार समजून घेतली .
			CO3	कार्यक्रम संयोजनातील भाषिक कौशल्ये अवगत केली .
			CO4	कार्यक्रम नियोजन,सूत्रसंचालन यांची कौशल्ये मिळवली .
			CO5	आयोजक,प्रायोजक,जाहिरातदार,निवेदक यांचे कार्य व महत्त्व समजून घेतली .
SEMESTER VI				
T.Y.B.A.	36025	संयोजना तील भाषिक कौशल्ये: भाग २ SEC	CO1	कार्यक्रम संयोजनातील लेखन कौशल्ये संपादन केली.
			CO2	कार्यक्रम संयोजनातील भाषिक कौशल्ये अवगत झाली
			CO3	आभासी कार्यक्रम संयोजन अवगत झाले.
			CO4	निमंत्रण पत्रिका,मानपत्र लेखन,अहवाल लेखन कौशल्ये समजली.
			CO5	कवी संमेलन ,पुस्तक प्रदर्शन ,मराठी भाषा दिन या कार्यक्रमांचे यशस्वी संयोजन केले.

मराठी विभाग प्रमुख
अण्णासाहेब मगर महाविद्यालय
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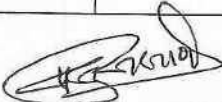


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Name of the Programme: M. A. Marathi

PO. No.	Outcomes
PO1	मराठी विषयाची पदवी घेऊन विद्यार्थी त्याचे व्यावहारिक उपयोजन करू लागला.
PO2	विद्यार्थ्यांस प्रकाशन व्यवसायामध्ये काम करण्यास संधी निर्माण झाली.
PO3	व्यावसायिक कार्यक्रमांचे निवेदन, सूत्रसंचालन, वक्तृत्व करण्यास सक्षम बनला.
PO4	प्रिंट आणि इलेक्ट्रॉनिक मिडियामध्ये काम करू लागला. पत्रकार, निवेदक, संपादक, मुद्रितशोधक, जनसंपर्क अधिकारी आदीं.
PO5	मराठी साहित्याचा इतिहास समजावून घेऊन भाषेचे व्याकरण, स्पर्धा परीक्षांमधील मराठीचा परिचय झाला.
PO6	प्रतिभाशक्ती असणारा विद्यार्थीसकस साहित्याच्या वाचनातून परिपूर्ण बनला.
PO7	भाषिक संशोधनासाठीची पूर्वतयारी पदवी आणि पदव्युत्तर अभ्यासक्रमातून झाली.
PO8	अध्यापन क्षेत्रात जाण्यासाठी रुची निर्माण झाली.
PO9	विद्यार्थ्यांस मराठी भाषाआणिवाङ्मयाचे प्रगत ज्ञान प्राप्त झाले.
PO10	विद्यार्थी वाङ्मयीन प्रवाहांचे नीट आकलन करू लागला.


मराठी विभाग प्रमुख
अण्णासाहेब मगर महाविद्यालय
हडपसर, पुणे-४११ ०२८.


Co-ordinator
IQAC Committee
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Hadapsar, Pune-28.


PRINCIPAL
Annasaheb Magar Mahavidyalaya,
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Name of the Programme: M.A.MARATHI

Name of the Class	Course Code	Course Title	Course Outcomes
SEMESTER I			
M.A -I	10401	भाषा व्यावहार	CO:1 विविध स्तरावरील भाषिक कौशल्ये व क्षमता विकसित झाल्या.
		आणि भाषिक कौशल्ये	CO:2 भाषाव्यवहाराचे औपचारिक आणि अनौपचारिक क्षेत्रनिहाय स्वरूप समजावून घेतल्या.
		भाग १	CO:3 व्यक्तिमत्त्व विकासासाठी भाषिक कौशल्ये आत्मसात करणे.
			CO:4 प्रकाशन व्यवसायाचे स्वरूप समजले.
M.A -I	10402	मराठी	CO1 अर्वाचीन मराठी भाषेचा परिचय करून देणे.
		वाङ्.मयाचा इतिहास (१८१८ ते १९२०)	CO2 मराठी भाषेच्या उत्पत्तीविषयीच्या विविध उपपत्ती समजावून घेणे.
M.A -I	10403	भाषा विज्ञान : वर्णनात्मक	CO1 भाषेचे स्वरूप व कार्ये, भाषेच्या अभ्यासाचे महत्त्व, भाषेच्या अभ्यासाची प्रमुख अंगे जाणून घेणे.
			CO2 स्वनिमविज्ञान, स्वनिम संकल्पना आणि मराठीची स्वनिम व्यवस्था समजावून घेणे.
			CO3 स्वनिम संकल्पना आणि मराठीची रूपिम व्यवस्था समजावून घेणे.
			CO4 वाक्यविन्यास व अर्थविन्यास याभाषा वैज्ञानिक संकल्पनांचा मराठीच्या संदर्भात स्थूल परिचय देणे.

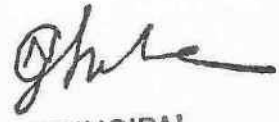
M.A -I	10404	ग्रामीण साहित्य	CO1	स्वातंत्र्योत्तर मराठी वाङ्.मयाचे स्वरूप समजावून देणे.
			CO2	गावगाड्याची जडणघडण समजावून देणे.
			CO3	ग्रामीण साहित्यातील सामाजिक आणि सांस्कृतिक आकृतिबंध समजावून घेणे.
			CO4	ग्रामीण साहित्याचे मराठी साहित्याला असलेले योगदान स्पष्ट करणे.
SEMESTER II				
M.A -I	२०४० १	भाषाव्याव हार आणि भाषिक कौशल्ये भाग 2	CO1	मराठीच्या प्रमाणभाषेचे लेखन व मुद्रितशोधन या संकल्पना समजावून प्रत्यक्ष उपयोजन करता येणे.
			CO2	मुलाखत लेखनाची तंत्रे व कौशल्ये यांचा वापर करता येणे.
			CO3	अर्जलेखन व पत्रलेखनाचा व्यावहारिक वापर करता येणे.
			CO4	भाषांतरआणि अनुवादप्रक्रिया यांची. तात्विक व व्यावहारिक माहिती देणे.
			CO5	निवेदन कौशल्याची तात्विक व व्यावहारिक माहिती देणे.
M.A -I	२०४०२	अर्वाचीन वाङ्.मयाचा इतिहास (१९२० ते २०१०)	CO1	मराठीतील विविध सामाजिक राजकीय अभ्यास करणे.
			CO2	मराठी वाङ्.मयाचा आणि कथा कांदबरी, नाटक, कवितावाङ्.मयाचा परिचय करून देणे.
M.A -I	२०४० ३	भाषाविज्ञान :सामाजिक	CO1	भाषा म्हणजे काय व तिचे मानवी जीवनातील कार्य कोणते ते समजून घेणे.
			CO2	सामाजिक भाषाविज्ञानाचे उपयोजन करणे.
M.A -I	२०४०४	दलित साहित्य	CO1	स्वातंत्र्यप्राप्ती नंतरच्या कालखंडात दलित साहित्याच्या निर्मितीची कारणे, परंपरा, आणि यासाहित्याने दिलेल्या आव्हानांचा अभ्यास करणे.
			CO2	दलित साहित्यातून व्यक्त होणा-या वेदनांचे व विद्रोहाचे स्वरूप जाणून घेणे.
			CO3	दलित साहित्याने निर्माण केलेल्या विविध वाङ्.मय प्रकारांच्या विकासांचे मुल्यामापन करणे.

SEMESTER III				
M.A -II	30401	प्रसार माध्यमासा ठी लेखन कौशल्ये : भाग -१	CO1	प्रसारमाध्यमांकरिता लेखन कौशल्य आत्मसात करणे.
			CO2	प्रसारमाध्यमांचे समाजातील महत्त्व विशद करणे.
			CO3	प्रसार माध्यमांच्या स्वरूपाचे ज्ञान करून देणे.
			CO4	दृक्य श्राव्य नव माध्यमासाठी लेखन करण्याची क्षमता विकसित करणे.
M.A -II		साहित्य: समीक्षा	CO1	साहित्यसमीक्षा व्यवहाराची समजवाढीस लावणे.
			CO2	समीक्षेची संकल्पना समजावून घेणे.
			CO3	समीक्षा व्यवहारातील मूल्य कल्पनांचा परिचय करून घेणे.
			CO4	विविध समीक्षा पद्धती मागील विचारव्यूह, दृष्टी समजावून घेणे.
			CO5	समीक्षा करण्याची दृष्टी व क्षमता विकसित करणे.
			CO6	संशोधनाची संकल्पना , प्रयोजने आणि विविध संशोधन पद्धती समजावून घेतले..
M.A -II	30404	ल्या अर्वाचीन साहित्यकृती चा अभ्यास भा ग -१	CO1	अर्वाचीन कालखंडातील साहित्यप्रकार ,संकल्पना व स्वरूप लक्षात घेतले..
			CO2	साहित्यकृतीची वैशिशिष्ट्य जाणून घेतले..
			CO3	साहित्यकृतील वाडमयीन मुल्ये आणि जीवनमूल्ये जाणून घेणे.
			CO4	कालखंड आणि साहित्यकृतीच्या निर्मितीला अनुबंध शोधणे .
M.A -II	30405	साहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य	CO1	लोकसाहित्याचे स्वरूप समजावून घेणे.
			CO2	लोकसाहित्याची व्यापकता व सर्वसमावेशकता लक्षात आणून देणे.
SEMESTER IV				
M.A -II	40401	प्रसार माध्यमांसा	CO1	प्रसारमाध्यमांत सेवेची संधी मिळविण्यासाठी विद्यार्थ्यांची भाषिक क्षमता विकसित करणे.

		ठी लेखन कौशल्ये : भाग -२	CO2	विविध प्रसारमाध्यमांची त्यांना व्याख्या करता येईल
M.A -II	40402	साहित्य संशोधन	CO1	संशोधनाची संकल्पना, प्रयोजने आणि विविध संशोधन पद्धती समजावून घेणे.
			CO2	वाङ्.मयीन संशोधनाच्या विविध अभ्यास क्षेत्रांचा परिचय करून घेणे.
			CO3	आंतर विद्याक्षेत्रीय संशोधनाचे स्वरूप आणि महत्त्व लक्षात घेणे.
			CO4	मराठी साहित्यसंशोधकांची परंपरा समजावून घेणे.
M.A -II	40404	नेमलेल्या अर्वाचीन साहित्यकृ तीचा अभ्यास भाग -२	CO1	अर्वाचीन कालखंडातील साहित्यप्रकार ,संकल्पना व स्वरूप लक्षात घेतले..
			CO2	विविध वाङ्.मयीन कृतीतून लेखकाचे योगदान व त्याचे तौलनिक आकलन करणे.
M.A -II	40405	लोक साहित्याची मूलतत्वे आणि मराठी लोकसाहित्य	CO1	लोकसाहित्यातील विविध प्रकार समजावून घेणे.
			CO2	लोकसाहित्यातील सामाजिक, धार्मिक सांस्कृतिक जाणीवा स्पष्ट झाले ..


मराठी विभाग प्रमुख
अण्णासाहेब मगर महाविद्यालय
हडपसर, पुणे-४११ ०२८.


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Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
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Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Hindi



Pune District Education Association's
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Name of the Programme: B.A. Hindi

PO NO.	OUTCOMES
PO1	हिंदी साहित्य के इतिहास के प्रति रूचि और ज्ञान वृद्धिगत होता है।
PO2	आधुनिक कल के रचनाकारों और उनकी रचनाओं के माध्यम से काव्य कितना रुचकर है, तथा जागृती का एक माध्यम है। यह भी स्पष्ट हो जाता है।
PO3	हिंदी साहित्य के छायावादी काव्यों की विशेषताएँ और उनकी सार्थकता पर जोर दिया जाता है।
PO4	अनुप्रयोगात्मक भाषा पक्ष, भाषा संरक्षण और सांस्कृतिक प्रतिमानों का विश्लेषण के ज्ञान को वृद्धिगत करता है।
PO5	गज़ल किसे कहते हैं और गज़ल कैसे होनी चाहिए यह अवगत होता है।
PO6	साहित्यों में फिल्मांतरण का क्या महत्व है उसका ज्ञान विकसित होता है।


Head
Department of Hindi
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune - 411028.


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Name of the Programme: B.A.HINDI

Name of the Class	Course Code	Course Title	Course Outcomes
SEMESTER I			
F.Y.B.A.	11091 B	वैकल्पिक हिंदी IA	CO1 छात्रों को हिंदी काव्य साहित्य का परिचय देना।
			CO2 हिंदी कहानी साहित्य से अवगत कराना।
			CO3 हिंदी भाषा द्वारा संवाद कौशल विकसित करना।
			CO4 मौलिक लेखन की ओर रुझान बढ़ाना।
			CO5 विज्ञापन लेखन कौशल्य विकसित करना।
			CO6 अनुवाद संबंधी जानकारी देना।
SEMESTER II			
F.Y.B.A.	12092	वैकल्पिक II A	CO1 छात्रों को हिंदी काव्य साहित्य का परिचय देना।
			CO2 हिंदी कहानी साहित्य से अवगत करना।
			CO3 निबंध लेखन कौशल्य को विकसित करना।
			CO4 छात्रों को विज्ञापन लेखन से अवगत करना।

			CO5	हिंदी एकांकी साहित्य से अवगत कराना 1
			CO6	वाक्य शुद्धीकरण के कौशल्य को विकसित कराना।
SEMESTER III				
S.Y.B.A.	23091	(s-1) काव्य शास्त्र (सामान्य)	CO1	भारतीय काव्यशास्त्र का परिचय देना।
			CO2	काव्य परिभाषा ,तत्व आदि अवगत करना।
			CO3	काव्य के तत्व ,शब्द -शक्तियों का परिचय देना।
			CO4	रस का स्वरूप समझाना।
			CO5	भारतीय काव्यशास्त्र में रुचि पैदा करना 1
			CO6	आलोचक दृष्टी को विकसित कराना।
S.Y.B.A.	23092	(S-2) मध्ययुगी न काव्य तथा उपन्यास साहित्य	CO1	कबीर के साहित्य का परिचय देना।
			CO2	मीराबाई के काव्य से अवगत कराना।
			CO3	भारतीय उपन्यास की अवधारणा समझना।
			CO4	उपन्यास कृति का मुल्यांकन कला विकसित करना।
			CO5	साहित्य कृतियाँ प्रस्तुत जीवन मूल्यों को आत्मविस्तृत करना।
			CO6	उपन्यास के शिल्पगत और कथ्यगत अध्ययन को अवगत कराना।
S.Y.B.A.	23093	(G-2) आधुनिक काव्य ,कहानी,त था व्यावहारि	CO1	छात्रों को काव्य साहित्य से परिचित कराना।
			CO2	छात्रों को कहानी साहित्य से परिचित कराना
			CO3	छात्रों को हिंदी करक-व्यवस्था समझाना 1

		क हिंदी	CO4	शब्द युग्म का अर्थ लिखकर प्रत्यक्ष बोध कराना ।
			CO5	संक्षेपण लेखन का प्रत्यक्ष बोध कराना ।
			CO6	सर्जनात्मकता का विकास कराना ।
S.Y.B.A.	23096	(SEC-2A) अनुवाद स्वरूप एवं व्यवहार	CO1	अनुवाद कौशल से छात्रों को अवगत कराना ।
			CO2	अनुवाद का स्वरूप समझाना ।
			CO3	अनुवाद क्षेत्र से परिचय कराना ।
			CO4	अनुवादक के गुणों से परिचित कराना ।
			CO5	अंग्रेजी से हिंदी ,मराठी में अनुवाद कौशल का विकास कराना ।
			CO6	हिंदी से मराठी में प्रत्यक्ष अनुवाद कराना ।
S.Y.B.A.	23012	M.I.L.(1) हिंदी भाषा शिक्षण	CO1	हिंदी वर्णमाला लिपि का पारिचय कराना ।
			CO2	वर्णों का उच्चारण और वर्गीकरण का परिचय कराना ।
			CO3	लघुकथाओं द्वारा भाषा कौशल का शिक्षण देना ।
			CO4	भाषा कौशल शिक्षण को अवगत कराना ।
			CO5	व्याकरण संधि के प्रकारों का परिचय कराना ।
			CO6	संवाद ,वाचन ,लेखन,आदि कौशल का शिक्षण देना ।
SEMESTER IV				
S.Y.B.A.	24091	(S-1) साहित्य के भेद	CO1	छात्रों को साहित्य के भेद से अवगत कराना ।
			CO2	छात्रों को पद्य भेद से अवगत कराना ।
			CO3	महाकाव्य , खंडकाव्य और मुक्तक

					काव्य का परिचय कराना ।
				CO4	नाटक का स्वरूप समझाना ।
				CO5	छात्रों में नाट्य अभिनय की रूचि विकसित करना ।
				CO6	नाटकों के विविध भेद को परिचित कराना ।
S.Y.B.A.	24092	(S-2) मध्ययुगी न काव्य तथा नाटक साहित्य		CO1	रहीम के काव्य का बोध कराना ।
				CO2	बिहारी की काव्य अभिव्यंजना समझाना ।
				CO3	हिंदी नाटक और रंगमंच से अवगत कराना ।
				CO4	छात्रों में अभिनय गुण विकसित कराना ।
				CO5	नाट्यालोचना से अवगत करना ।
				CO6	नाटककार के व्यक्तित्व और कृतित्व का परिचय कराना ।
S.Y.B.A.	4093	(G-2) आधुनिक हिंदी व्यंग साहित्य त		CO1	छात्रों को व्यंग पाठ से परिचित कराना ।
				CO2	छात्रों को कहानी व्यंग पाठ का बोध कराना ।
				CO3	साक्षात्कार कला से अवगत कराना ।
				CO4	भाषा का मोबाईल तंत्र समझाना ।
				CO5	पल्लवन कला से अवगत कराना ।
				CO6	भाषा से संबंधित ऑपस के ज्ञान ।
S.Y.B.A.	24096	(SEC.2B) माध्यम लेखन		CO1	छात्रों को माध्यम लेखन से परिचित करना ।
				CO2	सृजनात्मक लेखन कौशल विकसित करना ।
				CO3	फीचर लेखन से अवगत करना ।
				CO4	श्रव्य - दृश्य माध्यम से अवगत कराना ।
				CO5	फीचर लेखन के विभिन्न प्रकारों अवगत

				कराना 1
			CO6	फीचर लेखन के गुण और तत्व को अवगत कराना 1
S.Y.B.A.	24012	M.I.L.(2) हिंदी भाषा शिक्ष	CO1	हिंदी वर्णमाला लिपि का परिचय कराना 1
			CO2	वर्णों का उच्चारण और वर्गीकरण का परिचय कराना 1
			CO3	लघुकथाओं द्वारा भाषा कौशल का शिक्षण देना 1
			CO4	भाषा कौशल शिक्षण को अवगत कराना 1
			CO5	व्याकरण संधि के प्रकारों का परिचय कराना 1
			CO6	संवाद ,वाचन ,लेखन,आदि कौशल का शिक्षण देना 1
SEMESTER V				
T.Y.B.A.	35091	(S-3) हिंदी साहित्य का इतिहास :आदिकाल भक्तिकाल रीतिकाल का सामान्य परिचय	CO1	हिंदी साहित्य के कालविभाजन और नामकरण से छात्रों को अवगत कराना 1
			CO2	हिंदी साहित्येतिहास लेखन का परिचय देना 1
			CO3	हिंदी रचनाकारों और रचनाओं से परिचित कराना 1
			CO4	हिंदी गद्य के उद्भव और विकास से छात्रों को अवगत कराना 1
			CO5	आदिकाल ,भक्तिकाल,रीतिकाल प्रमुख साहित्यिक प्रवृत्तियों , रचना और रचनाकारों से परिचित कराना 1
			CO6	आदिकालीन साहित्य की विशेषताओं क परिचित कराना 1
	35092	(S-4)	CO1	भाषा विज्ञान के स्वरूप का परिचय देना 1

T.Y.B.A		भाषाविज्ञान सामान्य परिचय	CO2	छात्रों को भाषा विज्ञान की व्याप्ति समझाना।
			CO3	भाषा विज्ञान के अध्ययन की दिशाओं का परिचय देना।
			CO4	भाषा विज्ञान के अनुप्रयोगात्मक पक्ष को समझाना।
			CO5	साहित्य - अध्ययन में भाषा विज्ञान की उपयोगिता को समझाना।
			CO6	रूप विज्ञान के ज्ञान को अवगत कराना।
			T.Y.B.A	35093
CO2	छात्रों को रेखाचित्र साहित्य से अवगत कराना।			
CO3	छात्रों को मुल्यांकन की दृष्टि का विकास करना।			
CO4	सभा इतिवृत्त लेखन कौशल का विकास करना।			
CO5	वार्ता - लेखन कौशल दृष्टि निर्माण करना।			
CO6	हिंदी संस्मरण और रेखाचित्र कारों के परिचय से परिचित कराना।			
T.Y.B.A	35096	(SEC.2-C) पटकथा लेख	CO1	पटकथा लेखन, अर्थ, परिभाषा से अवगत कराना।
			CO2	छात्रों को कथा, पटकथा और संवाद से परिचित कराना।
			CO3	छात्रों को ड्राफ्ट बनाने से परिचित कराना।
			CO4	ड्राफ्ट में प्लॉट बनाने से परिचित कराना।
SEMESTER VI				

T.Y.B.A	36091	(S-3) हिंदी साहित्य का इतिहास(आधुनिक काल का सामान्य परिचय)	CO1	आधुनिक कल की पृष्ठभूमि से छात्रों को अवगत कराना ।
			CO2	भारतेंदु युगीन,द्विवेदी युगके काव्य की विशेषताओं से छात्रोंको अवगत कराना ।
			CO3	आधुनिक कल के रचनाकारों और रचनाओं से परिचित कराना ।
			CO4	हिंदी गद्य के उद्भव और विकास से छात्रों को अवगत कराना ।
			CO5	हिंदी उपन्यास साहित्य का विकासक्रम का परिचय कराना ।
			CO6	हिंदी कहानी ,नाटक साहित्य विकासक्रम का परिचय कराना ।
T.Y.B.A	36092	(S-4) भाषा विज्ञा	CO1	भाषाविज्ञान के स्वरूप का परिचय देना ।
			CO2	छात्रों को भाषाविज्ञान की व्याप्ति ।
			CO3	भाषाविज्ञान के अध्ययन की दिशाओं का परिचय देना ।
			CO4	भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझाना ।
			CO5	साहित्य - अध्ययन में भाषाविज्ञान की उपयोगिता समझाना ।
			CO6	नागरी लिपि में सुधार की विशेषताओं को परिचित कराना ।
T.Y.B.A	36093	(G-3) गज़ल विधा और पत्राचार	CO1	छात्रों को दुष्यंत कुमार के साहित्यिक परिचय से अवगत करना ।
			CO2	छात्रों को गज़लकार के व्यक्तित्व से अवगत करना ।
			CO3	छात्रों में मुल्यांकन की दृष्टि का विकास करना ।
			CO4	छात्रों को सरकारी पत्र लेखन से अवगत

					करना।
				CO5	छात्रों को कार्यालय आदेश के ज्ञान को विकसित करना।
				CO6	छात्रों को गज़ल साहित्य से अवगत करना।
T.Y.B.A	36096	(SEC2-D) साहित्य और फिल्मांतर ण		CO1	छात्रों में सिनेमा का स्वरूप से परिचित कराना।
				CO2	छात्रों को हिंदी साहित्य और सिनेमा के अन्तसंबंध से परिचित कराना।
				CO3	छात्रों को हिंदी उपन्यासों पर आधारित फिल्मों से अवगत कराना।
				CO4	छात्रों को हिंदी कहानियों पर आधारित फिल्मों से अवगत कराना।



Head

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Name of the Programme: M.A. Hindi

PO NO.	OUTCOMES
PO1	मध्ययुगीन काव्य प्रवृत्तियों की पृष्ठभूमि पर कवि विशेष की रचनाओं के प्रति रुचि और ज्ञान वृद्धिगत होता है 1
PO2	लोकसाहित्य का स्वरूप कैसा है एवं क्या महत्व है ,उसका ज्ञान विकसित होता है 1
PO3	शोध प्रक्रिया एवं शोध प्रबंध लेखन कौशल विकसित होता है 1
PO4	आधुनिक आर्य भाषाओं का ज्ञान वृद्धिगत होता है 1
PO5	द्विवेदी युग ,छायावादी ,प्रगतिवाद,और नई कविता के प्रमुख साहित्यिक प्रवृत्तियों ,रचनाओं का ज्ञान विकसित होता है 1
PO6	लोकसाहित्य के स्वरूप एवं महत्व को समझने से उसके प्रति रुचि और ज्ञान वृद्धिगत होता है 1


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Name of the Programme: M.A.HINDI

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
M.A.-I	10501	(PAPER-01) मध्ययुगीन काव्य	CO1	हिंदी की मध्ययुगीन काव्य प्रवृत्तियों का परिचय देना।
			CO2	मध्ययुगीन काव्य प्रवृत्तियों की पृष्ठभूमि पर कवि विशेष की रचनाओं का परिचय कराना।
			CO3	तत्कालीन काव्यभाषा की प्रवृत्तियों का परिचय देना।
			CO4	पाठ्य कृतियों के आधार पर काव्य मूल्यांकन की क्षमता का विकास करना।
			CO5	सृजनात्मक कौशल विकसित करना।
			CO6	पूर्वमध्ययुगीन काव्य से अवगत कराना।
M.A.-I	10502	(PAPER-02) कथा साहित्य	CO1	उपन्यास विधा से अवगत कराना।
			CO2	कहानी विधा से अवगत कराना।
			CO3	पाठ्य रचनाओं में अभिव्यक्त मूल्यों का सम्प्रेषण करना।
			CO4	आलोचनात्मक दृष्टि का विकास करना।

			CO5	सर्जनात्मक कौशल का विकास करना।
			CO6	बीसवीं सदी की हिंदी कहानी का विकासक्रम से अवगत कराना।
M.A.-I	10503	(PAPER-03) भारतीय काव्यशा स्त्र	CO1	भारतीय काव्यशास्त्र के विकासक्रम का परिचय देना।
			CO2	भारतीय काव्यशास्त्र के प्रमुख सम्प्रदायों से अवगत कराना।
			CO3	रचना विशिष्ट और मूल्यबोध को परखने की क्षमता को विकसित करना।
			CO4	आलोचनात्मक दृष्टि को विकसित करना।
			CO5	औचित्य और वक्रोक्ति सिद्धांत से परिचित कराना।
			CO6	अलंकर और रीति सिद्धांत से अवगत कराना।
M.A.- I	10505	(PAPER-04) नाटककार मोहन राकेश	CO1	नाटक के स्वरूप एवं संरचना से परिचय कराना।
			CO2	नाटक के रचना विधान और रंगमंच से परिचय कराना।
			CO3	हिंदी नाटक और रंगमंच के विकास का परिचय देना।
			CO4	मोहन राकेश के नाटकों के द्वारा नाट्य स्वादन और मूल्यांकन की दृष्टि विकसित करना।
			CO5	नाट्यभिनय कौशल को विकसित करना।
			CO6	रंगमंचीय अध्ययन को विकसित कराना।
M.A.-I	20501	(PAPER-	CO1	व्यंग निबंध विधा से परिचित कराना।

		05) कथेतर गद्य साहित्य	CO2	हिंदी रेखाचित्र विधा से अवगत कराना।
			CO3	हिंदी संस्मरण विधा से परिचित कराना।
			CO4	हिंदी आत्मकथा साहित्य विधा से परिचित कराना।
			CO5	पाठ्य विधाओं अ भाषिक अध्ययन कराना।
			CO6	मौलिक केखन कौशल विकसित करना।
SEMESTER II				
M.A.-I	20502	(PAPER-06) शोध प्रविधी	CO1	शोध को शोध प्राविधि से अवगत कराना।
			CO2	शोध दृष्टी का विकास करना।
			CO3	नये शोध - प्रवाहों से परिचय कराना।
			CO4	शोध प्रक्रिया एवं शोध प्रबंध लेखन कौशल विकसित करना।
			CO5	शोध प्राविधि के विविध पद्धतियों से अवगत कराना।
			CO6	शोध के उदेश्य, शोध की विवेचन पद्धति से परिचित कराना।
M.A.-I	20503	(PAPER-07) पाश्चात्य काव्यशा स्त्र	CO1	पाश्चात्य काव्यशास्त्र के विकासक्रम का परिचय देना।
			CO2	पाश्चात्य चिंतकों के सिद्धांत से परिचित कराना।
			CO3	लॉजइंस और कोलरिज के सिद्धांत से परिचित कराना।
			CO4	टी.एस.इलियट के निर्व्यक्तिकता के सिद्धांत से परिचित कराना।
			CO5	आई. ए. रिचर्ड्स के संप्रेषण सिद्धांत से परिचित कराना।

			CO6	छात्रों को सृजन ,आस्वादन एवं आलोचना दृष्टी देना ।
M.A.-I	20505 (वैकल्पिक)	(PAPER-08) हिंदी उपन्यास साहि	CO1	हिंदी उपन्यास साहित्य के विकासक्रम एवं प्रवृत्तियों से परिचित कराना ।
			CO2	उपन्यासों के आस्वादन , अध्ययन की क्षमता विकसित करना ।
			CO3	पाठ्य रचनाओं में प्रस्तुत साहित्यक मूल्यों का सम्प्रेषण करना ।
			CO4	मूल्यांकन की दृष्टी का विकास करना ।
			CO5	छात्रों में हिंदी उपन्यासों के संवेदनात्मक क्षमता का विकास करना ।
			CO6	छात्रों में हिंदी उपन्यासों के शिल्पगत क्षमता का विकास करना ।
			CO1	हिंदी उपन्यास साहित्य के विकासक्रम एवं प्रवृत्तियों से परिचित कराना ।
SEMESTER III				
M.A.- II	30501	(PAPER-09) आधुनिक काव्य (आदर्शवादी,छायावादी,तथा अन्य काव्य)	CO1	हिंदी को आधुनिक काव्य से अवगत कराना ।
			CO2	छात्रों में आधुनिक काव्य -अध्ययन की दृष्टी विकसित करना ।
			CO3	काव्य मूल्यांकन - दृष्टी विकसित करना ।
			CO4	काव्य - संवेदना एवं शिल्पगत अध्ययन से छात्रों को अवगत करना ।
			CO5	छात्रों में काव्य -सर्जन कला का विकास करना ।
			CO6	छात्रों को प्रबंध काव्य से परिचित करना ।
M.A.-II	30502	(PAPER-10)	CO1	भाषा विज्ञान के स्वरूप का परिचय देना ।

		भाषाविज्ञान		
			CO2	छात्रों को भाषा विज्ञान की व्याप्ति समझाना।
			CO3	भाषा विज्ञान के अध्ययन की दिशाओं का परिचय देना।
			CO4	भाषा विज्ञान के अनुप्रयोगत्मक पक्ष को समझाना।
			CO5	साहित्य – अध्ययन में भाषा विज्ञान की उपयोगिता समझाना।
			CO6	पदबंध और उपवाक्य का परिचय देना।
M.A.-II	30503	(PAPER-11) हिंदी साहित्य का इतिहास (आदिकाल, भक्तिकाल, रीतिकाल)	CO1	हिंदी साहित्येतिहास लेखन का परिचय देना।
			CO2	हिंदी साहित्येतिहास के कालविभाजन तथा नामकरण का परिचय देना।
			CO3	आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख साहित्यक प्रवृत्तियों और रचनाओं से परिचित कराना।
			CO4	रासो साहित्य का परिचय कराना।
			CO5	भक्तिकाल के प्रमुख संप्रदाय का परिचय कराना।
			CO6	रीतिकाल की प्रमुख प्रवृत्तियों का परिचय कराना।
M.A.-II	30504 (वैकल्पिक)	(PAPER-12) संचार माध्यम : सिद्धांत और	CO1	संचार माध्यम और संप्रेषण अवधारणाओं का परिचय देना।
			CO2	संचार माध्यम की अवधारणा और स्वरूप का परिचय देना।
			CO3	संचार माध्यम की बहुआयामी

		स्वरूप		भूमिका का परिचय देना 1
			CO4	संचार माध्यम कौशल विकसित करना 1
			CO5	संचार माध्यम क्र प्रकारों का परिचय देना 1
SEMESTER IV				
M.A.- II	40501	(PAPER-13) आधुनिक कविता	CO1	छात्रों को आधुनिक काव्य से अवगत कराना 1
			CO2	छात्रों में आधुनिक काव्य – अध्ययन की विकसित करना 1
			CO3	सर्जनात्मक कौशल से अवगत करना 1
			CO4	आलोचनात्मक दृष्टी विकसित करना 1
			CO5	काव्य की संवेदना दृष्टी विकसित करना 1
			CO6	काव्य की शिल्पगत दृष्टी विकसित करना 1
			CO1	छात्रों को आधुनिक काव्य से अवगत कराना 1
M.A.-II	40502	(PAPER-14) हिंदी भाषा का विकास	CO1	हिंदी भाषा की ऐतिहासिक पृष्ठभूमि से अवगत करना 1
			CO2	आधुनिक आर्य भाषाओं का परिचय देना 1
			CO3	हिंदी के स्वनिम व्यवस्था का परिचय देना 1
			CO4	हिंदी की रूप रचना से अवगत करना 1
			CO5	हिंदी भाषा के योगदान से अवगत करना 1
			CO6	हिंदी ध्वनियों के वर्गीकरण से अवगत कराना 1
M.A.- II	40503	(PAPER-15) हिंदी	CO1	हिंदी गद्य के उद्भव और विकास से छात्रों को अवगत कराना 1

		साहित्य का इतिहास(आधुनिक काल)	CO2	द्विवेदी युग ,छायावादी ,प्रगतिवाद,और नई कविता के प्रमुख साहित्यिक प्रवृत्तियों ,रचनाओं से परिचित कराना ।
			CO3	ऐतिहासिक दृष्टी विकसित करना ।
			CO4	हिंदी नवजागरण और सरस्वती पत्रिका को अवगत कराना ।
			CO5	स्वच्छन्दतावाद और उसके प्रमुख कवि का परिचय कराना ।
			CO6	प्रयोगवाद काव्य की विशेषताओं से अवगत कराना ।
M.A.- II		(PAPER-16) भारतीय लोकसाहित्य	CO1	लोकसाहित्य के स्वरूप एवं महत्व से परिचित कराना ।
			CO2	लोकसाहित्य के विविध प्रकारों से परिचित कराना ।
			CO3	लोकसाहित्य की व्यापकता से परिचित करना ।
			CO4	महाराष्ट्र के लोक साहित्य का परिचय देना ।
			CO5	लोक संगीत और लोकभाषा से परिचित कराना ।
			CO6	लोकनाट्य और लोककथा से परिचित कराना ।


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Self Study Report: 2024 (4th Cycle)

Department of English



PROGRAMME OUTCOMES

Name of the Programme: B.A. English

PO. No.	Outcomes
PO1	Students will be able to interact with tolerance, understanding, sympathy, respect, harmony with fellow human beings and nature (Values)
PO2	Students will be able to read, understand and appreciate minor and major forms of literature in English (Aesthetic)
PO3	Students will be able to use English language proficiently and effectively in all walks of life(Skills)
PO4	Students will be able to read understand, appreciate and distinguish the writers of the world (Global)
PO5	Students will be employable with technical and professional linguistic proficiency and soft skills
PO6	Students will be able to control and manage their self with more positive approach with evolved emotional quotient (Self-Management)
PO7	Students will be able to think and take decisions independently in their lives (Cognitive)
PO8	Students will be able to progress for higher education in Humanities, Social Sciences, Law, Management, Media and Public Services (Progression)

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Name of the Programme: B.A. English

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I & II				
F.Y.B.A.	11001 & 12001	Compulsory English Visionary Gleam	CO1	Students will be able to read and understand the simple pieces of prose and poetry in English
			CO2	Students will be able to apply some concept of Grammar with more clarity hitherto unknown
			CO3	Students will be able to speak in English in basic everyday situations
			CO4	Students will be able to look at life with better understanding
			CO5	Students will be able to appreciate ideas and develop independent outlook
			CO6	Students will be able to understand and implement the basic values of life

F.Y.B.A.	11331 & 12331	Optional English: Initiation		
			CO2	Students will be able to explain the elementary poetic devices
			CO3	Students will be able to phonetically transcribe words
			CO4	Students will be able to distinguish minor forms of literature in English with their elements
			CO5	Students will be able to look at life broadly with the universal approach
			CO6	Students will be able to understand and implement the basic human values
FYBA	35334 & 36334	SEC-2C & SEC-2D: Life Skills & Life Values	CO1	Students will be able to communicate with confidence
			CO2	Students will be able to solve personal and professional problems systematically
			CO3	Students will be able to manage themselves emotionally
			CO4	Students will be able to undertake leadership tasks
			CO5	Students will be able to develop a positive attitude and a positive personality

			CO6	Students will be able to lead a meaningful social life
SEMESTER III & IV				
S.Y.B.A.		Compulsory English	CO1	Students will be able to expose the best examples of literature in English and to contribute to their emotional quotient as well as independent thinking
			CO2	Students will be able to instil universal human values through best pieces of literature in English
			CO3	Students will be able to develop effective communication skills by developing ability to use right words in the right context.
			CO4	Students will be able to enhance employability by developing their basic soft skills
			CO5	Students will be able to appreciate ideas and develop independent outlook
			CO6	Students will be able to revise and reinforce the learning of some important areas of grammar for better linguistic competence
S.Y.B.A.		DSC 1A Appreciating Drama (S1)	CO1	Students will be able to understand drama as a major form of literature
			CO2	Students will be able to understand minor forms of drama
			CO3	Students will be able to understand drama as a literary form
			CO4	Students will be able to understand drama as a performing art form
			CO5	Students will be able to understand elements of drama

			CO6	Students will be able to understand types of drama
S.Y.B.A.		Advanced Study of English Language (G2)	CO1	Students will be able to understand various components of language
			CO2	Students will be able to built overall linguistic competence
			CO3	Students will get motivated for advance study of English language
			CO4	Students will be able study language independently
			CO5	Students will be able to express fluently and competently in English
			CO6	Students will be able to learn grammar scientifically
			CO7	Students will be able to understand how society influence the language
			CO8	Students will be able to understand how language influence the society
SYBA	23332 & 24332	DSE-2A & DSE-2B: Appreciating Poetry	CO1	Students will be able to define poetry, its elements and types
			CO2	Students will be able to identify the poet in an epoch or era in terms of typical characteristics of the era
			CO3	Students will be able to read and appreciate a poem independently
			CO4	Students will be able to understand the aesthetic and intellectual value of a poem
			CO5	Students will be able to read and understand poetry in English from different countries
			CO6	Students will be able to look at life more sensitively and humanely

TYBA	35001 & 36001	Compulsory English: New Horizons	CO1	Students will be able to read and understand some of the best pieces of prose and poetry in English
			CO2	Students will be able to converse in English competently and effectively in real life situations
			CO3	Student will be equipped with writing skills required in work environment
			CO4	Students will be able to conduct themselves better in life with an evolved personality
			CO5	Students will be able to foster harmony in society with sympathetic attitude to others around
			CO6	Students will be able to apply soft skills and be employable
TYBA TYBA	35332 & 36332	DSE-2C & DSE-2D: Introduction to Literary Criticism	CO1	Students will be able to understand and explain the basic literary terms
			CO2	Students will be able to define criticism and explain elements, types and function of criticism
			CO3	Students will be able to read and understand some of the major writings on criticism
			CO4	Students will be able to read a literary piece with critical approaches



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Name of the Programme: M.A. English

PO. No.	Outcomes
PO1	Students will be able to appreciate and enjoy finest pieces of literature in English(Aesthetic)
PO2	Students will be able to use English language proficiently (Linguistic)
PO3	Students will be able to express themselves creatively (Creative)
PO4	Students will be able to critically analyse English literature and English Language (Analytic)
PO5	Students will be able to understand culturally diverse societies (Global)
PO6	Students will be able to get jobs in the world of academics, administration, BPO and Media (Employable)
PO7	Students will be able to manage self and others in a more positive and constructive way (Self-Management)
PO8	Students will be able to proceed for research in English literature and English language (Research)

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Name of the Programme: M.A. English

Name of the Class	Course Code	Course Title	Course Outcomes
SEMESTER I & II			
M.A.I	10601 & 20601	English Literature from 1550 to 1798	<p>CO1 To introduce students to the major movements and figures of English Literature through a study of selected literary texts/pieces published during the period prescribed for study.</p> <p>CO2 To enhance learners' literary sensibility and their emotional response to literary texts and to help them understand the thematic and stylistic preoccupations of the writers prescribed for study.</p> <p>CO3 To enable them to critically examine the writers' thematic concerns and to point out the (in) significance of such concerns in the postcolonial context.</p> <p>CO4 To help them recognize the distinctive ways in which the writers differed, in their ideological positions, from their counterparts belonging to different ages.</p> <p>CO5 To provide learners some basic information about England's political, social and cultural developments during the period prescribed for study.</p> <p>CO6 To enable them to critically assess the 'universal' values that writers tend to project in their writings.</p> <p>CO7 To help learners apply the literary-critical principles they study in the paper 'Literary Criticism and Theory' to the texts prescribed or to any other text they read.</p> <p>CO8 To help them identify potential areas of research on which they can work independently for securing a degree or merely for the sake of obtaining knowledge.</p>

M.A.I	10602 & 20602	English Literature from 1798 to the Present	CO1	To familiarize students with the major movements and figures of English Literature
			CO2	To enhance learners' literary sensibility and their emotional response to literary texts
			CO3	To provide learners some basic information about England's political, social and Cultural developments during the different ages.
			CO4	To help learners apply the literary-critical principles they study in the paper 'Literary Criticism and Theory' to the texts prescribed or to any other text they read
			CO5	To explain to the learners the canonical relevance of the texts prescribed for them.
			CO6	To help them identify potential areas of research on which they can work independently for securing a degree or merely for the sake of obtaining knowledge

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M.A.I	10603 & 20603	Contemporary Studies in English Language	CO1	To introduce students to the basic tools essential for a systematic study of language
			CO2	To acquaint students with the basic concepts and issues in linguistics
			CO3	To introduce them to various sub-disciplines of linguistics
			CO4	To initiate them into some of the theoretical assumptions underlying language and to enable them to apply the acquired linguistic skills in real life situations
			CO5	To introduce learners to the syntactic features of the English language
			CO6	To help them shake off some of the regional features of English pronunciation
M.A.I	10604 & 20604	Literary Criticism and Theory	CO1	To introduce students to the nature, function and relevance of literary criticism and theory
			CO2	To introduce them to various important critical approaches and their tenets
			CO3	To encourage them to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability
			CO4	To develop sensibility and competence in them for practical application of critical approach to literary texts
			CO5	Students will be able to make a critical analysis of a literary text in its basic form
			CO6	Students will be able to appreciate and implement the theory of criticism to a literary text
SEMESTER-III & IV				
M.A.II	30601 &	Indian Writing in English (Core Paper)	CO1	To introduce students to the various phases of the evolution in Indian Writing in English.

	40601		CO2	To make them aware of Indian cultural ethos and indigenous belief systems through the study of major literary works in the domain of Indian English literature.
			CO3	To acquaint them with the writings of different Indian writers and help them to appreciate the variety and diversity of Indian Writing in English.
			CO4	To expose students to the corpus of Indian Writing in English, and explain the socio-political and cultural contexts in which the works were written and received.
			CO5	To develop the ability of students to critically examine and restate their understanding of literary texts.
			CO6	To expose students to the uniqueness of artistic and innovative use of the English language in IWE and to enhance the literary and linguistic competence of students.
			CO7	To instil human values and develop literary sensibility among students through exposure to IWE texts.
M.A.II	30602 & 40602	Applied Linguistics	CO1	To introduce students to the field of Applied Linguistics
			CO2	To help students understand how descriptive linguistics can be used practically to explain the behavioural and social use of language, especially with regard to language acquisition, second language acquisition/learning, language teaching methodology, etc.
			CO3	To help students understand the correlation between the evolution of linguistic theory and the corresponding developments in the field of language learning and teaching
			CO4	To enable students to understand the relationship between language learning theories, teaching methods, production of course materials and language testing

			CO5	To introduce students to the relation between language and culture
			CO6	To help students understand how linguistic concepts can be applied to the study of literature
M.A.II	30606 & 40606	American Literature	CO1	Provide students a general introduction to the major texts that led to the evolution of American literature as an independent branch of literature in English.
			CO2	Familiarize students with the issues and problems America has gone through and how they find expression in her literature.
			CO3	Help students gain a broad historical view of the entire period from the time of the early settlers
			CO4	Provide students a general idea about the religious, socio-political, literary and cultural movements in America.
			CO5	Acquaint students with some of the major conflicts, struggles and movements that are closely connected with the experiences of a group of people struggling establish their space within the nation.
			CO6	To understand the westward movement to the contemporary period.
M.A.II	30608 & 40608	World Literature in English	CO1	To introduce students to some of the important literary texts of the world
			CO2	To help them in gaining some insights into the socio-cultural aspects of the regions from where the texts are chosen.
			CO3	To enable students to compare the authors of the world with Indian writers in English or the writers in their own languages.
			CO4	To introduce students to the various techniques employed by the authors and how the techniques are adapted/adopted by Indian authors.

			CO5	To help the students undertake research in comparative literature
			CO6	Students will be able to understand how various techniques are adapted/ adopted by Indian authors.

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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Economics



Pune District Education Association's
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Name of the Programme: B.A. Economic

PO NO.	OUTCOMES
PO-1	To know the information of Indian Economic Environment.
PO-2	To understand the basic concepts of Micro Economics with imperial evidence.
PO-3	To analyze various concepts of Macro Economics.
PO-4	Understand the role and importance of Indian financial system.
PO-5	Analyze to advance research methodology.
PO-6	To know the basic concept of International Economics.
PO-7	To understand the role of public finance in modern ERA.
PO-8	Understand the Economic Planning
PO-9	To understand the decision making power.
PO-10	To bridge gap between normative and applied economics.

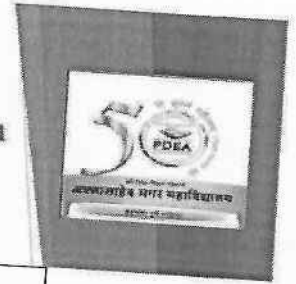
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Name of the Programme: B.A.Economics

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I & II				
FYBA	11151	G1 Indian Economic Empowerment-I	CO-1	Understand meaning, factors affecting Economics Environment, Challenges to Indian Economy.
			CO-2	Able to compare Indian economy with the world economy.
			CO-3	Defining role of agriculture and industrial sector in Indian economy.
			CO-4	Expressing challenges to Indian Agriculture and Industry.
			CO-5	Finding recent trends in Agriculture and Industry.
			CO-6	Memorizing industrial policy and MSME.
FYBA	12151	G1 Indian Economic Empowerment-II	CO-1	Understand Role and Growth of service sector in Indian Economy.
			CO-2	Finding recent trends in Indian service sector.
			CO-3	Memorizing bank Concept, Function, Types of Bank accounts.
			CO-4	Finding recent trends in Indian Banking Environment.
			CO-5	Understand challenges of Indian Economy-Poverty, Employment, Inequality, Informal Sector
			CO-6	Understand Policy Measures of Poverty, Employment and skill development
SEMESTER III & IV				
SYBA	23151	Micro	CO-1	Knowing the decision making of the

		Economics-I (S1)		consumer
			CO-2	Student will be able to explain the core concept in micro economics such as opportunity cost, markets, equilibriums etc.
			CO-3	Student will be able to graphically present the data
			CO-4	Understand the law of demand with the help of empirical evidence
			CO-5	Understand the basic economic problems of micro economics
			CO-6	Understand the law of supply as per market situation
SYBA	24151	DSE-1B: Micro Economics-I (S1)	CO-1	Identifying the nature of revenue and cost of production
			CO-2	Realizing various production theories
			CO-3	Clarifying the meaning of marginal revenue, average revenue, total revenue and marginal cost, average cost, total cost and its implications
			CO-4	Awareness of different market structures
			CO-5	Knowing the theories of factor pricing
			CO-6	Students will learn the different dimensions of welfare economics
SYBA	23152	DSE-2A: Macro Economics -I (S2)	CO-1	Understand the basic concepts and economic theories.
			CO-2	Awareness about various concepts of National Income.
			CO-3	Understand classical and Keynesian approach about output and employment.
			CO-4	Understand law of market, consumption function and investment function.
			CO-5	Understand the concepts Marginal Efficiency of Capital, Investment Multiplier, Acceleration Principle.
			CO-6	Able to compare between Micro Economics and Macro Economics
SYBA	24152	DSE-2B: Macro Economics -I (S2)	CO-1	Know the functioning of economy as whole.
			CO-2	Understand concept of money, functions and value of money.
			CO-3	Know inflation, deflation, Stagflation.
			CO-4	Knowing the effects of trade cycle.

			CO-5	Understand Macro Economic policies.
			CO-6	Understand the working of Philips curve
SYBA	23153	CC-1C: Financial System-I (G2)	CO-1	Understand the role and Importance of Indian financial system
			CO-2	To impart the knowledge of structure of Indian financial system.
			CO-3	Analyse the evaluation of banks in India – Commercial Banks, RRB, Co-Banks.
			CO-4	Analyse the classification of Indian financial Market
			CO-5	Understand the role and importance of foreign exchange market.
			CO-6	Know the functioning of Indian financial institutions – Banking & Non-banking
SYBA	24153	CC-1D :Financial System-II (G2)	CO-1	Understand the role of RBI in Indian financial system
			CO-2	Examine the functioning of Monetary policy in Indian financial system
			CO-3	Analyze the role of financial regulators- SEBI and IRDA
			CO-4	Understand Role of International financial Institutions- IMF, World bank, Asian development Bank
			CO-5	Understand the recent trends and developments in banking system.
			CO-6	Analyze the risk management in Indian financial system
SYBA	23154	SEC-2A: Basic Concept of Research Methodolog y – I	CO-1	Understand various techniques of Research
			CO-2	Identify various sources of information for data collection.
			CO-3	Develop the understanding of the conducting survey on various issues.
SYBA	24154	SEC-2B: Basic Concept of Research Methodolog y- II	CO-1	Understand of sampling methods and the ability to use collection of data
			CO-2	Identify the appropriate sample techniques for different kinds of research question
			CO-3	Able to classify and present the collected data in the form of graph, diagram and chart.
SEMESTER V & VI				
TYBA	36151	International Economics (CO-1	Ability to relate and explain the concept of Exchange Rate and Foreign

		S-3)		Exchange Market.
			CO-2	Ability to Compare Free Trade v/s Protection trade policy.
			CO-3	Ability to describe the trends in Growth, Composition and Direction of India's Foreign Trade.
			CO-4	Ability to comprehend the issues relating to Foreign Capital and Regional Cooperation
			CO-5	Understand international policies of India.
			CO-6	Ability to comprehend International Co-Operation.
TYBA	35152	Public Finance (S-4)	CO-1	Understand the changing role of Government and the source of Public and Private Finance.
			CO-2	Understand the concept principles of taxations and evaluation of Indian tax system.
			CO-3	Know the meaning types, effects of public debt .Types method of repayment.
			CO-4	Know the Financial Relation of state and center, Fiscal Policy.
			CO-5	Understand the type's preparation of budget in India and know the concept, Gender Budget.
			CO-6	To Know the central state financial relationship.
TYBA	36152	Public Finance(S-4)	CO-1	Understand the Fiscal policy and its instruments and objectives.
			CO-2	Describing fiscal policy in Developing countries.
			CO-3	Analyzing classification of Budget.
			CO-4	To know Gender Budget and its importance in dynamic economy.
			CO-5	Understand Deficit Financing and its objectives.
			CO-6	Analyzing Finance commission.
TYBA	35153	Indian Economic Development (G-3)	CO-1	Understand Meaning, indicators of economic development and growth .
			CO-2	Study the concept of developed country and developing country.
			CO-3	Compare among developed and under developed countries.
			CO-4	Understand Characteristics of Developing Countries
			CO-5	Know that which constraints are in development process.

			CO-6	Evaluate the human development recourses- PQLI,HDI,GENDER INDEX,MPI
TYBA	36154	Indian Economic Development (G-3)	CO-1	Define the Economic Planning
			CO-2	Understand the national Institutions
			CO-3	Determine the difference between planning commission and NITI Aayog
			CO-4	Understand the sustainable development
			CO-5	Understand the Environment and Economic development
			CO-6	Understanding Environmental policy
TYBA	35154	SEC 3A Business Management	CO-1	To study Management of Business
			CO-2	To Know Business Planning and Decision making
			CO-3	To study Leadership Skill
TYBA	36154	SEC 3A Business Management : Project Report	CO-1	To analyses the data collected and interpreted in the most logical manner
			CO-2	To ability to comprehend and illustrate findings
			CO-3	To ability to illustrate findings in the most appropriate manner



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Department of Economics
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Name of the Programme: M.A. Economic

PO NO.	OUTCOMES
PO-1	To Understand the Basic Micro Economic Problems of Scarcity and Choice, Macro Economics Theories, Demand and Supply of Money, National Income, Open Economy.
PO-2	Ability to analyze and demonstrate knowledge of the basic theories/laws in economics.
PO-3	To understand the acquired and socio economic knowledge stock market understanding with business banking sector and various aspects of international economics.
PO-4	Students will be able to effectively communicate economics idea.
PO-5	The study of economics can also provide valuable knowledge for making decisions in everyday life.
PO-6	Developing research and knowledge in economics.
PO-7	To understand the Growth and Development Theories.
PO-8	Student can understand the knowledge of stock banking and finance laws related with banking
PO-9	To enhance employability and entrepreneurs skills among the students.
PO-10	Develop advanced range of generic skills helpful in employment, internship and self-employment.
PO-11	To Understand the Basic Micro Economic Problems of Scarcity and Choice, Macro Economics Theories, Demand and Supply of Money, National Income, Open Economy.


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Name of the Programme: M.A.Economics

Name of the Class	Course Code	Course Title	Course Outcomes
SEMESTER I			
MA-I	12301	EC-1001: Micro Economics analysis - I	CO-1 To Understand the Basic Micro Economic Problems of Scarcity and Choice, utility, demand modern utility an analysis ,Elasticity of demand
			CO-2 Ability to analyze and demonstrate knowledge of the basic theories/laws in economics- law of demand, law of supply, production function, etc.
			CO-3 To understand concepts one and two input production function.
			CO-4 To understand concepts Law of Variable Proportions Returns to the Variable Factor Returns to Scale.
			CO-5 To understand Analysis Characteristics and properties various concept and Curves of Production cost and Revenue.
			CO-6 To understand Concept of Welfare Economics
MA-I	12302	EC-1002 : Public Economics - I	CO-1 To understand Role and functions of the Government in economy.
			CO-2 To understand concepts Private Goods, Public Goods, and Merit Goods.
			CO-3 To understand and explain various theory or modals for public policy.
			CO-4 Ability to analyze Taxation Concepts and theory
			CO-5 Ability to analyze concept and theories of public expenditure.

			CO-6	To understand Criteria for Public Investment; Social Cost-Benefit Analysis, Project Evaluation, Estimation of Costs, Discount Rate,
MA-I	12303	EC-1003 : International trade	CO-1	Ability to understand the concepts of international economics such as comparative cost and the Overview of Classical and Modern Trade Theories.
			CO-2	Knowing the Terms of Trade.
			CO-3	Ability to analyze Free Trade vs. Controlled Trade
			CO-4	Student Learned The Trade Agreements and Organization.
			CO-5	Ability to discuss and debate the effects of trade policy, Tariffs and Non-Tariff Barriers on Trade
			CO-6	Understand role of international economic organization and global crisis development.
MA-I	12304	EC-1004 : Agriculture Economics - I	CO-1	Ability to develop an understanding the role of agriculture in an economy and Barriers to Agricultural Growth in India.
			CO-2	Ability to critically analyze Agriculture Productivity and Agricultural Labour
			CO-3	Ability to critically analyze Agriculture and Finance
			CO-4	Ability to critically analyze Agriculture and Markets
			CO-5	Ability to critically analyze the various issues and challenges faced by agrarian economies w.r.t. production, productivity, efficiency, employment, etc.
			CO-6	To discuss the Agricultural Growth and Rural Development
SEMESTER II				
MA-I	22301	EC-2001: Micro-Economic Analysis-II	CO-1	Understand Market Structures
			CO-2	Comparison of Monopoly and Perfectly Competitive Market outcomes
			CO-3	To enable understanding Monopoly and Regulation of Monopoly Power
			CO-4	Understand Monopolistic Competition
			CO-5	To enable students to apply micro economic concepts in various contexts.
			CO-6	To discuss the modern developments in micro economics such as Game Theory

MA-I	22302	EC-2002 : PUBLIC ECONOMI CS II	CO-1	To understand the Indian Tax System
			CO-2	To understand Budget- Meaning and Components and Types
			CO-3	To understand of various policies in public economics like fiscal policy, Monetary policy, public debt policy, fiscal finances, etc.
			CO-4	Understand Public Debt and Deficit financing
			CO-5	Ability to critically analyze Fiscal Policy
			CO-6	Ability to critically analyze Indian Fiscal Federalism
MA-I	22303	EC-2003: INT ERNATIO NAL FINANCE	CO-1	Ability to understand and interpret the concepts such as Balance of Payment, Devaluation of Indian Rupee
			CO-2	Ability to critically analyze the effects of deficits, exchange risk, role of foreign capital on the world economy/trade.
			CO-3	Ability to discuss and debate on subjects related to international trade and Finance in the Indian Economy.
			CO-4	Ability to understand Exchange Rate Systems
			CO-5	Ability to critically analyze Classification of International Capital Flows
			CO-6	Student Learned The International Banking.
MA-I	22304	EC-2004 : Labour Economics	CO-1	To discuss and debate the Labour Markets and Wage Determination.
			CO-2	Ability to develop an understanding of Wage Policy in India
			CO-3	To demonstrate on the various aspects of labour dynamics and labour relations w.r.t. India
			CO-4	Understand Migration and Absenteeism
			CO-5	To discuss and debate the various issues and challenges faced by labour
			CO-6	Ability to critically analyze Labour Market reforms
SEMESTER III				
MA-II	32301	EC-3001: Macro Economics analysis - I	CO-1	Ability to analyse Traditional Approaches to Macroeconomics
			CO-2	Ability to discuss and debate on National Income and Social Accounting
			CO-3	To understand Demand and Supply of Money
			CO-4	To discuss and debate on The Liquidity Theory, Gurley and Shaw Hypothesis,

					Demand for Money-Classical and Keynesian
				CO-5	Ability to critically analyze Post Keynesian Theories of Demand for Money
				CO-6	To demonstrate on the various aspects of RBI approach to Money Supply
MA-II	32302	EC-3002 : Growth and Development - I		CO-1	Ability to apply the concepts of economic growth and Development
				CO-2	To discuss and debate the economic growth and compare international comparison of economic development, etc.
				CO-3	Ability to analyze and demonstrate knowledge of the economic growth and development theories of economic growth and development
				CO-4	Ability to critically analyze Poverty, Inequality and Unemployment
				CO-5	To understand Human Capital and Economic Development
				CO-6	Ability to analyze Education, Skill and Wages, Health and Efficiency to Work
MA-II	32303	EC-3003 : Research Methodology-I		CO-1	Ability to analyze Scientific Research : Methods - Stages /Steps
				CO-2	Ability to develop Identification and Selection of Research Problems
				CO-3	To understand Research design, Objective, Need and Types of research Design
				CO-4	Ability to analyze Data Collection And Data Analysis
				CO-5	To enable an understanding of Testing of Hypothesis and Types of Hypothesis
				CO-6	Ability to apply the Report Writing
MA-II	32307	EC-3004 : Industrial Economics		CO-1	To make the students understand concepts of industrial economics, Scope and Importance
				CO-2	ability to apply knowledge of industrial Location Theories
				CO-3	Ability to critically analyze Industrial Imbalance and Policy of Industrial Location
				CO-4	To ability to comprehend Industrial Productivity, Efficiency and Skill Development
				CO-5	Ability to critically analyze Industrial Policy in India and Changing Role and Performance of

					Public and Private Sector in India
				CO-6	Ability to analyze Globalization of Labour Markets and Impact of Emerging Economies
SEMESTER IV					
MA-II	42301	EC-4001: Macro Economics analysis - II	CO-1	To understand Aggregate Demand and Aggregate Supply Analysis	
			CO-2	Knowing the Macroeconomic equilibrium, AS-AD Model	
			CO-3	To discuss the modern developments in macroeconomics- IS-LM Curves Model	
			CO-4	Ability to critically analyze Inflation-Unemployment Trade-Off: Phillips Curve and Rational Expectations Theory	
			CO-5	To ability to comprehend Stagflation and Supply-side Economics	
			CO-6	Ability to critically analyze The New Classical Macro Economics & the Open Economy Issues- Mundel-Fleming Model	
MA-II	42302	EC-4002 : Growth and Developme nt - II	CO-1	Knowing the International agreements and Agriculture in India	
			CO-2	Ability to critically analyze Sectorial Development- Agriculture, Industry and Service Sector	
			CO-3	To discuss the Technology and Development	
			CO-4	Ability to critically analyze Environment and Development	
			CO-5	Ability to discuss and debate on The Role of the Government in the Developmental process, The Market versus Detailed Centralized Planning	
			CO-6	To analyze and evaluate the obstacles in the process of economic growth and development Strategies	
MA-II	42303	EC-4003 : Research Project	CO-1	Students who complete their post-graduation in Economics are mentally equipped to pursue research in the same discipline.	
			CO-2	Preparing a small dissertation is intended to train them in scientific thinking and art of systematic presentation.	
			CO-3	It is essentially a job-oriented exercise to enable them to take up the exciting field of social and economic research.	
			CO-4	To enable an understanding of Research and its methods under various areas of	

					economics.
				CO-5	Ability to evaluate and examine subject areas in economics and explore possibilities of research.
				CO-6	To demonstrate the practical and the applied aspects of research in relation to Economics.
MA-II	42306	EC-4004 : Environmental Economics		CO-1	To understand Meaning, Nature, Scope and Significance of Environmental Economics
				CO-2	Ability to discuss Trade-off, Environmental Kuznets Curve & Limits to Growth
				CO-3	Ability to critically analyze Environment and Agricultural, Industrial Development
				CO-4	To discuss Global Environmental Issues
				CO-5	Ability to evaluate and examine Environmental Regulation – Theories and Analytical Tools
				CO-6	Ability to critically analyze Climate Change, Environmental Agreements and Policies


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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Geography



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: B.A. Geography

PO NO.	OUTCOMES
PO1	Recognize about the basic disciplines of Geography and its sub branches.
PO2	Determine knowledge of physical and cultural landscapes of the earth surface.
PO3	Students will gain the knowledge of geography. They will gather knowledge about the fundamental concepts of Geography
PO4	Students can easily correlate the knowledge of physical geography with the human geography. They will analyses the problems of physical as well as cultural environments
PO5	Student will able to apply Geographical Knowledge in various fields
PO6	Student will able to enrich their observation power to apply geographical knowledge through field Visit.
PO7	Student will aware about use of Geographical tools and techniques in the Geospatial field.


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Name of the Programme: B.A.Geography

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I & II				
FYBA	11201	Physical Geography-I	CO1	Student will distinguish the basic concepts in Physical geography.
			CO2	They identify the efficacy and application of Physical geography in different regions and environment.
			CO3	Student will examine the Earth system (Lithosphere, Atmosphere, Biosphere and Hydrosphere).
			CO4	Student will understand interior of the earth surface and different theory of land and sea distribution.
			CO5	To define the concept of atmospheric layer, heat budget, wind system and type of condensation.
			CO6	To acquire the knowledge of Water cycle, various hydrological concept.
FYBA	12201	Human Geography-II	CO1	Student will identify the basic concepts in Human Geography.
			CO2	Student will observe the utility and application of Human Geography in different regions and environment.
			CO3	To acquire the population pattern, factor influencing the distribution and mobility of population including settlement and economic activities.
			CO4	Students utilize the knowledge of demographic transition theory.
			CO5	They examine the Settlement pattern and rural


				and urban settlement.
			CO6	Student will able to divide the Agriculture types and identify the problems of agriculture in India.
SEMESTER III & IV				
SYBA	23201	S1 Geography of Maharashtra -III	CO1	To Summarize the historical and political background of the Maharashtra.
			CO2	Student will to associate the information of Geographical structure and physical setup of Maharashtra.
			CO3	To categorize the Soil type of the Maharashtra
			CO4	To gather the information of the river system in Maharashtra. They will learn the landform created by rivers.
			CO5	Student will to learn the difference in various climatic region of Maharashtra.
			CO6	They will gather the information about the causes and effects of flood in the area.
			CO7	Student will associate the mineral resources in Maharashtra and its impact on industry, economic development of Maharashtra.
SYBA	24201	S1 Geography of Maharashtra -IV	CO1	Student will learn different agriculture type in Maharashtra and will understand the problem of agriculture in Maharashtra
			CO2	it will gain the major crop as well as Cash crop in a horticulture in Maharashtra
			CO3	Acquire the knowledge of population distribution and composition in Maharashtra.
			CO4	Student will known the concept of rural development and case studies in Maharashtra
			CO5	.will understand the role of tourism development as well as growth potential in a tourism in Maharashtra
			CO6	will know on the different settlement type in Maharashtra and potential of major cities in Maharashtra
SYBA	23207	G2 Environment al Geography III	CO1	To know the content of Environmental Geography and to gather the approaches and importance of Environmental Geography
			CO2	To determine the term and function of ecosystem and acquire the knowledge of ecosystem

			CO3	To group the ecosystems on the earth and examine the different ecosystems around us.
			CO4	To Learn the concept of biodiversity, its types, areas in India and co relate the biodiversity and economic potential.
			CO5	To learn the types of pollution and find the causes and effects of pollution.
			CO6	To know the causes of air pollution and identify effects of it.
SYBA	24207	G2 Environmental Geography IV	CO1	To gain the Knowledge of types of disaster.
			CO2	To identify the impact of biological disaster.
			CO3	Students will get aware about the use of chemical fertilizers, pesticides and insecticides and its impact on environment.
			CO4	Students will acquaint with need of environmental planning and management in India.
			CO5	To know the concept of environmental impact assessment.
			CO6	To acquire the knowledge about the existence of environmental in India.
SYBA	23201	S2Practical III (Scale and Map Projections	CO1	Student to memorizing different Map type, its elements and uses.
			CO2	To gain knowledge of map scale, different types of scale.
			CO3	Understand the construction of simple geographical scale.
			CO4	Understand the basic concept of map projection.
			CO5	Acquire knowledge of calculation of time on the basis of meridian.
			CO6	Understand the different types of map projection and its classifications
			CO7	To evaluate practical knowledge
SYBA	24201	Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)	CO1	To define concept of cartography its development and uses.
			CO2	Students learn to different cartographic techniques and its applications in Geography.
			CO3	Understand the different techniques of surviving.
			CO4	Knowledge about the preparation of layout.
			CO5	To calculate and conversion of survey area.
			CO6	Understand the socio-economic condition of village. And Understand the Geographical condition of field.
			CO7	To evaluate practical knowledge

SEMESTER V & VI

TYBA	35201	Geography of India-V	CO1	To Learn the extension of India and associate the physical diversity of India
			CO2	To know the west and east flowing rivers and to associate the differences between west flowing and east flowing rivers
			CO3	To know the various river systems in India and acquire the information of river systems in Himalaya and rest of India
			CO4	To identify the seasons in India and associate the seasons and weather
			CO5	To gain the knowledge of Soil Types and natural vegetation in India and co relate the two.
			CO6	To know the importance of boundaries in world politics and identify the issues related to international boundaries of India
TYBA	36201	S3 Geography of India-VI	CO1	To learn the cultural setting of India and categorize religions of India. Group the major tribes and associate the tribal areas and their problems
			CO2	To understand the importance of Transport and communication, summarize the role of transportation in regional development of India, Identify Land, Air, and Water ways in India. Highlight the development in communication technology in India.
			CO3	To apply the resources existed and its role in industrial development. Identify the types of resources.
			CO4	Estimate iron ore and Manganese resources in India. Identify coal and petroleum resources in India as well as Hydro and Thermal Power
			CO5	Define Agriculture. Determine the significance of Agriculture in the Indian Economy. Group the industries into Agro based industries.
			CO6	Summarize the sugar, cotton and textile industries in India interpret the Agriculture revolution in India. Categorize Green, White and Blue revolution.
TYBA	35206	G3 Geography of Tourism-I	CO1	To define the role of geography in tourism.
			CO2	To Create the details physical tourism potential places in the district.
			CO3	To memorize information about tourism types on nationality, travel time & purpose
			CO4	To correlate between infrastructural Development and tourism development

			CO5	To Associative traditional tourism types and dangling trend of tourism.
			CO6	To identify the career opportunities in different types of tourism.
TYBA	36206	G3 Geography of Tourism- II	CO1	To analyses the role of accommodation in tourism development
			CO2	To interpreted the knowledge of accommodation types and factors of affecting choice of accommodation
			CO3	To interpreted the social cultural impact on tourism activity.
			CO4	To create awareness about environment impact on tourism.
			CO5	To memorize the policies of tourism development in the world and planning stages of tourism in India
			CO6	To examine major tourist centers in India on the basic physical impact, transportation, accommodation, infrastructure, economic activities, leisure activities.
TYBA	35203	S4 Practical V (Techniques of Spatial Analysis)	CO1	Introduce the student of Troposheets
			CO2	Student will understand mechanism function of topographical maps
			CO3	To understand interpretation of Troposheets
			CO4	Introduce the student of Weather Maps
			CO5	To understand interpretation of weather map.
			CO6	Get knowledge about GIS and Remote sensing techniques.
TYBA	36203	S4 Practical Geography – VI (Techniques of Spatial Analysis, Surveying and Excursion / Village / Project Report)	CO1	Get knowledge about Geo Statistical method.
			CO2	To understand different type of Central Tendency and its application in practical Geography.
			CO3	To understand different type of Dispersion and its application in practical Geography.
			CO4	To understand the testing and application of hypothesis.
			CO5	To calculate the correction with various methods and get the knowledge of Regression.
			CO6	Understand the socio-economic condition of village.
			CO7	Understand the Geographical condition of field.



Head

GEOGRAPHY DEPARTMENT

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Name of the Programme E: M.A./M.Sc. Geography

PO NO.	OUTCOMES
PO1	Graduates will be proficient in utilizing Geographic Information Systems (GIS) and other spatial analysis tools to effectively analyze, interpret, and visualize geographical data.
PO2	Graduates will demonstrate the ability to design, conduct, and analyze advanced research projects in geography, incorporating appropriate methodologies and data collection techniques.
PO3	Graduates will apply critical thinking skills to solve complex geospatial problems, integrating multiple sources of data and considering environmental, social, and economic factors.
PO4	Graduates will possess a deep understanding of global and regional patterns, processes, and relationships, enabling them to analyze and interpret the interconnectedness of diverse geographic phenomena.
PO5	Graduates will have a strong grasp of environmental challenges and their spatial implications, enabling them to contribute to sustainable development and conservation efforts.
PO6	Graduates will communicate complex geographical concepts clearly and effectively, both in written reports and through oral presentations, catering to both expert and non-expert audiences.
PO7	Graduates will collaborate effectively with professionals from diverse fields, applying geographical knowledge to interdisciplinary projects and solutions.

SKuraji

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Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Principles of Geomorphology

Subject Code:GGUT 111

Sr. No.	CO Number	Contents
1	CO1	Students will demonstrate a thorough understanding of key geomorphic concepts, including landform evolution, erosion, deposition, and the interactions between geological, hydrological, and climatic processes.
2	CO2	Students will be able to identify and classify various landforms, such as mountains, valleys, coastal features, and glacial landforms, based on their distinctive characteristics and formation processes
3	CO3	Students will develop the ability to establish connections between geological processes and resulting landforms, explaining how different natural forces shape the Earth's surface over time.
4	CO4	Students will acquire quantitative skills to analyse topographic maps, elevation data, and other geospatial information, enabling them to calculate slope, drainage patterns, and relief, and interpret their implications for geomorphic processes.
5	CO5	Students will comprehend the concepts of geological time scales and be able to correlate landform development with geological events spanning various epochs and periods.
6	CO6	Students will gain proficiency in producing geomorphological maps, utilizing GIS and remote sensing technologies to visualize and analyze the distribution of landforms and their attributes.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Principles of Climatology

Subject Code:GGUT 112

Sr. No.	CO Number	Contents
1	CO1	Students will develop a solid understanding of the components of Earth's climate system, including the atmosphere, hydrosphere, biosphere, and cryosphere, and their interactions.
2	CO2	Students will be able to classify and describe various climate types, such as tropical, arid, temperate, and polar climates, based on climatic variables like temperature, precipitation, and atmospheric circulation patterns.
3	CO3	Students will acquire skills to interpret and analyze climatic data, including temperature records, precipitation patterns, and climatological maps, using statistical and graphical methods.
4	CO4	Students will grasp the concepts of climate change, including natural variability and anthropogenic influences, and understand the implications of climate change on ecosystems, society, and global sustainability.
5	CO5	Students will study the global and regional atmospheric circulation patterns, including the Hadley, Ferrel, and Polar cells, and their role in shaping climate zones and weather patterns.
6	CO6	Students will explore the impact of ocean currents, upwelling, and El Niño/La Niña phenomena on climate variability and understand the complex interactions between the oceans and the atmosphere.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Principles of Economic Geography

Subject Code:GGUT 113

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of the spatial distribution of economic activities, industries, and resources across local, regional, national, and global scales.
2	CO2	Students will gain proficiency in utilizing Geographic Information Systems (GIS) and other spatial analysis tools to analyse and visualize economic data, identifying patterns and relationships within geographical contexts.
3	CO3	Students will examine the principles of international trade, including the study of trade flows, trade routes, trade agreements, and the role of transportation and logistics in shaping global economic connections.
4	CO4	Students will comprehend the concepts of location theory, including factors influencing industrial and commercial site selection, and learn to apply these principles to explain patterns of agglomeration and dispersion.
5	CO5	Students will explore the spatial organization of industries, including clusters, agglomerations, and supply chains, while understanding the factors driving industrial location decisions.
6	CO6	Students will analyse the distribution, accessibility, and utilization of natural resources such as minerals, energy, and agricultural products, considering their influence on economic development.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Principles of Population and settlement geography

Subject Code:GGUT 114

Sr. No.	CO Number	Contents
1	CO1	Students will develop the ability to analyze and interpret global and regional population distribution patterns, identifying factors influencing the concentration and dispersion of people.
2	CO2	Students will understand fundamental demographic concepts, such as birth rates, death rates, fertility, mortality, and migration, and their implications for population dynamics.
3	CO3	Students will examine internal and international migration patterns, investigating the factors driving migration, its social and economic consequences, and its role in shaping settlement patterns.
4	CO4	Students will study urbanization trends, exploring the growth of cities, the challenges of urban planning, and the interactions between urban and rural areas.
5	CO5	Students will analyze settlement hierarchies, from small villages to metropolises, considering the functions, services, and relationships between different types of settlements.
6	CO6	Students will explore the impact of globalization on human mobility, investigating transnational migration, cultural diffusion, and the role of technology in shaping contemporary migration patterns.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Practical in physical and human geography

Subject Code:GGUT 115

Sr. No.	CO Number	Contents
1	CO1	Students will acquire skills in collecting primary data through field surveys, observations, and interviews, applying appropriate methodologies to investigate geographical phenomena in real-world settings.
2	CO2	Students will become proficient in using geospatial tools such as Geographic Information Systems (GIS), remote sensing, and GPS for data collection, mapping, and analysis.
3	CO3	Students will learn to conduct environmental monitoring, assessing parameters such as air quality, water quality, and land use changes, and interpreting their implications for ecosystems and communities.
4	CO4	Students will gain the ability to identify and interpret various landforms in the field, connecting their observations to geomorphological processes and the geological history of the area.
5	CO5	Students will conduct urban analyses, studying urban morphology, land use patterns, and infrastructure networks, while evaluating the social, economic, and environmental dynamics of urban areas.
6	CO6	Students will design and administer population surveys to investigate demographic trends, migration patterns, and socio-economic characteristics of specific communities.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM II

Name of Subject: Geoinformatics I

Subject Code:GGUT 121

Sr. No.	CO Number	Contents
1	CO1	Students will learn various methods of geospatial data acquisition, including remote sensing, GPS, and field surveys, and understand their applications in capturing spatial information.
2	CO2	Students will acquire skills in managing and organizing geospatial data using databases and Geographic Information Systems (GIS), ensuring data integrity and accessibility.
3	CO3	Students will develop proficiency in performing geospatial analysis, using spatial queries, overlays, buffering, and other techniques to extract meaningful insights from spatial data.
4	CO4	Students will learn to interpret remote sensing imagery, identifying land cover, land use, and environmental features using techniques like image classification and change detection.
5	CO5	Students will understand the principles of GPS technology, learning how to collect, process, and analyse GPS data for navigation, mapping, and georeferencing.
6	CO6	Students will design and create geodatabases, considering data models, relationships, and spatial indexing to efficiently store and manage geospatial information.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM II

Name of Subject: Coastal Geomorphology

Subject Code:GGUT 122

Sr. No.	CO Number	Contents
1	CO1	Students will gain a comprehensive understanding of coastal processes, including erosion, sediment transport, wave action, tides, and currents, and how they shape coastal landforms.
2	CO2	Students will become proficient in identifying and classifying coastal landforms such as beaches, dunes, cliffs, spits, bars, and estuaries, while understanding their formation mechanisms.
3	CO3	Students will study the evolution of coastlines over different time scales, from geological history to recent changes, considering the interactions between natural processes and human activities.
4	CO4	Students will explore the influences of sea-level rise and fall on coastal geomorphology, analyzing the impacts on coastal landforms, ecosystems, and communities.
5	CO5	Students will evaluate erosion and sedimentation issues along coasts, examining strategies for erosion control, beach nourishment, and sustainable coastal management.
6	CO6	Students will learn to model wave action and coastal currents, understanding their behavior, energy distribution, and effects on sediment transport and erosion.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM II

Name of Subject: Fluvial Geomorphology

Subject Code:GGUT 126

Sr. No.	CO Number	Contents
1	CO1	Students will gain a comprehensive understanding of the processes that shape rivers, including erosion, sediment transport, deposition, and channel dynamics.
2	CO2	Students will learn to analyze river systems at various scales, from individual channels to entire watersheds, considering the interactions between geological, hydrological, and climatic factors.
3	CO3	Students will become proficient in identifying and explaining different channel patterns (e.g., meandering, braiding) and the morphological features associated with them.
4	CO4	Students will study sediment transport dynamics in rivers, exploring factors affecting sediment load, sorting, and deposition, and their role in shaping river landforms.
5	CO5	Students will analyze river basin management strategies, including floodplain management, sediment control, and the restoration of degraded river systems.
6	CO6	Students will explore methods for restoring and enhancing fluvial environments, considering techniques such as channel reconfiguration, bank stabilization, and riparian zone restoration.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM II

Name of Subject: Geography of Tourism

Subject Code:GGUT 130

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of the global tourism industry, its growth, trends, and impacts on destinations and communities.
2	CO2	Students will gain skills in analyzing and evaluating tourism destinations, considering factors such as attractions, infrastructure, accessibility, and cultural authenticity.
3	CO3	Students will explore the role of culture and heritage in tourism, studying the interactions between tourists and local communities, and the preservation of cultural assets.
4	CO4	Students will assess the environmental impacts of tourism, examining issues such as carrying capacity, ecotourism, and sustainable tourism practices.
5	CO5	Students will study tourist behaviour and motivations, exploring factors that influence travel decisions, such as personal interests, socio-cultural factors, and economic considerations. Students will learn about tourism planning and development strategies, considering the importance of stakeholder involvement, infrastructure development, and policy frameworks.
6	CO6	Students will explore alternative tourism models such as community-based tourism, volunteer tourism, and indigenous tourism, examining their benefits and challenges.

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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM II

Name of Subject: Practical in map projection

Subject Code:GGUT 133

Sr. No.	CO Number	Contents
1	CO1	Students will develop a thorough understanding of map projections, including the fundamental principles, mathematical transformations, and distortions associated with projecting a three-dimensional Earth onto a two-dimensional map.
2	CO2	Students will be able to select appropriate map projections for specific applications, considering factors such as the area of interest, purpose of the map, and the nature of the data being represented.
3	CO3	Students will learn to assess and quantify various types of distortions that occur in different map projections, including distortions in shape, area, distance, and direction.
4	CO4	Students will gain practical skills in constructing map projections manually, understanding the step-by-step process of projecting geographic coordinates onto a map surface.
5	CO5	Students will learn how to perform coordinate transformations between geographic and projected coordinate systems, enabling them to work with spatial data in different map projections.
6	CO6	Students will apply map projections to create visually appealing and accurate maps, incorporating techniques to minimize distortion and effectively communicate spatial information.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- I SEM 1

Name of Subject: Practical in statistical techniques for geography

Subject Code:GGUT 134

Sr. No.	CO Number	Contents
1	CO1	Students will develop proficiency in using statistical software packages commonly used in geographic research, enabling them to perform data analysis, visualization, and interpretation.
2	CO2	Students will acquire skills in collecting, cleaning, and organizing geographical data, ensuring data quality and consistency for accurate statistical analysis.
3	CO3	Students will be able to apply descriptive statistical techniques to summarize and present geographical data, including measures of central tendency, variability, and graphical representation.
4	CO4	Students will learn how to conduct spatial data analysis, including techniques such as spatial autocorrelation, point pattern analysis, and spatial interpolation using geostatistical methods.
5	CO5	Students will understand and apply correlation and regression analysis to explore relationships between geographical variables and assess their significance.
6	CO6	Students will explore multivariate statistical techniques, such as principal component analysis and factor analysis, to identify patterns and relationships within complex geographic datasets.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM III

Name of Subject: Geoinformatics II

Subject Code:GGUT 231

Sr. No.	CO Number	Contents
1	CO1	Students will develop advanced skills in spatial analysis, exploring techniques like geostatistics, spatial interpolation, and geospatial modeling to solve complex spatial problems.
2	CO2	Students will apply remote sensing techniques to specialized applications, such as land cover change assessment, urban growth analysis, and environmental monitoring.
3	CO3	Students will delve deeper into spatial database management, focusing on advanced concepts like database normalization, spatial indexing, and multi-user data access.
4	CO4	Students will learn techniques for 3D geospatial analysis, including terrain modeling, 3D visualization, and volumetric calculations for applications like urban planning and geology.
5	CO5	Students will develop advanced web mapping skills, creating dynamic and interactive web-based maps with sophisticated features using APIs and frameworks.
6	CO6	Students will explore techniques for ensuring the quality and accuracy of geospatial data, including error analysis, uncertainty modeling, and data validation.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM III

Name of Subject: Geographical thoughts

Subject Code:GGUT 232

Sr. No.	CO Number	Contents
1	CO1	Students will gain a comprehensive understanding of the historical development of geographical thought, tracing the evolution of key ideas from ancient times to the present day.
2	CO2	Students will analyze and critically evaluate different conceptual frameworks that have shaped geographical thinking, including environmental determinism, possibilism, and cultural landscape theory.
3	CO3	Students will explore how geographical thought has contributed to our understanding of spatial perception, spatial cognition, and the ways in which people perceive and interact with their environment.
4	CO4	Students will examine various perspectives on human-environment interactions, considering how geographical thought has evolved in understanding the reciprocal relationship between society and nature.
5	CO5	Students will analyze the role of geographical thought in shaping geopolitics, including discussions on geopolitics, political geography, and the influence of geography on international relations.
6	CO6	Students will engage with critical geographical theories, such as postcolonialism, feminism, and critical human geography, exploring how these theories challenge traditional geographical paradigms.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM III

Name of Subject: Tropical Geomorphology

Subject Code:GGUT 233

Sr. No.	CO Number	Contents
1	CO1	Students will understand the unique characteristics of tropical climates and how they influence the formation of tropical landscapes, including the role of high temperatures, heavy rainfall, and monsoons.
2	CO2	Students will become proficient in identifying and describing a variety of tropical landforms such as inselbergs, karst formations, river deltas, coastal dunes, and tropical rainforest terrains.
3	CO3	Students will explore the impacts of intense weathering and erosion processes in tropical environments, including chemical weathering, mass wasting, and the rapid degradation of rock and soil.
4	CO4	Students will study the characteristics of tropical rivers, examining factors influencing discharge, sediment transport, and river channel dynamics in regions with high rainfall variability.
5	CO5	Students will analyze the dynamics of tropical coastal processes, including coral reef formation, mangrove ecosystems, beach erosion, and the impacts of tropical storms.
6	CO6	Students will explore the formation of karst landscapes in tropical regions, studying the dissolution of limestone, the development of sinkholes, caves, and the unique topography they create.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- III SEM III

Name of Subject: Practical In Geomorphology

Subject Code:GGUT 237

Sr. No.	CO Number	Contents
1	CO1	Students will gain practical experience in acquiring geospatial data through methods such as GPS field surveys, remote sensing imagery interpretation, and digitization from maps.
2	CO2	Students will learn to pre process and clean geospatial data, including data conversion, georeferencing, and data transformation to ensure data accuracy and compatibility.
3	CO3	Students will design and implement geospatial databases, including creating data schemas, defining relationships, and setting up spatial indexing for efficient data management.
4	CO4	Students will apply various geospatial analysis techniques, including spatial queries, buffering, overlay analysis, and proximity analysis to solve real-world spatial problems.
5	CO5	Students will develop skills in creating effective maps and visualizations using cartographic principles, symbolization, labelling, and thematic map design.
6	CO6	Students will process and interpret remote sensing imagery, performing tasks such as image classification, change detection, and extracting thematic information.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM III

Name of Subject: Watershed management

Subject Code: GGUT 239

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of the concept of a watershed, including its boundaries, hydrological processes, and the interconnectedness of land and water resources.
2	CO2	Students will grasp the fundamental principles of hydrology, including precipitation, runoff, infiltration, evapotranspiration, and how they relate to watershed management.
3	CO3	Students will learn to assess watershed characteristics, such as land use, soil types, topography, and hydrological data, to understand the factors influencing water availability and quality.
4	CO4	Students will explore techniques to monitor and improve water quality within watersheds, including pollution prevention, sediment control, and the use of best management practices.
5	CO5	Students will understand erosion processes, sediment transport, and sedimentation issues, and learn effective strategies for erosion control and sediment management.
6	CO6	Students will gain skills in using hydrological and water quality models to simulate the movement of water and pollutants within watersheds, aiding in decision-making.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.
Name of Programme: M.A./M.Sc.
Name of Department: Geography
Class: Part- II SEM III
Name of Subject: Practical In Geomorphology
Subject Code: GGUT 241**

Sr. No.	CO Number	Contents
1	CO1	Students will acquire practical skills in collecting geomorphological data through field surveys, measurements, and observations, enhancing their ability to study landforms in their natural environment.
2	CO2	Students will develop proficiency in creating accurate topographic maps using field survey techniques and GPS technology, and learn to interpret elevation data.
3	CO3	Students will learn to identify and classify various landforms, including hills, valleys, erosional features, and depositional features, based on field observations and data collection.
4	CO4	Students will apply geological knowledge to interpret the origin and formation of landforms, understanding the influence of geological processes on landscape evolution.
5	CO5	Students will conduct river and stream analyses, measuring channel characteristics, sediment distribution, and assessing the dynamics of fluvial systems.
6	CO6	Students will study weathering and erosion processes, analyzing soil profiles, sediment samples, and rock types to understand the effects of these processes on landscape features.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM IV

Name of Subject: Geography of India

Subject Code:GGUT 249

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of India's diverse physical landscapes, including its mountain ranges, plains, plateaus, rivers, deserts, and coastal regions.
2	CO2	Students will explore India's rich cultural and linguistic diversity, understanding the distribution of languages, religions, ethnic groups, and cultural practices across the country.
3	CO3	Students will study regional disparities in India, analyzing factors such as economic development, infrastructure, access to resources, and urban-rural dynamics.
4	CO4	Students will examine India's climatic variability and environmental challenges, including monsoon dynamics, droughts, floods, deforestation, and issues related to pollution and sustainability.
5	CO5	Students will learn about India's agricultural practices and land use patterns, including subsistence farming, commercial agriculture, and the challenges of land degradation and soil erosion.
6	CO6	Students will explore the growth of Indian cities, studying urbanization trends, the emergence of megacities, and the challenges of managing urban infrastructure and services.

**Poona District Education Association's
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Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM IV

Name of Subject: Oceanography

Subject Code:GGUT 250

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of the physical and chemical characteristics of the oceans, including ocean layers, salinity, temperature, and nutrient distribution.
2	CO2	Students will study ocean currents and circulation patterns, including global thermohaline circulation, ocean gyres, and their influence on climate and marine ecosystems.
3	CO3	Students will explore marine ecosystems, biodiversity, and the ecological interactions within various oceanic zones, from the photic zone to the deep sea.
4	CO4	Students will learn about the formation and distribution of oceanic sediments, studying marine geological processes, underwater landforms, and plate tectonics in ocean basins.
5	CO5	Students will understand physical processes in the oceans, including waves, tides, and ocean-atmosphere interactions, and their impacts on coastal areas and marine life.
6	CO6	Students will explore the chemical composition of seawater, nutrient cycling, marine biogeochemical processes, and their influence on marine organisms and ecosystems.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM IV

Name of Subject: Research Methodology

Subject Code:GGUT 251

Sr. No.	CO Number	Contents
1	CO1	Students will develop a foundational understanding of the key principles and concepts that underlie the research process, including the importance of ethics, validity, and reliability.
2	CO2	Students will learn to select appropriate research designs, including qualitative, quantitative, and mixed methods approaches, based on research questions and objectives.
3	CO3	Students will gain the ability to conduct thorough literature reviews, identifying relevant sources, summarizing existing research, and identifying gaps in current knowledge.
4	CO4	Students will learn how to develop a clear and well-structured research proposal, outlining research aims, objectives, methods, and anticipated contributions to the field.
5	CO5	Students will explore a range of data collection techniques, including surveys, interviews, observations, experiments, and archival research, selecting methods that align with their research goals.
6	CO6	Students will develop skills in data analysis, including quantitative analysis using statistical tools and qualitative analysis using coding and thematic analysis.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM IV

Name of Subject: Geography of soil

Subject Code:GGUT 252

Sr. No.	CO Number	Contents
1	CO1	Students will gain proficiency in classifying soils based on various soil classification systems, understanding the criteria for differentiating soil types and their characteristics.
2	CO2	Students will explore the processes of soil formation, including weathering, soil horizons development, and pedogenesis, and how these factors contribute to soil diversity.
3	CO3	Students will learn about soil physical properties such as texture, structure, porosity, and permeability, understanding their influence on water movement, aeration, and plant growth.
4	CO4	Students will study soil chemical properties including pH, nutrient content, cation exchange capacity, and their role in supporting soil fertility and nutrient availability for plants.
5	CO5	Students will learn soil survey methods, including field sampling, laboratory analysis, and mapping, enabling them to assess and map soil types across landscapes.
6	CO6	Students will explore the processes of soil erosion, its impacts on land productivity, and methods of soil conservation, including terracing, contour farming, and vegetation management.

Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.
Name of Programme: M.A./M.Sc.
Name of Department: Geography
Class: Part- II SEM IV
Name of Subject: Practical in watershed analysis
Subject Code:GGUT 256

Sr. No.	CO Number	Contents
1	CO1	Students will learn to delineate watersheds using geospatial tools and techniques, accurately identifying the boundaries and contributing areas of different watersheds.
2	CO2	Students will develop skills in analyzing topographic data, including contour maps, elevation models, and slope analysis, to understand the terrain characteristics of watersheds.
3	CO3	Students will use hydrological modeling software to simulate runoff and flow paths within watersheds, understanding how different factors influence water movement.
4	CO4	Students will analyze rainfall data and its relationship to runoff generation, studying the effects of precipitation patterns on watershed hydrology.
5	CO5	Students will learn to analyze streamflow data, including flow rates, stage-discharge relationships, and hydrographs, to assess the behavior of rivers and streams.
6	CO6	Students will estimate sediment transport within watersheds, considering factors such as soil erosion, sediment yield, and the impact on downstream environments.

**Poona District Education Association's
Annasaheb Magar College, Hadapsar, Pune - 28.**

Name of Programme: M.A./M.Sc.

Name of Department: Geography

Class: Part- II SEM IV

Name of Subject: Geography of World

Subject Code:GGUT 258

Sr. No.	CO Number	Contents
1	CO1	Students will develop a comprehensive understanding of the world's continents, their locations, sizes, physical characteristics, and major landforms.
2	CO2	Students will study the diverse climatic zones and patterns across the globe, including the factors influencing climate, such as latitude, ocean currents, and elevation.
3	CO3	Students will explore the cultural diversity of the world's regions, including languages, religions, traditions, and cultural landscapes that shape the human experience.
4	CO4	Students will examine the political divisions of the world, including countries, borders, international organizations, and geopolitical relationships among nations.
5	CO5	Students will analyze global population distribution, growth trends, urbanization, and migration patterns, exploring factors influencing population dynamics.
6	CO6	Students will understand the distribution of natural resources across the world, including energy, minerals, water, and their sustainable management challenges.

Geography Dept.
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Rln
**Co-ordinator
IQAC Committee
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Hadapsar, Pune-28.**

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Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
Pune- 411028.



Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Psychology



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme B.A. Psychology

PO NO.	OUTCOMES
PO1	Students should understand basic concepts, principles and theories of Psychology
PO2	Students should accomplish to understand the basic steps in scientific research and psychology.
PO3	Students should understand recent clarification, the causes, symptoms and treatment of various Psychological disorders
PO4	Students should develop the skill of psychological testing, its administration, scoring and interpretation of obtain result.
PO5	Students should define Nature and Scope of industrial psychology, personnel selection and training. Also they should know Recruitment Techniques and Assessment
PO6	Students Should know the basic concepts theories and application of social Psychology also they should understood the importance of close relationship and Pro- social behaviour.
PO7	Students should know the basic concepts of experimental psychology and research methodology and also develop some basic skill for scientific inquiry.
PO8	Students should undertake an independent small-scale research projects or projects related with social works.

Smeekar
Head,

Department of Psychology,
Annasaheb Magar Mahavidyalaya,
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PH

Co-ordinator
IQAC Committee
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Psychology

Name of the Class	Course Code	Course Title	Course Outcomes	
F.Y. B.A.	11221	DSC-PSY- 1A: Foundations of Psychology	CO1	Students should understand the basic psychological processes and their applications in day-to-day life.
			CO2	Students should develop the ability to evaluate cognitive processes, learning and memory of an individual.
			CO3	Students should understand the importance of motivation and emotion of the individual.
			CO4	Students should understand the personality and intelligence of the individuals by developing their psychological processes and abstract potentials.
			CO5	Students should understanding Behaviour through methods in Psychology
			CO6	Students should able to use techniques for improving memory while doing study.
F.Y.B.A.	12221	DSC-PSY- 1B : Introduction to Social Psychology	CO1	Students should understand the basics of social psychology.
			CO2	Students should understand the nature of self, concept of attitude and prejudice of the individual.
			CO3	Students should assess the interactional processes, love and aggression in our day today life.
			CO4	Students should understand group dynamics and individual in the social world.
			CO5	Students should able to apply aggression prevention and reducing techniques.
			CO6	Students should able to spread awareness in community for their better mental health
SYBA-	23221	Name of	CO1	Students should acquire the knowledge about

		Course/pa per : Abnormal Psycholo gy- I		the symptoms, diagnostic criteria, and causes of various psychological disorders
			CO2	Students should examine multiple probable causes and correlates of behaviour.
			CO3	Students should understand critiques, limitations, and implications of diagnosis and classification of psychological diseases.
			CO4	Students should create awareness about mental health problems in society
			CO5	Students should define the recent mental disorder and should get clear idea about various types of mental illness
			CO6	Students should understand types the DSM V base classification of mental disorders.
			CO7	Students should know what mental illness; criteria's of abnormal behaviour is and understand causes of mental illness.
			CO8	Students should understand the various symptoms of psychological disorder.
SYBA	23222	Name of Course/pa per: Developm ent Psycholo gy	CO1	Students should understand the importance, characteristics and concern in lifespan development
			CO2	Students should understand biological, cognitive, and socio-emotional processes.
			CO3	Students should understand Psychoanalytic, Cognitive, Behavioural and Social Cognitive, Ethological, Ecological and Eclectic theories of development
			CO4	Students should understand methods of data collection and research designs used in Life- span development research
			CO5	Students should know the basic concepts of human development processes.
			CO6	Students should understand the developments process of human and hereditary and environmental factor involve in developments.
SYBA	23223	Health Psycholo gy	CO1	Students should able to explain health psychology and arrive at the introduction to the role of psychology in health.
			CO2	Students should understand the nature of stress and coping
			CO3	Students should able to understand various factors related to health and diseases.
			CO4	Students should able to know the the Need of Health Psychology- Changing Patterns of Illness, Expanded Health Care Services, Increased

				Medical Acceptance
			CO5	Students should able to apply Psychological Interventions for Chronic Health Disorders
			CO6	Students should able to use their knowledge for quality of life and promoting the good health.
SYBA	23224	Health promotion life Skill	CO1	Students should know the concept of Hygienic behaviour
			CO2	Students should understood the types of infectious diseases and Signs and symptoms of infectious diseases
			CO3	Students should apply their knowledge for prevent infectious diseases by follow the hygienic habits
			CO4	Students should able to understand the importance of interpersonal relationship, peer pressure effect.
			CO5	Students should know the how to deal with peer such as saying no to drugs, tobacco and 3- bullying and its effect
			CO6	Students should able to map their own competency and competencies dealing with self-management
SYBA	24221	PSYCHOLOGY OF ABNORMAL BEHAVIOR-II	CO1	Students should learn descriptions, and theories underlying diagnostic cosmology of psychiatric disorders.
			CO2	Students should learn and understand benefits, critiques, limitations, and implications of diagnosis and classification.
			CO3	Students should acquire the knowledge about the symptoms, diagnostic criteria, and causes of various psychological disorders.
			CO4	Students should examine multiple probable causes and correlates of behaviour.
			CO5	Students should know how to prevent or treatment of mental disorder.
			CO6	Students should create awareness about mental health problems in society.
SYBA	24221	THEORIES OF PERSONALITY	CO1	Students should able to describe the concept of personality with various theories of personality on the basis of personality psychology.
			CO2	Students should understand different framework and theoretical aspects of personality.
			CO3	Students should analysis, observe and interpret individual differences in behaviour in the light of sound theoretical systems of

				personality.
			CO4	Students should able to do comprehensive overview of the major theories personality.
			CO5	Student should be able to identify and classify the various personality traits.
			CO6	Students should be able to correlate real-life behaviour pattern with the theoretical assumptions.
SYBA	24223	POSITIV E PSYCHO LOGY	CO1	Students should understand how the positive psychology as the science of happiness, human strengths, positive aspects of human behavior and 'psychology of well-being.'
			CO2	Students should know how we lead our lives, find happiness and satisfaction, and face life's challenges.
			CO3	Students should analysis that how positive psychology has become an evolving mosaic of research and theory from many different areas of psychology.
			CO4	Students should apply techniques for how to become happy.
			CO5	Students should able to set their realistic goals.
			CO6	Students should able to apply the knowledge of resilience concept, and how to growth through Trauma.
SYBA	24224	Basic Counsell ing Skills	CO1	Students should able to know basic counseling skills.
			CO2	Students should able to know how to facilitating problem solving method with client and Improving clients feedback.
			CO3	Students should follow the ethical issues and dilemmas at their work place.
			CO4	Students should take require support from other related to counselling and know importance of being supervised when they deal with their peers.
TYBA	35221	TestinTes ting Project + Psycholo gy Testing (Theory)	CO1	Students should know the basic concepts of Psychology test, reliability, validity and norms.
			CO2	Students should able to classify and categorize Psychological tests, reliability-validity and norms types.
			CO3	Students should identify the realiability and validity of Psychological tests.
			CO4	Students should evaluate the types of norms.
			CO5	Students should able to conduct tesing

				project for behaviour analysis.
			CO6	Students should follow the ethical issues in test construction
TYBA	35222	PSYCHOLOGICAL TESTS + (1) STATISTICS Practical	CO1	Students should describe mapping of human behaviour.
			CO2	Students should explain general ability testing, personality, adjustment and attitude.
			CO3	Students should identify and classify the intellectual ability and personality patterns.
			CO4	Students should conduct testing and evaluate intellectual ability, personality traits, adjustment and attitudes of participant.
			CO5	Students should analyze statistical methods employed in behaviour analysis.
			CO6	Students should acquire the skill of administering and scoring psychological tests.
TYBA	35223	Industrial And Organizational Psychology	CO1	Students should define Nature and Scope of industrial psychology. They should understand history, present and future of I/O Psychology.
		Industrial And Organizational Psychology	CO2	Students should describe the concept of industrial and organizational psychology, selection and training, evaluation and motivation at workplace.
		Industrial And Organizational Psychology	CO3	Students should explain job profile, job analysis, recruitment techniques and employee training.
		Industrial And Organizational Psychology	CO4	Students should identify and classify the appraisal rating system.
		Industrial And Organizational Psychology	CO5	Students should compare different theories of motivation.
		Industrial And Organizational Psychology	CO6	Students should evaluate the training programme and job performance.
TYBA	35224	Personality development-I	CO1	Students should be able to describe the concept of personality.
		Personality development-I	CO2	Students should be able to identify and classify the various personality traits.
		Personality development-I	CO3	Students should be able to correlate real-life behaviour pattern with the theoretical assumptions.
		Personality development-I	CO4	Students should be able to apply psychological skill in daily life situation.
TYBA	36223	Applied Psychology	CO1	Students should be able to describe the concept of applied psychology educational

		gy		psychology family structure and developmental patterns.
			CO2	student should know the Clinical Psychology related mechanism social issues and criminal behaviour.
			CO3	student should able to classify the intellectual ability abnormality and criminal behaviour.
			CO4	students should able to identify the problem and solution in the field of education.
			CO5	Students should able to evaluate the interpersonal relations.
			CO6	students should able to apply psychological remedies to assess the abnormal behaviour to tackle the social issues and to rectify the problematic behaviour.
TYBA	36221	Research Project + Experimental Psychology (Theory)	CO1	student should be able to describe the process of experiment in psychology concept of psychophysics.
			CO2	students should be able to explain problem hypothesis variable sampling in experiment.
			CO3	students should be able to identify and classify the learning system method of psychophysics.
			CO4	students should be able to compare law of psychophysics type of hypothesis.
			CO5	students should be able to explain psychophysics, various cognitive processes of human being.
			CO6	Students should able to conduct research based project.
TYBA	36222	PSYCHOLOGICAL EXPERIMENTS + STATISTICS PRACTICAL	CO1	Students should explain psychophysics, various cognitive processes of human being.
			CO2	Students should classify and compare psychological experiments.
			CO3	Students should conduct laboratory experiments.
			CO4	Students should analyse statistical base of human behaviour.
			CO5	Students should acquire the skill of interpreting the scores or performance of psychological experiments
			CO6	Students should learn practical application of psychological knowledge through study tour and visit.
TYBA	36224	Personalit	CO1	student should be able to describe the

		y Developm ent-2	concept of self esteem in personality development.
		CO2	students should be able to identify and classify behavioral assessment techniques.
		CO3	students should be able to integrate personality of individuals.
		CO4	student should be able to apply psychological skill to develop own personality.

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Pune District Education Association's

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Programme & Course Outcome





Pune District Education Association's
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Self Study Report: 2024 (4th Cycle)

Department of Political Science



Pune District Education Association's
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 Hadapsar, Pune- 411028
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Name of the Programme: B.A. Political Science

PO NO.	OUTCOMES
PO1	Develop knowledge of theories, concepts, and research methods in humanities and social sciences.
PO2	Assess how global, national and regional developments affect society.
PO3	The Political Science degree furnishes the students with a unique multidisciplinary approach in social sciences and prepares them for further academic study and for careers in the public and the private sector.

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Pune District Education Association's
Annasaheb Magar Mahavidhyalaya, Hadapsar, Pune - 28.

Name of Programme: BA

Name of Department: Political Science

Class: FY BA Sem. I

Name of Subject: Introduction to Indian Constitution

Subject Code: 11161

SN	CO Number	Contents
1	CO1	Students will be able to understand making process of Indian Constitution.
2	CO2	Students will be able to understand their Fundamental Rights, Fundamental duties and directive principles of state.
3	CO3	Students can understand the salient features of Indian constitution .
4	CO4	Students will be able to compare federal system in the world and they will examine federal system of India.
5	CO5	Students will be able to understand the constitution provisions and they will analyze constitutional amendments.
6	CO6	Students will be able to understand the Basic structure of Indian Constitution.

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Name of Programme: BA

Name of Department: Political Science

Class: FY BA Sem II

Name of Subject: Introduction to Indian Constitution

Subject Code: 12161

SN	CO	Contents
1	CO1	Students will be able to explain the structures, powers, and functions of three organs of government and their mutual relationship and engagements.
2	CO2	They will be able to explain the emerging trends in Indian Federalism and party system in India.
3	CO3	Students will be able to explain the Judiciary System of India.
4	CO4	Students will be able understand concept of Judiciary Review and Judicial Activism.
5	CO5	Students will be able to explain electoral system electoral & reforms in India. of India
6	CO6	Students will be able to explain what are the constitutional structures of government that work at the grassroots level in India.


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**Pune District Education Association's
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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem. III

Name of Subject: Western Political Thought

Subject Code: 23161

SN	CO	Contents
1	CO1	The students will know the key ideas of all the political philosophers given in the course.
2	CO2	The students will be able to explain what was the ideal state according to Plato and how was it linked to his scheme of education and theory of justice.
3	CO3	The students will be able to answer how Aristotle differed from his master Plato on the conception of justice.
4	CO4	The students will be able to make a distinction among Locke, and Rousseau on the state of nature, the law of nature, nature and form of contract and the emergence of state from the contract.
5	CO5	The students will be able to answer how and why Machiavelli gave an overriding priority to pragmatism above ethics and values in operation of statecraft.
6	CO6	The students will be able to discern the meaning of utilitarianism and how Bentham and Mill differed from each other.

**Pune District Education Association's
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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem. IV

Name of Subject: Western Political Thought

Subject Code: 24161

SN	CO.	Contents
1	CO1	The students will be able to make a distinction among Locke & Rousseau on the state of nature, the law of nature, nature and form of contract and the emergence of state from the contract.
2	CO2	The students will be able to understand Bentham's Utilitarianism; and John Stuart Mill's views on liberty and representative government.
3	CO3	The students will be able to understand Hegel idealism & theory of State;
4	CO4	The students will be able to discern the meaning of utilitarianism and how Bentham and Mill differed from each other.
5	CO5	The students will be able to understand Marxian Theory of Historical Materialism, Class Struggle, and & theory State.



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**Pune District Education Association's
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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem III

Name of Subject: Political Journalism

Subject Code: 23162

SN	CO	Contents
1	CO1	Student will aware about Political Journalism their Definition and Meaning
2	CO2	Student will understand about Political Journalism Nature Scope
3	CO3	Student will learn about Agencies of Political Journalism like Print, Electronic, Web
4	CO4	Student will aware about History of Political Journalism
5	CO5	Student will understand about Pre-Independence, Post-Independence, World History
6	CO6	Student will able to understand about Methods of Political Journalism , Reporting of Political Events, Political Interview, Commentary of Legislation

**Pune District Education Association's
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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem IV

Name of Subject: Political Journalism

Subject Code: 24162

SN	CO	Contents
1	CO1	Student will aware about Indian Political Process & Journalism like Role of Social Media in Political Process
2	CO2	Student will understand about Role of Election and Media: Loksabha and Maharashtra Vidhansabha 2014 and 2019 General Elections, Political Parties and Social Media
3	CO3	Student will learn about Mediatisation of Politics, Definition and Meaning, Practices, Mediums
4	CO4	Student will aware about Media & Public Opinion,) Definition and Meaning, Practices, Mediums
5	CO5	Student will understand Challenges before Political Journalism like Increase of Paid News
6	CO6	Student will aware Party Spirited News Papers & Commercialization, Media Saturation


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**Pune District Education Association's
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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem III

Name of Subject: An Introduction To Political Science

Subject Code: 23163

SN	CO	Contents
1	CO1	The students would be able to explain different approaches to politics and build their own understanding of politics
2	CO2	They will be able to answer why the state plays so much central place in the discourses on politics.
3	CO3	They will be able to make a distinction between nation and state.
4	CO4	Explaining the Approaches to Study Political Science like Normative Approach, Empirical Approach and Feminist Approach .
5	CO5	The origin, evolution and key issues which are at the core of the feminist movement both in Anglo-American world and India.
6	CO6	They will be able to answer why the state plays so much central place in the discourses on politics.

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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem IV

Name of Subject: An Introduction To Political Science

Subject Code: 24163

SN.	CO	Contents
1	CO1	Student will understand about Basic Political Values Liberty, Equality, Justice
2	CO2	Student will aware about Rights their Definition and Meaning
3	CO3	Student will understand about Right types & Their Challenges
4	CO4	They will come to know about different theories on nationalism,, Socialism, Fascism
5	CO5	Student will able to understand about United Nations – Structures, Functions and Challenges
6	CO6	Student will able to aware about Regional – EU, SAARC, OPEC, NATO MNCs



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Name of Programme: BA
Name of Department: Political Science
Class: TY BA Sem V
Name of Subject: Public Administration
Subject Code: 35161

SN	CO	Contents
1	CO1	Student will able to know about Meaning, Nature, Scope and Significance of public administration.
2	CO2	Student will understand about Evolution Of New Public Administration
3	CO3	Student will aware about Salient Features & Goals Of New Public Administration
4	CO4	Student will come to know Approaches to Public Administration like Traditional Approach
5	CO5	Student will aware about Approaches to Public Administration like Behavioural Approach System Approach
6	CO6	Student will understand Concept of Governance, Idea of Good Governance, E-Governance, Public Private Partnership

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Name of Programme: BA
Name of Department: Political Science
Class: TYBA Sem. VI
Name of Subject: Public Administration
Subject Code: 36161

SN	CO	Contents
1	CO1	Student will come to know Bureaucracy & their Meaning and Definitions, Administrative Reforms
2	CO2	Student will aware about Personnel Administration & their Recruitment, Training, Promotion
3	CO3	Student will understand about Budgeting Meaning and types, Principles of sound Budget
4	CO4	Student will understand Budgetary Process in India, Gender Budgeting
5	CO5	Student will come to know concept of Accountability and Control
6	CO6	Student will aware about Administrative Accountability, Legislative Control, Judicial Control


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Name of Programme: BA

Name of Department: Political Science

Class: TYBA Sem V

Name of Subject: International Relations

Subject Code: 35162

SN	CO	Contents
1	CO1	Familiarization with the key concepts of the discipline of IR.
2	CO2	Student will Able to understand & Explain Approaches to International Relations (Idealism Realism – Neo realism System approach Marxism)
3	CO3	Student will able to understand & Explain World War II and the Cold War
4	CO4	Student will able to understand & Explain International Organizations (The United Nations, International Financial institutions & Regional Organizations)
5	CO5	Comprehensive understanding of the key assumptions and arguments of the mainstream IR.

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Name of Programme: BA

Name of Department: Political Science

Class: TY BA Sem. VI

Name of Subject: International Relations

Subject Code: 36152

SN	CO	Contents
1	CO1	Student will Able to understand The Theory of Non-Alignment & Meaning and basic principles of Non-Alignment
2	CO2	Student will Able to understand Emergence of Non-Alignment, Non-Alignment as a Movement, Relevance of NAM In Post cold war period
3	CO3	Student will Able to understand Globalization, Meaning of Globalization, Evolution and Impacts of Globalization
4	CO4	Student will aware about Limits of Globalization & Role of The state
5	CO5	Student will aware about Neo-Colonialism, New International Economic Order, North-South Divide, South-South Co-operation
6	CO6	Student will Able to understand International Terrorism, Environmental Issues, Poverty, Development and Hunger Human Rights


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Name of Programme: BA

Name of Department: Political Science

Class: TY BA Sem V

Name of Subject: Modern Political Analysis

Subject Code: 35163

SN	CO	Contents
1	CO1	Student will Able to understand Modern Political Analysis Meaning, Nature , Features of Modern Political Analysis
2	CO2	Student will aware about Difference between Traditional and Modern Political Approach
3	CO3	Student will Able to understand Political System their Meaning and Nature, Functions of the Political System
4	CO4	Student will aware about Classification of Political System : Gabriel Almond
5	CO5	Student will Able to understand Political culture their Meaning, Basic Elements, Types
6	CO6	Student will aware about Political Socialization Meaning, Agencies, Types

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Name of Programme: BA

Name of Department: Political Science

Class: TYBA Sem VI

Name of Subject: Modern Political Analysis

Subject Code: 36163

SN	CO	Contents
1	CO1	Student will Able to understand Political Participation, Meaning & Nature
2	CO2	Student will Able to understand Levels of Participation, Factors affecting Political Participation
3	CO3	Student will aware about Political Elite Meaning, Nature
4	CO4	Student will aware about Different approaches of Mosca, Michels, Pareto, Burnham and C. wright Mills
5	CO5	Student will Able to understand Political Communication, Meaning, Nature, Agencies of Political Communication
6	CO6	Student will Able to understand Power, Influence, Authority and Legitimacy Meaning, Nature of Power and Influence, Different Types of Authority, Different Types of Legitimacy


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Name of Programme: BA

Name of Department: Political Science

Class: SYBA Sem. III

Name of Subject: Basics Of Indian Constitution

Subject Code: 23165

SN	CO	Contents
1	CO1	Students will able to know the Importance of Fundamental Duties .
2	CO2	Explaining the Concept and Nature of Fundamental Duties .
3	CO3	Students will able to know how Directive Principles work for State .
4	CO4	Students will able to know the importance of Directive Principles for State Policy.

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Name of Programme: BA

Name of Department: Political Science

Class: SY BA Sem IV

Name of Subject: Basics Of Indian Constitution

Subject Code: 24165

SN	CO	Contents
1	CO1	Student will able to know basic knowledge of Constitution ,
2	CO2	Student will understand the features of Fundamental Duties
3	CO3	Student will able to know the Relations between Directive Principles and Fundamental Duties .
4	CO4	Students will learn how Directive Principles and Fundamental Duties work Together .


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Name of Programme: BA

Name of Department: Political Science

Class: TY BA Sem V

Name of Subject: Samyukta Maharashtra Movement

Subject Code: 35165

SN	CO	Contents
1	CO1	It's helps to know what are the Regional Aspirations in India and concept of Regionalism .
2	CO2	Students will able to know Genesis of Regionalism in India, they will study Indian National Congress and Regionalism .
3	CO3	Student will Able to understand & Explain Samyukta Maharashtra Movement .

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Name of Programme: BA

Name of Department: Political Science

Class: TYBA Sem VI

Name of Subject: Samyukta Maharashtra Movement

Subject Code: 36165

SN	CO	Contents
1	CO1	Students will able to know the basic Concept of Sub -Regionalism .
2	CO2	Student will Able to understand & Analyse the Emergence and Development of Regional Consciousness in Maharashtra .
3	CO3	Explaining the role of Indian National Congress in Samyukta Maharashtra Movement
3	CO4	Student will able to know the impact of Samyukta Maharashtra Movement


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Co-ordinator
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Name of the Programme: M.A. Political Science

PO NO.	OUTCOMES
PO1	Develop conceptual clarity of major theories and concepts of Political Science and related sub-fields.
PO2	Make students understand and analyze the operation of power politics at state, national, regional and global levels
PO3	Give the students career options in higher studies in fields related to public policy, International Politics and law, gender studies, development studies, Environmental and sustainable development, law and survey research.
PO4	The program prepares the students the undertake research projects/surveys.
PO5	Formulate socially relevant research proposals and presentations.
PO6	Provides opportunities to undergo various competitive exams of administrative services, law, and public policy.

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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem. I

Name of Subject: Po-C1 Traditions Of Political Thought

Subject Code: (12401)

SN	CO	Contents
1	CO1	Student will become aware about the Ancient era's politics, specially thoughts of Confucius & Plato. Student will aware about how the concept of justice will improve with time & how this process is necessary.
2	CO2	Student will become understand about the modern era's thought like concept of dark era, struggle between the state & religion, absence of wisdom, rise of liberalism, rise of colonialism and imperialism, various state rising theory, separation of state & religion, rise of democracy etc.
3	CO3	Student will become learn about the industrial revolution and their impact on social. Economical and political sphere.
4	CO4	Student will become understand about How industrial revolution make positive & negative impact on the whole world. Specialty through the perspective of Mil and Marx. Student will aware about the concept of liberty, revolution, workers rights.
5	CO5	Student will become aware about the colonialism and their positive-negative impact. Freedom struggle movement in Asia and Africa Continent.
6	CO6	Student will able to understand the relation between western & eastern philosophy.

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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem I

Name of Subject: PO-C2: Administrative Theory

Subject Code: (12402)

SN	CO	Contents
1	CO1	Explaining the nature, and evolution of Public Administration; Private and Public Administration; Principles Of Socialist Management .
2	CO2	Will able to Discuss the Ecological approach to Public Administration .
3	CO3	Will able to understand the theories and concept to make sense of administrative practices
4	CO4	Will able to understand the Principals Of Public Administration for Analysing the Administrative Process: decision making :communication and co-ordination .Discussing Weberian and Marxian theories of bureaucracy .
5	CO5	Will able to Discuss the New Trends in Public Administration ; New Public Management and Challenges
6	CO6	Will able to know the Planning and Planned Administration in India. Continuity and Change in Indian Management .



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Pune District Education Association's
 Annasaheb Magar Mahavidhyalya, Hadapsar, Pune - 28.
 Name of Programme: MA
 Name of Department: Political Science
 Class: MA I Sem I
 Name of Subject: PO- C3 : Political Institutions in India
 Subject Code: (12403)

SN	CO	Contents
1	CO1	Discussing the Nationalist legacies ; Explaining Democracy , Development and Social Transformation .
2	CO2	Will able to understand the nature of Indian Federalism with Strong Centre Framework .
3	CO3	Will able to learn about the President and Prime Minister; there Principle of Collective responsibility .
4	CO4	Will able to know the legislature; there Norms of representation and Power .
5	CO5	Explaining the Processes and Procedures of Union and State Legislatures.
6	CO6	Will able to understand the Power of Judiciary who protect our Rights ; Judicial interpretations of Fundamental Rights and Directive Principles.

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 Name of Programme: MA
 Name of Department: Political Science
 Class: MA I Sem I
 Name of Subject: PO-01 Modern political Ideology
 Subject Code: (12404)

SN	CO	Contents
1	CO1	Student will become aware about difference between thoughts, theory & ideology. They will aware about how ideology becomes very important after rise of modern era.
2	CO2	Student will become understand about various ideologies & their features. They can define which ideology is good & bad for society. They will aware about the political process & how politics will happen in society through ideology.
3	CO3	Liberalism will teach them value of liberty, socialism will teach them value of equity, multiculturalism will teach them importance of various cultures.
4	CO4	Feminism will teach them gender equity. That all value is very much important for society
5	CO5	Student will become aware about historical development of worlds social, political, economical sphere.
6	CO6	Student will understand how ideology can give shape to the nations history.



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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem II

Name of Subject: PO -04 Comparative Political Analysis

Subject Code: (22401)

SN.	CO	Contents
1	CO1	Student will become aware about difference between comparative government & comparative politics, difference between old comparative politics & new comparative politics.
2	CO2	Student will become understand about various approaches of comparative political study. Like new institutionalism & structural functionalism etc.
3	CO3	Student will become learn about various theories of development & relation between military & violence.
4	CO4	Student will know about difference between political party & pressure groups.
5	CO5	Student will become aware about political party & pressure groups role & how they giving shape to Indian politics.
6	CO6	Student will become aware about social movements & NGOs role in Indian politics.

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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem II

Name of Subject: PO- C5 : Theory of International Politics

Subject Code: (22402)

SN	CO	Contents
1	CO1	Student able to understand the Meaning, Nature and scope of International Politics
2	CO2	Student able to understand the Cold War phases and understanding the post Cold War era.
3	CO3	Student able to learn Approaches and method to study the discipline through Political realism, Pluralism and World system's Model.
4	CO4	Student able to aware about Geopolitical Issues ;Theories of Geopolitics
5	CO5	Student able to understand the issues of Underdevelopment, Terrorism, Regionalism and Integration that characterizes the Post second world war order.
6	CO6	Student able to learn the importance of international peace.



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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem II

Name of Subject: PO-06 Public policy

Subject Code: (22403)

SN.	CO	Contents
1	CO1	Student will become aware about concept of public policy, Formation & implementation process of public policy.
2	CO2	Student will become aware about which type of role play by legislature, executive, administration in policy making.
3	CO3	Student will become aware about which type of role play by legislature, executive, administration in policy implementing process.
4	CO4	Student able to understand about various policies of Indian government which they made for people.
5	CO5	Student will learn about relation between public policy & globalization.
6	CO6	Student able to understand about how globalization change the nature of public policy.

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Name of Programme: MA

Name of Department: Political Science

Class: MA I Sem. II

Name of Subject: PO- 06: Human Rights

Subject Code: (22405)

SN.	CO	Contents
1	CO1	Student able to understand nature and Meaning of Human Rights ; Universalist and Relativist Conceptions of Rights .
2	CO2	Student able to learn the historical. Philosophical, political and cultural development establishing human rights as a set of global norms ,agreements, and procedures .
3	CO3	Student able to understand the concept of Human Rights. Assessing the availability of Human Rights in the Constitution of India. Studying the State Human Rights Commission.
4	CO4	Student able to know the major groups of Human Rights ,who helps to protect Rights . importance of Human Rights to survive ; Right to Self- determination ;Right to Development .
5	CO5	Student able to understand global human rights institutions, law, and process, and asses the impact of their interaction with national and local culture practice and norms.
6	CO6	Student able to learn Synthesize interdisciplinary approaches and contributions to topic such as gender, race, poverty, violence and post- colonialism within a human rights framework.



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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem III

Name of Subject: PO- C7 : Modern political Thought

Subject Code: (32401)

SN	CO	Contents
1	CO1	Student able to Tracing the evolution of Indian political thought from ancient India to modern India.
2	CO2	Student able to Analysing the Political Liberalism of Mahadeo Govind Ranade ;Hi's views on Social Reforms.
3	CO3	Student able to Analysing the Gandhian Movements such as the Khilafat, Non Cooperation, Civil Disobedience movements
4	CO4	Student able to Assessing the alternatives to the Indian National Congress- the Forward Bloc, Congress Socialist Party, Communist Party of India.
5	CO5	Student able to Discussing the Secularism of Jawaharlal Nehru ; his ideology on Nationalism and Internationalism. Analysing the Ram Manohar Lohia's Linguistic Politics ; Thought process on Cast and Indian Politics.
6	CO6	Student able to Describing the movements against caste and untouchability, Ambedkar's views on Social justice and the depressed classes.

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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem III

Name of Subject: PO – C8 Political Sociology

Subject Code: (32402)

SN.	CO	Contents
1	CO1	Student will become aware about the concepts of Power, concept of politics & concept of society. They can understand how politics & society is interrelated.
2	CO2	Student able to Examining social stratification through the index of class, caste and elite through the perspective of Weber & Marx.
3	CO3	Student will become aware about the concept of Political socialization & Political Culture. They can understand how that concept giving shape to political process.
4	CO4	Student able to Discuss the approaches to the study of Political Culture. Evaluating the different agents of Political Socialization and their interrelationships.
5	CO5	Student will become aware about the concept of political participation and public opinion. They can understand How public opinion is create and which factors make impact on them.
6	CO6	Student able to Creating awareness among students about political development & their stages & various theories of Political development.


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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem III

Name of Subject: PO- C9 : World Politics –New Development

Subject Code: (32403)

SN.	CO	Contents
1	CO1	Student able to Explaining scope and subject matter of International Relations as an autonomous academic discipline.
2	CO2	Student able to Explaining the Definition of Foreign Policy ; Role of state in making of Foreign Policy.
3	CO3	Student able to know How to impact of World Tread on International Relation and politics ; Role of MNCS and TNCS .
4	CO4	Student able to Analysing the Foreign Basic Principles, Evolution and Bilateral Relations.
5	CO5	Student able to Studying the role of Diplomacy, Propaganda and Military capabilities in the making of foreign policy.
6	CO6	Student able to Examining the dynamics of globalization. Discussing on the major issue like Environmental depletion , Environmental awareness and Feminism.

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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem III

Name of Subject: PO-O10 Political Thought Of Dr. Babasaheb Ambedkar

Subject Code: (32405)

SN.	CO	Contents
1	CO1	Student will become aware about basic structures of Constitution, preamble of constitution & view of Indian constitution.
2	CO2	Student will become understand about Ambedkar's view on caste system & untouchability. They will understand how caste play vital role in Indian society.
3	CO3	Student will become learn about social democracy, concept of social justice, liberty, equality, fraternity value system.
4	CO4	Student will become aware about Ambedkar's thought on Agriculture & industry. Also they aware about How that both fields are important for Indian economy.
5	CO5	Student will become learn about critique of Hinduism which did by Ambedkar. Also they aware about conversion of Untouchables.
6	CO6	Student will become aware about Navyana concept


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Name of Programme: MA

Name of Department: Political Science

Class : MA II Sem IV

Name of Subject: PO-C10 Fundamentals of Political Theory

Subject Code: (42401)

SN.	CO	Contents
1	CO1	Student able to Discuss about Political Theory: Meaning, Nature and Scope
2	CO2	Student able to know about Liberty, Equality and Fraternity
3	CO3	Student able to Discuss about Justice, Rights, Citizenship
4	CO4	Student able to learn about Power, Authority and Legitimacy
5	CO5	Student able to know about State, Democracy
6	CO6	Student able to Discuss about Civil Society

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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem IV

Name of Subject: PO-C 11 Political Process in India

Subject Code: (42402)

SN.	CO	Contents
1	CO1	Student will become aware about electoral politics of India, one party dominance, competitive multi party system & coalition government.
2	CO2	Student able to understand about centre state financial relations, constitutional & Statutory institution their role, functions. For example Finance commission & NITI Ayog
3	CO3	Student able to learn about centre and state political relation, role of governor, article 356, demands of state autonomy in Indian federalism.
4	CO4	Student will become aware about social determinants of state politics, how religion, language, caste gave shape to politics.
5	CO5	Student able to know about Mass mobilization, various movements of Indian society.
6	CO6	Student will become Aware about Indian internal political process.



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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem IV

Name of Subject: PO – C12 : Politics and Society

Subject Code: (42403)

SN	CO	Contents
1	CO1	Student able to learn how important to study Politics and Society ; explaining community, culture and religion.
2	CO2	Student able to understand what is the role of State in Politics and Society, Explaining how Inter-relationship works between Politics and Society.
3	CO3	Student able to Explaining how Social Movements are important for the Development. Discussing some important movement like Anti Corruption Movement, Nirbhaya Movement and Environmental Movement.
4	CO4	Student able to discuss major issues in Society and Politics ; Importance of Human Rights to survive in Society ,discussing how Gender Discrimination is the major issue
5	CO5	Student able to Explaining inter-relations between Politics, Society and Economy. Discussing about Cast, Class and Inequality
6	CO6	Student able to Discuss relationship between society & politics.

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Name of Programme: MA

Name of Department: Political Science

Class: MA II Sem IV

Name of Subject: PO 0 13 Twentieth Century Political Thought

Subject Code: (42404)

SN	CO	Contents
1	CO1	Student able to Creating awareness about Twentieth Century Political Thought & try to understand the political process through the various thinkers view.
2	CO2	Student able to Student will become aware about concept of hegemony, difference between civil & political society.
3	CO3	Student able to Student will become aware about theory of action, Arendt's critique about totalitarianism, civic republicanism.
4	CO4	Student will understand about Rawls concept of political liberalism, theory of justice and importance of equality.
5	CO5	Student will become aware about Foucault concept of power & knowledge, govern mentality and critique of modernity.
6	CO6	Student will know about Habermas theory of cosmopolitanism, ethics & public sphere.



Head

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Hadapsar, Pune-28.



Co-ordinator

IQAC Committee

Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-28.



PRINCIPAL

Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's

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Hadapsar,
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Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Commerce



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: B.COM

PO NO.	OUTCOMES
PO1	Build a strong foundation of knowledge in different areas of Commerce
PO2	Develop the skill of applying concepts and techniques used in Commerce for real life problems
PO3	Creates awareness among society about Law and Legislations related to commerce and business
PO4	Communicate effectively about Economic Environment of Country as well as World.
PO5	Provide splat form for overall development and develop knowledge level and awareness about Recent Trends of World
PO6	Use new technologies effectively to communicate ideas in the area of commerce.
PO7	Critically evaluate new research findings, ideas, methodologies and the orifical frame work in specialized study
PO8	Work collaboratively and productively in groups

H.O.D.
Department of Commerce and
Research Center
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune-28

Co-ordinator
IQAC Committee
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-28.

PRINCIPAL
Annasaheb Magar Mahavidyalaya,
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Hadapsar, Pune- 411028
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Name of the Programme: B.COM

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
FBCOM	111	Compulsory English	CO1	Student achievement: (Prose section) They can understand basic concepts in the prescribed text book. They can remember and define through reading. (LSRW) Students realize the beauty and power of communicative English.
			CO2	Students can write in simple English
			CO3	Use of language: Students can use the language by effectively communicating and feel confident in and outside the world by linking and correlating meaning, and by speaking confidently. They can act out, make presentations and face interviews in their life.
			CO4	Students understand the importance and utility of the English language through listening, speaking, reading and writing skills (LSRW) of the English language. They also learn summarizing and paraphrasing poetry. They can also write short dialogues. They can read and write emails, letters and formal and informal. They can write CV's and Resume's and covering letters as well as other official letters like apology, request, Leave applications, Applications for jobs etc. Thus, Their employability enhances and English becomes the medium of their livelihood and personality.
			CO5	Speaking skill: Through this skill, students can defend themselves in Group discussions, argue in debates and face interviews.
			CO6	Creativity enhancement: (grammatically correct English) Students can: be bloggers
FBCOM	112	Financial Accounting	CO1	It impart knowledge about various accounting concept, conventions & Principles & create awareness about

				application of these concept in business world.
			CO2	Discuss & understand emerging trend in accounting & its effects on Accounting.
			CO3	It help to students understand knowledge about process of dissolution of partnership firm
			CO4	Students will be able To knowledge about single entry systems & process of conversion of single entry into double entry system.
			CO5	Understanding the concept frame work of the GST, component sand type s of GST taxes and Registration Process.
			CO6	Students will be able Explain suffered recoupment and lapse of short-working with examples
FBCOM	113	Business Economics (Micro)	CO1	Students will be able to understand the concepts of business economics (micro-economics)
			CO2	Students will be able to compare between micro economics and macro economics
			CO3	Students will be able to interpret the approaches of consumer behavior : cardinal approach and ordinal approach
			CO4	Students will be able to understand the concept of demand and estimate the various types of elasticity of demand
			CO5	Students will be able to determine price under varied demand and supply condition
			CO6	Students will be able to understand theories of production function
FBCOM	114A	Business Mathematics and Statistics	CO1	Introduce the basic concept of Simple interest, compound interest and EMI and Annuity
			CO2	Students will be able understand the contribution of shares and mutual funds in a systematic investment plan.
			CO3	Discuss introduce the technique of collecting, Analyzing and Interpreting data by different methods of sampling.
			CO4	Understand the classification and representation of data in tabular form. And computation of various measures of central tendency and measures of dispersion.
			CO5	Identify and measure the dispersion by using Range, Variance and Standard Deviation.

			CO6	Differentiate various types and methods of calculating correlation and regression for the bi variate data Measures of relative
FBCOM	115B	Banking and Finance	CO1	Students will be able to explain the structure of Indian Banking
			CO2	Students will be able to understand the primary and secondary functions of a bank.
			CO3	Students will be able to understand the concepts related to Lending and ratios.
			CO4	Students will be able to understand the process of opening and operating procedure of Bank accounts.
			CO5	Students will be able to categorize various types of bank accounts holders.
			CO6	Students will be able to analyse various methods of Remittance.
FBCOM	115C	Tax Procedure & Practice I	CO1	Defining the concept of Tax and understanding the objectives, Importance of taxation. the Direct and Indirect taxes of central and state Government
			CO2	Understanding constitutional background the Canons of taxation.
			CO3	Determining the Administrative set up of Indian tax system
			CO4	Distinguishing the Direct and Indirect tax.
			CO5	Structuring the Taxes between central and state Government.
			CO6	Reviewing the Direct and Indirect taxes of central and state Government
FBCOM	116C	Marketing and Salesmanship	CO1	Basic acknowledgement and Marketing will be developed among students.
			CO2	It help the insight of the basic knowledge of Market Segmentation and Marketing Mix.
			CO3	To impart knowledge on Product and Price Mix.
			CO4	Students will be able understand the segmentation of markets and Marketing Mix.
			CO5	To understand recent trends in marketing
FBCOM	116C	Tax	CO1	Define & understand Constitutional Background of GST Laws

		Procedure & Practices II		
			CO2	Students will be able Provide the knowledge CGST Act, 2017
			CO3	Review the various Types of GST
			CO4	Students will be able Applicability & Registration under GST
			CO5	understand the Exemption under GST
			CO6	Students will be able the understand Administration of GST
FBCOM	116g	Consumer Protection & Business Ethics	CO1	Define consumer, Consumerism & consumer movement and counter signature.
			CO2	Discuss the concept of voluntary consumer organizations and their role in interesting consumer protection.
			CO3	Understand the role of United Nations in consumer protection & Consumer protection guidelines
			CO4	Identify the legal provisions of Consumer protection act 1986 and study of Mechanism for Redressal agencies
			CO5	Discuss of various law relating to consumer protection like The Bureau of Indian Standards Act, 1986, The Competition Act, 2002, Right to Information Act, 2005, and Food Safety and Standards Act, 2006.
			CO6	Interpret and form of contract and Legislative Reforms.
FBCOM	117B	Marathi	CO1	विविध क्षेत्रातील मराठीचा अभ्यास करण्यासाठी प्रसारमाध्यमाचे स्वरूप व त्यातील भाषण व्यवहार समजावून देणे
			CO2	प्रसारमाध्यमातील विविध लेखन प्रकारांचा अभ्यास वा प्रत्यक्ष लेखन अभिरुचीचा विकास करणे
			CO3	वाणिज्य शाखा व मराठी भाषा यातील परस्पर संबंधाचे मूल्यमापन करणे
			CO4	साहित्याभ्यासातून जीवनविषयक समज विकसित करणे

			CO5	मराठी साहित्यातीलभिन्नभिन्नप्रवाह आणि प्रकारओ ळखकरुनदेणे
FBCOM	115	Organizational Skill Development	CO1	Define modern office, Office organization, communication and time management
			CO2	Explain records, Classification of files, Different types of form sand digitization of records.
			CO3	Discuss role of Public Relation Officer in modern office.
			CO4	Demonstrate office automation using computerization through actual visits.
			CO5	Discuss modern communication techniques which areused in modern office
			CO6	Describe concept of goals etting and identifying SMART goals & applicability of new knowledge and skill in modern office and their problems.
FBCOM	12019	VA05Value Education	CO1	Conceptual understand the of value-based living
			CO2	Develop the Values for excellence in real life . Developing Values, Personal Values, Family Values, Professional Values
			CO3	Students will be able understand the skills required become a good citizen or leader.
			CO4	The start applying the essential Environmental Awareness to be come good leaders
			CO5	Students will know the purpose of the life.
			CO6	provide the Spiritual Education of changing the behavior modification
FBCOM		HINDI	CO1	विद्यार्थि यों को हिंदी काव्य साहित्य से परिचित कराना।
			CO2	हिंदी कहानी साहित्य से अवगत कराना।
			CO3	हिंदी भाषा द्वारा लेखन की ओर रुझान बढ़ाना।
			CO4	हिंदी भाषा द्वारा संवाद कौशल्य विकसित कराना।
			CO5	विज्ञापन लेखन कौशल्य विकसित कराना।
			CO6	हिंदी कंप्यूटिंग का परिचय देना।

SEMESTER II

FBCOM	121	Compulsory English	CO1	Student achievement: (Prose section) They can understand basic concepts in the prescribed textbook. They come to know about various personalities all over the world and gain a broader view and understanding. Students realize the beauty and power of communicative English.
			CO2	Basic language skills: Students can formulate ideas and And deeply understand human nature and its complexities and nuances.
			CO3	Use of language: Students can summarize and paraphrase the prescribed poems.
			CO4	Students understand the importance and utility of the language. They can write Reports, blogs as well as other official letters like apology, request, Leave applications, Applications for jobs etc. Thus, Their employability enhances and English becomes the medium of their livelihood and personality.
			CO5	Writing skills: They can write Resume' and Emails.
			CO6	Non -Verbal Communication: students can also understand body language, gestures and other aspects of non-verbal communication. They can be highly creative by understanding non-verbal clues.
FBCOM	122	Financial Accounting	CO1	Define understand the various software used in accounting& its application &utility.
			CO2	Students will be able knowledge about final accounts of charitable trusts.
			CO3	It helpstoacquiretheknowledgeabouti ntangibleassets&themethodsoftheirva luation.
			CO4	Understanding the process and methods of accounting for lease
FBCOM	123	Business Economics	CO1	Students will be able to interpret the short run and long run cost concepts
			CO2	Students will be able to understand the concept of pure and perfect competition
			CO3	Students will be able to analyze equilibrium of firm and industry in short and long run.
			CO4	Students will be able to examine various market structures under imperfect competition

			CO5	Students will be able to compare perfect and imperfect competition
			CO6	Students will be able to understand the concept and theories in factor pricing
FBCOM	124	Business Mathematics and Statistics	CO1	Define & understand the application of Matrices and Determinants in business and economics.
			CO2	Students will be able understand the concept to linear programming problems and solution of it by graphical method to solve business optimization problems with two variables.
			CO3	Understand the student to use correlation for knowing the relationship between two variables
			CO4	Different various types and methods of calculating correlation and regression for the bivariate data
			CO5	Differentiate various types and methods of calculating index numbers
			CO6	Connect acquired knowledge and skills with practical problems in real life economic practices.
FBCOM	125B	Banking and Finance	CO1	Students will be able to understand the working of Banking Business and practices.
			CO2	Students will be able to understand the principles of lending.
			CO3	Students will be able to analyse the working of Balance sheet of a bank.
			CO4	Students will be able to summarize the characteristics of Negotiable instruments.
			CO5	Students will be able to analyse the Effects of Endorsement
			CO6	Students will be able to examine the modern technology of banking.
FBCOM	125C	Tax Procedure & Practice I	CO1	Defining the various concepts & definitions under Income Tax Act, 1961 the problems on Income under the Head House Property
			CO2	Understanding Classification of Income under various heads
			CO3	Determining procedure for computation of Residential Status
			CO4	Explaining Exempt Income under Income Tax
			CO5	Calculating the Computation of Income under the Head Salary
			CO6	Solving the problems on Income under the Head House Property

FBCOM	126	Consumer Protection & Business Ethics	CO1	Identify the legal provisions of Consumer protection act 1986.
			CO2	Discuss of various law relating to consumer protection like The Bureau of Indian Standards Act, 1986, The Competition Act, 2002, Right to Information Act, 2005, and Food Safety and Standards Act, 2006.
			CO3	Interpret and Legislative Reforms.
			CO4	discuss the concept of business ethics and its importance, types of business ethics
			CO5	Describe business ethics modern times with reference to CSR
			CO6	Students will be able to identify the Mechanism for Redressal agencies
FBCOM	126C	Tax Procedure & Practice	CO1	To understand the concept of IGST Act, 2017
			CO2	To understand Important definitions IGST Act, 2017
			CO3	Interpret the concept Reverse Charge Mechanism under GST
			CO4	Understand procedure of filling Returns under GST
			CO5	Applicability of Audit under GST
			CO6	understand procedure to generate E-Way Bill
FBCOM	126	Organizational Skill Development	CO1	Define modern office, Office organization, communication and time management.
			CO2	Explain records, Classification of files, Different types of form sand digitization of records.
			CO3	Discuss role of Public Relation Officer in modern office.
			CO4	Demonstrate office automation using computerization through actual visits
			CO5	Study the applicability of new knowledge and skill in modern office and their problems.
			CO6	Describe concept of goal setting and identifying SMART goals.
FBCOM		Intellectual Property Laws	CO1	The student provide the information about Intellectual Property Rights in India
			CO2	Discuss the various concepts & element regarding IPR,

			CO3	Students will be able the Basic knowledge on the various branches of Intellectual Property Law
			CO4	Provide updated Contemporary issues in Intellectual Property Laws
			CO5	Understand the procedure Filings for Intellectual Property registration
			CO6	Describe the Steps of development of Intellectual Property
FBCOM	127C	HINDI	CO1	छात्रों को हिंदी काव्यसाहित्य से परिचित कराना।
			CO2	हिंदी कहानी साहित्य से अवगतकराना।
			CO3	हिंदी भाषाद्वारा संवाद कौशल्य विकसित कराना।
			CO4	विज्ञापन लेखन के प्रकारों को अवगत कराना।
			CO5	अनुवाद के स्वरूप से अवगत कराना।
			CO6	पारिभाषिक शब्दावली से अवगत कराना।
FBCOM	126C	Marketing and Salesmanship	CO1	Students will get the knowledge of Salesmanship and various approaches.
			CO2	Techniques of salesmanship skills will be developed.
			CO3	Students will be able knowaboutRuralMarketingwhichisanimporta ntsectorinmoderncompetitiveIndianScenario.
			CO4	Students will be able educate bout the sources and relevance of recent trends in Marketing.
			CO5	To understand recent trends in Marketing i.e. Email, Content marketing
			CO6	Students will be able present status of E marketing in India.
FBCOM		Marathi	CO1	विद्यार्थ्यांस शुद्धलेखनविषयक नियमांचा परिचय करून देणे
			CO2	व्यक्तिमत्त्व विकासात भाषेचे स्थान स्प ष्ट करणे.

			CO3	विद्यार्थ्यांना पारिभाषिक संज्ञांचा परिचय देणे .
			CO4	जागतिकीकरणात विविध क्षेत्रांना सामोरे जाण्यासाठी भाषिक क्षमता विकसित करणे
			CO5	भाषिक कौशल्ये विकास करणे.
SEMESTER III				
SYBCOM	231	Business Communication	CO1	Helping students in creating awareness of basic communication skills, process and importance of communication.
			CO2	Helping students in learning layout, essentials and physical appearance of business letter.
			CO3	Students are able to learn soft skills and its application.
			CO4	Developing resume writing skills and drafting of job application letter skills among students
			CO5	Understand various etiquettes and manners in their day to day life.
			CO6	Understand various forms of Business Letters.
SYBCOM	232	Corporate Accounting	CO1	Define & develop the conceptual understanding about various accounting standards and its applicability in corporate accounting.
			CO2	Students will be able to develop the conceptual understanding about pre and post incorporation period. and
			CO3	Analytical skills regarding allocation of various income and expenses for pre And post period.
			CO4	preparationoffinancialstatementsasperprovisionscheduleIIIofthecompaniesact2013.
			CO5	Understand the various skills for adjustments and their Treatment..
			CO6	Students will be able under and various concepts and the need for valuation of shares. and to study the various methods of valuation of shares
SYBCOM	233	Business Economics	CO1	Students will be able to understand basic concepts of macroeconomics
			CO2	Students will be able to analyse various concepts of national income.
			CO3	Students will be able to understand the

				methods of calculation of national income and precautions involved there in
			CO4	Students will be able to interpret the process of income, output and employment generation- classical and Keynesian theory
			CO5	Students will be able to analyse the concept of Consumption ,Saving and investment.
			CO6	Students will be able to interpret the effect of multiplier and acceleration in the economy.
SYBCOM	234	Principle of Management	CO1	Students understood the basic concept, principles And Functions Of management.
			CO2	Students are aware about recent trends in management.
			CO3	Students understood the different levels of management and organization structure.
			CO4	Students are aware of the social responsibility of business and business ethics.
			CO5	Students after learning this subject, getknowledgeofvariousaspectsofmarketing managementthroughpracticalapproachandE commerce.
			CO6	It helps the students to learn the concept of consumer behavior and impact of marketing trends on consumer behavior.
SYBCOM	235	Elements of Company Law	CO1	It helps to students for understanding the new company law2013 various new provisions regarding new company law.
			CO2	It helps to students for existing Law & formation of new company in India
			CO3	Students will be able Types of Companies based on various criteria
			CO4	Discuss the stages of new company formation and incorporation.
			CO5	It also helps to students for principle document preparation
			CO6	It understands the students for various modes of capital of the company.
SYBCOM	236E	Cost and Works Accounting- Special Paper-	CO1	Define & understand the basic concept of cost accounting and the role of cost accountant an organization.
			CO2	To understand different elements of cost and preparation of cost sheet.
			CO3	To understand the purchase procedure and its documentation.
			CO4	To understand the different methods of invento

				rycontrolandcalculationofEOQ, Stock levels and Inventory ratio.
SYBCOM	236	Business Administration Special Paper	CO1	DefineBasicConceptofBusinessAdministratio nandidentifytheFunctionsofBusinessAdminis tration
			CO2	Outline and Discuss the various Forms of Business Organization.
			CO3	Summarize Business Environment Factors and its Implications
			CO4	Under stand and Design the proposal for promotion of Business Units.
			CO5	UnderstandandDemonstratetheLegalAspecta ndrequiredDocumentsforEstablishmentof Business unit.
			CO6	Recognize the Problems of Industrial Sickness and Find out and determine the Solutions for Industrial Sickness.
SYBCOM	235 C	Tax Procedure and Practice Paper III	CO1	To understand computation of income under the head Business or Profession
			CO2	To apply the calculation computation of income under the head Capital Gain/Loss
			CO3	To understand computation of income under the head Other Sources and deduction under chapter VI A
			CO4	To understand computation of deduction under chapter VI A Sec 80C to 80u
			CO5	To understand Computation of Gross Total Income, Net Taxable Income & Income Tax Liability for Individual Assessee
			CO6	To know the Computation Clubbing of In come
SYBCOM	236 C	Tax Procedure and Practice Paper IV	CO1	Identifying the Goods and Services under GST law
			CO2	Developing skill for solve the practical Problems on valuation of supply.
			CO3	Determining the Time and Value of supply
			CO4	Understanding the provisions in respect of Composition levy scheme
			CO5	Explain the levy, payment and refund of profession tax.
			CO6	Reviewing the Maharashtra Profession tax Act 1975

SYBCOM	239AEC	Environmental Awareness	CO1	To know the content of Environmental Awareness and to gather the approaches and importance of Env. Awareness
			CO2	To determine the term and function of ecosystem and acquire the knowledge of ecosystem
			CO3	To group the ecosystems on the earth and examine the different ecosystems around us.
			CO4	To Learn the concept of biodiversity, its types, areas in India and co relate the biodiversity and economic potential
			CO5	To learn the types of pollution and find the causes and effects of pollution
			CO6	To know the causes of air pollution and identify effects of it
SYBCOM	GR7	Scientific Survey, Societal Survey	CO1	Students will be able to apply critical, creative and evidence-based thinking to future challenges.
			CO2	Aware that the student's survey tends to focus on quantitative methods in future all areas.
			CO3	Students are understanding the term of social Survey a same and for collection of data or information.
			CO4	Survey experiences expose students to multiple aspects of survey operations.
SYBCOM	GR8	Field Visits; Study Tours; Industrial Visits	CO1	Improves social relations.
			CO2	Aware about real-world experience.
			CO3	Increases the quality of education.
			CO4	Studentshavetheopportunitytoseenewthingsandlearnabouttheminamoreunstructured way.
SEMESTER IV				
SYBCOM	241	Business Communication	CO1	To understand various forms of report writing and internal correspondence
			CO2	To understand various recent trends in communications such as zoom, google meet etc. and use of social media for it.
			CO3	To develop drafting skills of various business letters among students.
			CO4	To understand the elements and writing Formal mail and blog writing.
			CO5	Students will be able to write various Business Letters.

			CO6	Developing skills in writing E-mail and Business Blog.
SYBCOM	242	Corporate Accounting	CO1	Define the various concept, and prepare of consolidation balance sheet of holding co. with subsidiary company.
			CO2	Students will be able get the knowledge among the students about consolidation of financial statements with the process of holding and its subsidiary
			CO3	It help to students knowledge of corporate policies of investment for expansion and growth through absorption of smaller units.
			CO4	Students will be able update the students with knowledge of the process of liquidation of accompany and practical application skill.
			CO5	It help the student regarding liquidation process and statement of affairs.
			CO6	Introduce the students with the recent knowledge about Forensic Accounting and its implication.
SYBCOM	243	Business Economics	CO1	Students will be able to interpret the tools to understand the role of money and the reasons we demand money.
			CO2	Students will be able to summarize the Money Measure of RBI.
			CO3	Students will be able to understand the concept of Inflation.
			CO4	Students will be able to interpret the stagflation and Phillips curve.
			CO5	Students will be able to examine the role of trade cycles and why they occur.
			CO6	Students will be able to understand to understand the concepts of Public Finance.
SYBCOM	244	Principle of Management	CO1	Students will get an idea about the basic motivational tools used in the field of management.
			CO2	Students will get an idea about how leadership influences organizational success.
			CO3	Students will understand the significance of coordination and control in modern business management.
			CO4	Students will come across various emerging trends in management.
SYBCOM	245	Elements of Company Law	CO1	Students will be able develop general awareness among the students about

				management of company
			CO2	Comprehensive understanding about Key managerial Personnel of company and their role in Company administration.
			CO3	Students will be able the students about EGovernanceandEFilling under the Companies Act, 2013.
			CO4	It help the students about the various meetings of Companies and their importance.
			CO5	Students will be able develop the awareness about the Indian companies act.
			CO6	Students will be able information reading about the mode of winding of the companies
SYBCOM	246E	Cost and Works Accounting- Special Paper-I	CO1	Define concept of cost, Costing, Cost Accounting and Cost Accountancy
			CO2	To understand the basic concept of cost accounting and the role of cost accountant an organization.
			CO3	To understand different elements of cost and preparation of cost sheet.
			CO4	To understand the purchase procedure and its documentation.
			CO5	To understand the different methods of inventory control and calculation of EOQ, Stock levels and Inventory ratio.
			CO6	Illustrate the practical problem on Direct cost.
SYBCOM	246	Business Administration -Special Paper-I	CO1	Define & understand basic knowledge about various forms of business organizations
			CO2	Understand the Definition of the Terms Administration, Management and Organization & its Functions of Administration.
			CO3	Students will be able about business environment and its implications thereon
			CO4	Concept of Entrepreneurship skills and qualities required of an entrepreneur.
			CO5	Students will be able make them aware about the recent trends in business
			CO6	The student get the information Impact of New Policies on Business Administration
SYBCOM	245C	Tax Procedure and Practice Paper III	CO1	Understand filing of income tax return and other compliance under Income Tax law.
			CO2	Understand provisions in respect of Assessment & Audit

			CO3	Understand Computation of Total Income & Tax Liability for Partnership Firm/ Limited Liability Partnership
			CO4	Interest and Remuneration to the partners
			CO5	Understand Computation of Total Income & Tax Liability for Company
			CO6	Dividend Distribution Tax
SYBCOM	246C	Tax Procedure and Practice Paper IV	CO1	Definig the Computation of GST Liability
			CO2	Under standing the Payment of GST , Input Tax Credit under GST , Refund of GST , Electronic Credit Ledger and Cash Credit Ledger
			CO3	Comparing the various returns under GST
			CO4	Determining the provisions in respect of TDS, TCS, bill and invoicing under GST law
			CO5	Explaining the Assessment and Audit under GST law
			CO6	Reviewing the Turnover based GST Audit u/s 35(5) and Audit by tax authorities
SYBCOM	249AE CC-2	Environmenta l Awareness	CO1	To gain the Knowledge of types of disaster
			CO2	To identify the impact of biological disaster
			CO3	Students will get aware about the use of chemical fertilizers, pesticides and insecticides and its impact on environment.
			CO4	Students will acquaint with need of environmental planning and management in India.
			CO5	To know the concept of environmental impact assessment
			CO6	To acquire the knowledge about the existence of environmental in India.
SEMESTER V				
TYBCOM	351	Business Regulatory Framework	CO1	Understand the concept of Contract and its contents. Equip the students with knowledge of nature and performance and breach of Contracts.
			CO2	Understand the nature of partnership ,Rights and duties of Partner Handling the registration and dissolution of the partnership.
			CO3	Concept Formation of the contract of sale ,

				Concept and Essentials. Sale and agreement to sale.
			CO4	Acquaint knowledge about Comprehensive understanding about the sale of Goods Act & ownership and delivery of goods
			CO5	Definition & Concept of Arbitration & Conciliation.
			CO6	Comprehensive insight about the emerging trend of Arbitration and conciliation and its regulatory mechanism
TYBCOM	352	Advanced Accounting	CO1	conceptual understanding about various Accounting Standards and its applicability and also introduce the students about IFRS – Fair Value Accounting.
			CO2	Students will be able conceptual understanding about accounting for capital restructuring in the form of internal reconstruction
			CO3	To develop the skill & upgrade the knowledge regarding reorganization of venture capital and it's recording.
			CO4	understand the various legal provisions regarding banking companies
			CO5	Students will be able understand the procedure regarding preparation of final accounts of banking companies
TYBCOM	353	International Economics	CO1	Students will able to understand the concepts of International economics.
			CO2	Students will be able to analyse the theories of international trade.
			CO3	Students will able to evaluate the trade policies in international economics.
			CO4	Students will be able to understand the working of tools of protection
			CO5	Students will able to understand the concept of Terms of trade.
			CO6	Students will be able to analyse the favorable and unfavorable terms of trade to developing nations
TYBCOM	354	Auditing and Taxation	CO1	Understanding the concept of Auditing, Various type of Audit & Help to Find out Errors frauds and help to improve Internal control system in business organization.
			CO2	the procedure of Vouching, Verification, Checking and Valuation of items of financial

				statement, Auditing and Assurance Standards like AAS 1, 2, 3, 4, and 5.
			CO3	To understand audit report and audit certificate.
			CO4	Discuss Qualification, Disqualification, Appointment, Removal, Rights, Duties and Liabilities of Company Auditor, and various provisions of Tax Audit under Income Tax Act, 1961.
			CO5	To ascertain the various valuations of assets and liabilities in business firm and company.
			CO6	To understand auditing in EDP environment and the process of forensic audit and audit techniques
TYBCOM	356E	Cost and Works Accounting-III	CO1	Students will be able prepare learners, application of Cost Accounting techniques in cost control and decision making.
			CO2	Students will be able provide knowledge about preparing various types of Budgets
			CO3	To enable the learner the basic concept of Uniform Costing and Inter-firm comparison.
			CO4	Students will be able prepare learners, application of Cost Accounting techniques in cost control and decision making.
TYBCOM	355	Cost and Works Accounting-II	CO1	Ability to understand the concept of overheads and its Classification.
			CO2	Students will be able to relate cost accounting standard with respective overheads
			CO3	Students will be able to calculate total departmental overheads after implementing primary & secondary Distribution.
			CO4	Conceptual understanding of under & over Absorption, enable the learner with accounting treatment for under & over absorption.
			CO5	Students will be able to identify overheads as per various activity.
TYBCOM	355 (a)	Business Administration Special Paper II	CO1	Students will be able to with knowledge about various Concepts, Objectives of the Human Resource Function,
			CO2	identify the difference between Human Resource Management and Human Resource Development.
			CO3	provide the information about Sources of To update the students on the emerging trends in the area of Human Resource Management
			CO4	understanding among the students the process of Recruitment and Selection, understanding the various means and

				methods associated with the Recruitment and Selection function
			CO5	students on the importance of Training and Development and its impact on Career Planning and Development
			CO6	Students will be able on the concept of Performance Appraisal ,d the process for effective Performance appraisal and imbibe the values of Ethical Performance appraisal among the students
TYBCOM	356 (a)	Business Administration Special Paper III	CO1	Students will be able with knowledge about Corporate Finance
			CO2	Understand the structure of the Indian Financial Market
			CO3	Students will be able the Financial Planning Skills among the Students
			CO4	Introducing the process of efficient Financial Planning
			CO5	Students will be able on the importance of Capitalization and the importance to maintaining an optimum capital structure
			CO6	create awareness among the students in the various sources of Finance available for raising corporate capital
TYBCOM	355 c	Tax Procedure and Practices- VI	CO1	Understand the concept of Custom Duties & Legal Structure of Custom Duties
			CO2	Comprehensive understanding about the types of Custom Duties
			CO3	Acquaint knowledge and application of types of Custom Duties
			CO4	Conceptual Clarity and Practical understanding of classification and valuation of goods
			CO5	Practical knowledge about Import Procedures & Export Procedures
			CO6	Disposal of Prohibited Goods
TYBCOM	366 c	Tax Procedure and Practices- VI	CO1	Defining the basic concept of Research and to be aware of need and significance of research in today's era
			CO2	Understanding the Process and Techniques of Research
			CO3	Determining the methods of data collection.
			CO4	Choosing Sources of data collection
			CO5	Explaining the need and importance of data

				analysis and interpretation
			CO6	Analyzing the data analysis
TYBCOM	GR7	Scientific Survey, Societal Survey	CO1	Students will be able to apply critical, creative and evidence-based thinking to future challenges.
			CO2	Aware that the student's survey tends to focus on quantitative methods in future all areas.
			CO3	Students are understanding the term of social Survey as a means for collection of data or information.
			CO4	Survey experiences expose students to multiple aspects of survey operations.
TYBCOM	GR8	Field Visits; Study Tours; Industrial Visits	CO1	Aware about real-world experience.
			CO2	Improves social relations.
			CO3	Increases the quality of education.
			CO4	Students have the opportunity to see new things and learn about them in a more unstructured way.
SEMESTER VI				
TYBCOM	361	Business Regulatory Framework	CO1	Students will be able with procedure and practices about negotiable instruments and liabilities of parties in case of dishonor of negotiable instruments.
			CO2	Comprehensive understanding about the E Contracts, E-Commerce and their legal aspects
			CO3	Students will be able about regulatory mechanism of Consumer Protection and Procedural aspect of Redressal of Consumers' grievances.
			CO4	Students will be able appreciate the emerging developments in the area of intellectual property
			CO5	Students will be able updated Contemporary issues in Intellectual Property Laws
			CO6	Understand the procedure Filings for Intellectual Property registration
TYBCOM	362	Advanced Accounting	CO1	Students will be able upgrade regarding legal provisions of co-operative accounting.
			CO2	Students will be able the skill regarding preparation & presentation of final accounts of Credit Co-op. Societies & Consumer Co-op. Societies
			CO3	conceptual understanding about accounting for different branches & ascertain whether the

				branch should be expanded or closed, to ascertain the requirement of cash and stock for each branch
			CO4	Students will be able the skill & upgrade the knowledge regarding methods of charging goods to branches.
			CO5	Students will be able conceptual understanding about forensic accounting, corporate social responsibility, derivative contracts and artificial intelligence in accounting
			CO6	understand the conceptual knowledge, objectives, methods & tools of analysis of financial statements.
TYBCOM	363	International Economics	CO1	Students will be able to understand the concept of balance of payments and balance of trade
			CO2	Students will be able to analyse the causes of disequilibrium in balance of payments
			CO3	Students will be able to evaluate foreign exchange Market, foreign exchange rate, euro market.
			CO4	Students will be able determine the Foreign Exchange Rate- Fixed and Flexible foreign exchange rate
			CO5	Students will be able to assess the concept of international factor mobility and its effects on economy.
			CO6	Students will be able to analyse the working of different organizations for international finance and trade Development.
TOYBCM	364	Auditing and Taxation	CO1	Define various concepts under Income Tax act 1961 like Income, Person, Assesse, Assessment year, Pervious year, Agricultural Income, Exempted Income, Residential Status of an Assesse , PAN, TAN
			CO2	Calculate Taxable Income under Head of Income like Income from Salary, Income from House Property, Profits and Gains of Business and Professions, Capital Gains and Income from other sources.
			CO3	Calculate total taxable Income and tax liability of an individual under chapter VIA ie deductions u/s-80C to 80 U
			CO4	Explain procedure of individual income tax filing and Income Tax Return Filing and Structure, Functions and powers of various

				Income Tax Authorities
			CO5	Define concept of refund of tax and various tax penalties, types of income tax assessment.
			CO6	To understand TDS and their calculation procedure of TDS.
TOYBCM	365E	Cost and Works Accounting-II	CO1	Students will understand the various methods of costing.
			CO2	Develop the ability to prepare a job cost sheet
			CO3	It will help the learner to understand the concept of contract costing
			CO4	learners will understand the process of calculation of profit on incomplete contracts
			CO5	Students will idea of how to prepare process accounts & understand the basic concept of CAS 19:Jointcost
			CO6	The student will been able to understand the concept of service costing & will be able to prepare a cost sheet for different services industries.
TOYBCM	366E	Cost and Works Accounting-III	CO1	The student will develop the ability to understand the basic concepts of Standard Costing
			CO2	Students will be able to understand the Principles of product Pricing and Pricing Policy.
			CO3	Students will learn to calculate the Selling price under different pricing methods.
			CO4	Students will be able to understand the application of Cost Accounting Standards.
			CO5	Learners will be able to understand Cost Management practices in the Agricultural and IT sectors
			CO6	Learners will be able to understand the compliance about the preparation of Cost Accounting records U/S 148 of Companies Act 2013.
TYBCOM	365 (a)	Business Administration . II (Marketing) Special Paper II	CO1	Students will be able with knowledge about Marketing, Marketing Concepts identification on various types of markets
			CO2	understanding among the students on the various elements of Marketing Mix and Market Segmentation
			CO3	Students will be able update the students

				with knowledge on varied dimensions.
			CO4	Students will be able the knowledge on various aspects of Promotion and Distribution .
			CO5	Discuss Product Management , Branding and Pricing Management
			CO6	Students will be able on the recent trends in the field of Marketing
TYBCOM	366 (a)	Business Administration . (Production and Operations Management) Special Paper III	CO1	Students will be able with knowledge of Production Management and Production Functions
			CO2	Review the knowledge for efficient Inventory Management
			CO3	Students will be able the concept of Quality Management and to motivate to adopt quality management even in the regular lifestyle
			CO4	Students will be able update the students with the knowledge of Logistics Management
			CO5	Students will be able the information Recent trends in Inventory Management
			CO6	Understand the procedure of production and operation management.
TYBCOM	366 C	Tax Procedure and Practices-VI	CO1	Defining the concept of Entrepreneurship and study the Types, Importance, Need and characteristics of entrepreneurship.
			CO2	Understanding the Importance ,Types and limitations of startups and self help groups .
			CO3	Determining the various Government schemes for entrepreneurship development.
			CO4	Developing the entrepreneurial competencies.
			CO5	Explaining the Recent trends in taxation and the provisions of Factory Act and payment of wages Act.
			CO6	Evaluating the challenges of Entrepreneurship Development
TYBCOM	365	Tax Procedure and Practices-VI	CO1	Practical knowledge about Baggage Rules & Import and Export by post or courier
			CO2	Practical knowledge about various exemptions & benefits under Custom Duties
			CO3	Understanding Administration & Assessment under Custom Duties
			CO4	Offences; Penalties; Confiscation and

				Prosecution
			CO5	Conceptual Clarity and Practical understanding of Foreign Trade Policy. Knowing procedure for registration of Import Export Code.
			CO6	Import Export Code Applicability & Registration

S. K. Kulkarni

H.O.D.

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Anasaheb Magar Mahavidyalaya
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P. H. Kulkarni

**Co-ordinator
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PRINCIPAL

Anasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: M.COM

PO NO.	OUTCOMES
PO1	Aware the internal and external effects in developing business strategy
PO2	Trained the students' well-acquainted regarding current financial structure
PO3	Express an understanding of the tools and techniques necessary for research in Business.
PO4	Inculcated students to acquire sound knowledge, concept and structure of capital market and financial services
PO5	Develop competence with their usage in managerial decision making and control
PO6	Illustrate the implications of various financial ratios in decision making
PO7	Criticize the business ethics and professional value sin running business
PO8	Gain ability to solve problems relating to Company Accounts, Valuations and special types of situations

S. Ants

H.O.D.
Department of Commerce and
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Annasaheb Magar Mahavidyalaya
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Pr

Co-ordinator
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Name of the Programme: M.COM

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
M.Com .I	101	Management Accounting	CO1	understand the concept of Financial Accounting and its limitations, emergence of Management Accounting and Cost Accounting, its advantages and distinction between Management Accounting and Cost Accounting.
			CO2	understand the concept of Marginal Costing, its applications, different techniques of managerial cost accounting and Fixed and Variable Cost Analysis in decision making process.
			CO3	Evaluate practical problems on marginal costing which correlates to BEP and P/V analysis.
			CO4	Distinguish concept to f budget and budgetary control.
			CO5	Assess minimum working capital required for running organization.
			CO6	understand the concept of Working Capital Management, determination of working capital, components of working capital and accounts receivable and inventory management
M.Com .I	102	Strategic Management	CO1	Understanding of the concept of Strategic management
			CO2	understand the process of Strategic Management
			CO3	Understanding the External and Internal Business Environment for effective Strategy
			CO4	Development of Applicability skills for effective plan implementation
			CO5	Developing Technical skills for evaluation of alternatives and analytical skills for choice among alternatives
			CO6	Development of Analytical and Managerial Abilities for critical evaluation

M.Com .I	103	Advance Accounti ng	CO1	Describe conceptual framework of accounting in business.
			CO2	Estimate the consolidated financial statements of holding and subsidiary types of companies.
			CO3	Prepare statement of affairs for liquidation of company.
			CO4	Explain the different methods of valuation of shares of company.
			CO5	Differentiate different methods of valuation of goodwill of organization.
			CO6	Interpret the concept of national and international branch account.
M.Com .I	104	Income Tax	CO1	Describe Income Tax structure in India.
			CO2	Compute the Income form salary of individual person from different background
			CO3	Demonstrate the problems on Income from House Property.
			CO4	Illustrate income from various types of business and profession.
			CO5	Demonstrate the problems on Income from Capital gain.
			CO6	Compute the taxable income of an Individual , Hindu Undivided Family and Companies.
M.Com .I	107	Advance Cost Accounti ng	CO1	understand the classification of costs and will be able to trace the cost to cost centers
			CO2	prepare cost sheet in various situations and understand the inventory related treatments in cost accounting.
			CO3	understand the concept of employee cost and its relevance in the total cost of product or service
			CO4	acquire the understanding of CAS 3 & CAS 7.
			CO5	develop ability to ascertain cost in different industries.
			CO6	enable students to learn application of different methods of costing in Manufacturing and Service industries.
M.Com .I	108	Costing Techniq ues and Responsi bility Accounti ng	CO1	understand the role of Budget in the process of Cost Control and Decision Making.
			CO2	develop Skills in computation and analysis of various variances.
			CO3	Understand Material, Labour, Overhead, Sales and Profit Variances.
			CO4	Understand the concepts of Uniform Costing and Inter firm Comparison.
			CO5	Describe concept and types of responsibility centre accounting for management controlling.
			CO6	Understand the relevance of Cost Accounting Data as a part of monitoring various segments of business.
SEMESTER II				
M.Com .I	201	Financial Analysis & Control	CO1	Understanding basics of financial analysis.
			CO2	To gain knowledge of practically comparing financial results of different years and different companies
			CO3	understand the importance of cash liquidity in an

				organization.
			CO4	understand the computation of cash and fund flows under operating, investing and financing categories
			CO5	Estimate the cash flow of liquidity capacity of firm.
			CO6	develop the skill of appropriate use of different ratios to evaluate the financial performance of entities.
M.Com . I	203	Specialized Areas in Accounting	CO1	Explain contract accounting for government constructions of business.
			CO2	Interpret preparation of contract accounts.
			CO3	understand the accounting for construction contracts and various terms used in contract accounting and principles to be followed while computing profit on incomplete contracts and valuation and disclosure of WIP and escalation clause
			CO4	understand the concept of corporate restructuring, its accounting methods, processes as per accounting standard 14
			CO5	acquaint with hotel accounting, Hospital accounting, Transport undertakings accounting fund based accounting to create an avenue for employment in the academics and also to benefit Industry
			CO6	understand that every registered person to keep and maintain, at his principal place of business (as mentioned in the certificate of registration), a true and correct account along with relevant documents
M.Com . I	204	Business Tax assessment and planning	CO1	understand the provision for computation of income of various entities.
			CO2	understand the provisions of returns, assessment and procedure of assessment.
			CO3	Solve problems on Tax Deducted at Source.
			CO4	Explain concept of tax planning and management.
			CO5	understand need and importance of Tax Planning and Management
			CO6	understand the Basic concept and framework under GST Act & Customs Act.
M.Com . I	207	Application of Cost Accounting	CO1	To conceptualize the need to integrate financial and Cost Accounts.
			CO2	To explain the concept of integral and non-integral cost accounting.
			CO3	Understand the concepts of Product Life Cycle Costing (PLC) and Value Chain Analysis (VCA).
			CO4	Understand the mechanism of Activity Based Cost Management
			CO5	understand the logic behind ABC technique and to prepare the Cost formats under ABC & to compare such results with the Traditional Overhead Accounting
			CO6	Understand the concept of Transfer Pricing & Target Costing.
M.Com	208	Cost	CO1	understand the role of Marginal Costing in short term

. I		Control and Cost Systems		decision making.
			CO2	To be able to solve problems on Marginal Costing.
			CO3	Understand pricing mechanism under global competitive environment.
			CO4	Skills to differentiate between Cost Reduction and Cost Control techniques.
			CO5	understand the process of installation of Costing System
			CO6	understand the relationship between cost and productivity.
SEMESTER III				
M.Com . II	301	BUSINESS FINANCE	CO1	The students will be able to understand the role and importance of corporate finance, and learn the calculation value of money.
			CO2	To acquaint the students with corporate finance required for Indian Industries.
			CO3	The students will acquaint the financial planning, theories of capitalization and estimation of finance need of firm.
			CO4	To make the students aware about the latest developments in the field of corporate finance.
			CO5	The students will be able to learn the sources of finance to be tapped for running business successfully.
			CO6	The students will be able to apply best practice in working capital management.
M.Com . II	302	RESEARCH METHODOLOGY FOR BUSINESS	CO1	Define concepts of Research in business.
			CO2	understand the nature, scope and Types of Research
			CO3	understand various ethical issues and modern practices in research
			CO4	understand various aspects and methods of testing of Hypotheses
			CO5	To study the nature of Research design and Sampling
			CO6	To study various aspects of mode of citation and bibliography
M.Com . II	303	ADVANCED AUDITING	CO1	To provide basic knowledge of auditing
			CO2	Create awareness of Auditing and assurance standard
			CO3	To provide basics of audit of limited company
			CO4	Conceptual Understanding of Corporate Governance
			CO5	Conceptual Understanding CIS
			CO6	Use of computer in audit program
M.Com . II	304	SPECIALIZED AUDITING	CO1	understand need and importance of audit .
			CO2	understand various concepts of Audit under GST
			CO3	understand need and importance of internal audit in an organization
			CO4	To know the need and importance of the audit in banks.
			CO5	To understand Process of audit in banks
			CO6	To understand need and Importance of Auditing in co- operative sector.

M.Com . II	307	Cost Audit	CO1	To provide adequate knowledge to the students on Cost Audit Practices.
			CO2	In depth Understanding of basic concepts of cost audit and its applicability in various areas
			CO3	To acquaint students to understand the role and responsibilities of Cost Auditor
			CO4	To understand how to Conduct The Cost Audit Traditionally And Electronically
			CO5	Knowledge to Conduct The Cost Audit Traditionally And Electronically
			CO6	Knowledge On Preparation Of Cost Audit Report.
M.Com . II	308	Manage ment Audit	CO1	To acquaint the students with the knowledge of the techniques and methods of planning and execution of Management Audit.
			CO2	In depth Understanding of fundamentals of Management audit
			CO3	To familiarize the students with the knowledge of corporate image.
			CO4	Knowledge on Management Audit procedures
			CO5	Knowledge on different areas of Management audit
			CO6	Detailed Understanding of operational Audit
M.Com . II	394	SkillDev elopment (Assistan t Stores Manger)	CO1	Define the Inventory management
			CO2	Understand the techniques of inventory management
			CO3	Applying the techniques of Inventory management
			CO4	Analysing the inventories
			CO5	Evaluating the materials in store department
			CO6	Improving the efficiency of inventories
SEMESTER IV				
M.Com . II	401	Capital Market and Financial Services	CO1	To acquaint the students with working of capital market.
			CO2	To make the students aware about the latest developments in the field of capital market in India.
			CO3	Students will be able to learn the importance and working of capital market.
			CO4	Student will be able to understand the working of BSE and NSE, and OTCEI in detail.
			CO5	The students will be able to know the role of intermediaries, Mutual funds. Portfolio management.
			CO6	The students will be able to know the role of SEBI in regulating stock exchanges and investors' education, financial advisors.
M.Com . II	403	Recent Advance s in Accounti ng, Taxation & Auditing.	CO1	To gain the knowledge of use of technology for accounting by accountants and accounting firms. To realise the importance of Remote Electronic Accounting.
			CO2	Enumerate corporate governance
			CO3	To impart the knowledge of the latest reforms established in the field of accounting, auditing and taxation.
			CO4	understand the need for adopting new branches of accounting among the corporate

			CO5	Describe forensic accounting.
			CO6	To acquaint students with the future accounting concepts, those of which, may become statutory for certain industries
M.Com . II	404	PROJECT WORK (ADVANCED ACCOUNTING & TAXATION)	CO1	To develop a research attitude in the minds of students.
			CO2	To enrich the ability of research work among students.
			CO3	To develop problem finding and problem solving skills through research process
			CO4	understand the data collection
			CO5	Knowledge on finding and conclusion
			CO6	To develop project preparation skills among students
M.Com . II	407	Recent Advance in cost audit & cost system	CO1	To aware the students with the recent trends in Cost Accounting and Cost Systems
			CO2	To acquaint the students with Standards and applications Of Cost Accounting
			CO3	Detail understanding of GST and Productive Audit
			CO4	Introduction, Meaning, Features, Benefits & Limitations Of ERP Benefits of Implementation of ERP
			CO5	Introduction to Various techniques & tools of Manufacturing and its impact On Costing
			CO6	To acquaint the students with recent trends in Cost Accounting.
M.Com . II	408	PROJECT WORK (Advanced Cost Accounting & Cost system)	CO1	Describe concepts of Research in business.
			CO2	<u>Understanding sampling methods.</u>
			CO3	Selecting the methods of data collection
			CO4	analyzing and interpretation of data.
			CO5	Rewrite report in different areas.
			CO6	Summarize modes of citation & bibliography.

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Name of the Programme: DIPLOMA IN TAXATION LAW (DTL)

PO NO.	OUTCOMES
Po1	How to applicable the various act to the human being and society.
Po2	How the calculating the income tax for the person.
Po3	Understanding the Tax procedure to fill the Government of India.
Po4	How to Direct practice GST in the business organization
Po4	To acquire the knowledge Costume act 1962
Po5	To know the procedure of appointment of costume officer.
Po7	To understand the concept and application of account business transaction.
Po8	Acquire the knowledge accounting financial statements, single entry and nonprofit trading account.

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Name of the Programme: DIPLOMA IN TAXATION LAW (DTL)

Name of the Class	Course Code	Course Title	Course Outcomes	
DTL	101		CO1	To understand the Hindu law
			CO2	To applicable the Indian partnership act 1932
			CO3	Discuss the evidence act
			CO4	To determine the appointment of officer related to the jurisdiction
DTL	1025		CO1	To acquaint themselves about the concept and principle of Auditing, process and assurance tax audit.
			CO2	To understand taxation process of under computerize system.
			CO3	To get knowledge about preparation of tax return
			CO4	To discuss the taxation complication of the documents at the tax year ended.
			CO5	
DTL	103		CO1	To Define the IGST
			CO2	To Understand the levy and collection of IGST
			CO3	To Determine the nature of supply of goods and services

			CO4	To analyze the place of supply
			CO5	To discuss the Zero rated supply
			CO6	To describe the appointment and settlement of funds
DTL	104	THE CUSTOMS ACT, 1962	CO1	To Determine Appointment of officers of customs
			CO2	Disuses Appointment of customs ports, airports
			CO3	To discuss Power of Central Government to notify goods.
			CO4	To describe Power to exempt
			CO5	To Define Dutiable goods
			CO6	To understand Assessment of duty
			DTL	105
CO2	To analysis the statement of Accounts			
CO3	Describe and solve the practical problem of final Account			
CO4	Understand the concept of partnership firm			
CO5	Disuses the signal entry system			
CO6	To create the ledger posting with business transaction.			


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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of BBA



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
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Department of B.B.A.

Programme Outcomes

Sr. No	PO No	Contents
1	PO 1	Understand the basic Management concepts and theories as they are applicable in various Business scenarios.
2	PO 2	Develop analytical skills to understand the problem correctly and develop solutions.
3	PO 3	Awareness of law and legislation related to business and their Implementations.
4	PO 4	Understand the Business environment through knowledge of Economics, Business Demography, International Business and Financial Services.
5	PO 5	Develop entrepreneurship through knowledge of idea generation, business planning, activity, product development awareness of intellectual property rights and media.
6	PO 6	Inculcate ability to communicate effectively in oral and written form.
7	PO 7	Develop ability to use conceptual skills in day to day life.
8	PO 8	Empowering students with digital marketing mastery in the digital age.
9	PO 9	Create awareness about research tools and techniques of data.
10	PO 10	Prioritize the soft skills like communication, team-work and leadership which are essential in any career.

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Department of BBA
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Name of the Programme: BBA

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
F.Y.BB A	101	Principles of Management 3 CC	CO 1	To learn and understand the basic aspects of management thinking, how management works.
			CO 2	Developing thought Process as manager. Understand the role of management thinker in development of the modern management process.
			CO 3	How to plan various management activities, programs and events. Developing of decision making skills to evaluate various alternatives and situations. Understanding the concept of forecasting, importance of process of organization.
			CO 4	To develop leadership quality to work independently an in the organize group
			CO 5	To understand the role, challenges and opportunities of management in contributing to the successful operations and performance of organizations.
			CO 6	To analyze the recent trends in management.
F.Y.BB A	102	Business Communication Skills 4 CCT	CO 1	To know the values of communication.
			CO 2	To implement channels of communication.
			CO 3	To improve skills sets to cope up with corporate challenges.
			CO 4	To understand system and medias of communication.
			CO 5	To understand the needs and functions of business

				correspondence.
			CO 6	To understand types, components and layouts of business letters.
F.Y.BB A	103	Business Accounting 3 CC	CO 1	To understand role and importance of accounting in business.
			CO 2	To understand the types of transaction, how to record different financial transactions.
			CO 3	To develop the skill of preparing financial statements.
			CO 4	Ability to understand growing importance of software and to know how to use software in writing books of accounts.
			CO 5	Ability to prepare BRS by comparing with passbook to cashbook.
F.Y.BB A	104	Business Economics (Micro) 3 CC	CO 1	To understand the importance of the economics in the life.
			CO 2	To analyze the dynamics of market forces.
			CO 3	To understand the concept of demand & supply and its implication.
			CO 4	To examine various aspects concerning price output determination under different market structures.
			CO 5	To apply micro economic concepts and tools for analyzing business problems.
			CO 6	To make accurate decisions pertaining to the business firms.
F.Y.BB A	105	Business Mathematics 3 CC	CO 1	Ability to understand the concepts of number system, fraction, indices, ratio proportion and percentage and their use in commercial activities.
			CO 2	Student's able to understand how to solve the problems of time work and distance, the difference between effective and nominal rate of interest. To enable to calculate EMI.
			CO	To discuss the concept of costs &

			3	Revenue.
			CO 4	To examine various aspects concerning price output determination under different market structures.
			CO 5	To learn to calculate the profit and loss.
			CO 6	To introduce with various basic mathematical concept and formulas.
F.Y.BB A	106	Business Demography 4 CCT	CO 1	To understand the concept of business demography.
			CO2	To develop the understanding regarding population growth, process & social economic changes.
			CO 3	To discuss the concept of literacy and its importance in modern society.
			CO 3	To create an approach the population of the nation as a resources and importance of human resources as development of the nation.
			CO 4	To understand the concept of urbanization and migration, their determinants.
			CO 5	To analyze the working and dependent population.
SEMESTER II				
F.Y.BB A	201	Business Organization and System 4 CCT	CO 1	To learn how a business unit works and serves to the society, historical progress of business as an economic entity.
			CO 2	To understand the significance of different forms of business organizations their types, function, merits and limitations.
			CO 3	To know how to search business ideas, how to prepare business feasibility report, how to identify ideal business location and deciding optimal size for a new business unit, identification of capital sources for new business unit and basic documentation required for business enterprise
			CO	To learn about how a retail trade and

			4	their different forms.
			CO 5	To understand the objectives, ethics and culture of business organization.
			CO 6	To understand the effects of FDI on retail trades.
F.Y.BB A	202	Principles of Marketing 3 CC	CO 1	To understand the basic concept of marketing.
			CO 2	To understand the silent features of Indian & international marketing manager.
			CO 3	To have right understanding of marketing mix & market segmentation.
			CO 4	To inculcate the knowledge about product development process & launching & pricing of the product.
			CO 5	To understand digital marketing, green marketing, virtual marketing and hybrid marketing.
F.Y.BB A	203	Principles of Finance 3 CC	CO 1	Ability to understand role and importance of finance in business.
			CO 2	To get the knowledge about various sources of finance.
			CO 3	To learn about the determinants of size and types of the finance.
			CO 4	To understand various content of financial structure.
			CO 5	To develop the analytical ability determining capital structure.
F.Y.BB A	204	Basics of Cost Accounting 3 CC	CO 1	To understand basic concept of and importance of costing in decision making.
			CO 2	To understand how to prepare a cost statement.
			CO 3	To develop the ability to distinguish different types of overheads & its influences on total costs.
			CO 4	To understand the role of costing for the cost of project.
			CO 5	To understand the elements of cost material, labor and other expenses.
			CO 6	To learn how cost of particular process is ascertained.

F.Y.BB A	205	Business Statistics 3CC	CO 1	To represent the data by using appropriate graphs or diagrams.
			CO 2	To compute suitable measure of central tendency for different data sets.
			CO 3	To compute the various measures of dispersion to compare two or more data sets.
			CO 4	To identify and compute the correlation between two variables.
			CO 5	To fit the equation of line of regression.
			CO 6	To understand the uses of index numbers.
F.Y.BB A	206	Fundamenta ls of Computers 4 CCT	CO 1	To understand the need, role and importance of computers in business processes
			CO 2	To develop understanding regarding usage, functionality and services provided by operating systems in business processes.
			CO 3	To learn the process for usage of different computer applications in business processes & develops skills and ability to handle different applications in business processes.
			CO 4	To understand cautions and stapes to be taken and net based services & Ability to handle various software and programs with due cautions and care.
			CO 5	To understand MS excel and its various functions.
			CO 6	To introduce to internet and cyber security.
SEMESTER III				
SYBBA	301	Principles of Human Resource Management 4CC	CO 1	To understand basic concepts, role and importance of HRM in an organization.
			CO 2	To understand the importance of job analysis, HR planning in the organization.
			CO	To develop problem solving &

			3	decision making skills.
			CO 4	To cultivate the ability to think about employee moral & job satisfaction.
			CO 5	To develop the ability to frame for their career planning.
			CO 6	To learn about training and development for program of HRM.
SYBBA	302	Supply Chain Management 3 CC	CO 1	To understand the concept of supply chain management & green SCM.
			CO 2	To understand the space management and different strategies of warehousing.
			CO 3	To learn about the role of IT to SCM
			CO 4	To analyze key operational aspects of supply chain management
			CO 5	To introduce with the global SCM
			CO 6	To learn the supply chain network design.
			SYBBA	303
CO 2	To understand the concept of global competence and to develop self-esteem and self-confidence of the students.			
CO 3	To cultivate the ability of understanding of SWOC analysis for personal goal setting.			
CO 4	To study various social and international etiquettes and table manners.			
CO 5	To learn about the styles, qualities of the effective manager.			
CO 6	To aware about the social responsibility of individual.			
SYBBA	304	Fundamentals of Rural Development		
			CO 2	Describes determinants of rural development planning. Develop the knowledge and ability of the students about the concepts of NGO's and rural development
			CO 3	Describes determinants of agro entrepreneurship. Understanding of

				problems associated with rural entrepreneurship. Understanding the implementation of marketing initiatives.
			CO 4	Understanding role of the internet in rural development. Develop the knowledge and ability of the students about the concepts of ICT and e-development in villages .
			CO 5	To Better understand the need of rural development
			CO 6	Understanding challenges of rural development. Students should be willing for further research work, also suitable for the project.
SYBBA	305 A	Consumer Behavior & Sales Management	CO 1	To have an adequate understanding of consumer behavior, its scope, objectives, opportunities and its challenges.
			CO 2	To help students develop an understanding towards Strategy building & its effectiveness.
			CO 3	To find out alternatives for dynamic organization to ensure their success in a highly competitive sales environment.
			CO 4	Developing design thinking approach to explore opportunities while combating challenges in highly competitive Sales environments.
			CO 5	To learn about consumer decision making process.
			CO 6	To learn about training, motivating and managing the sales force.
SYBBA	305 B	Management Accounting	CO 1	To understand the concept and meaning of management accounting.
			CO 2	To understand different methods of financial statement analysis and classification of various ratios and its application.
			CO 3	To calculate contribution and break-even point to reach profitability level of any business.
			CO	To learn how to make various types

			4	of budgets as per need and requirement of business.
			CO 5	To introduce with the schedule III as per company Act 2013.(statement of profit and loss account and statement of balance sheet)
			CO 6	Students can be distinguish between cost accounting and management accounting and also financial accounting and management accounting.
SYBBA	306 A	Retail Management	CO 1	To have a clear understanding of the retail concepts, its scope, objectives, opportunities and challenges.
			CO 2	To help students understand the planning process behind a retail business
			CO 3	Giving insights to the challenges while implementing a plan, in context of retail management.
			CO 4	Developing critical thinking ability to explore various angles while facing challenges in the retail sector.
			CO 5	To introduce recent trends and technological advancement.
			CO 6	To understand various types of retailers.
SYBBA	306 B	Banking & Finance	CO 1	To introduce with the meaning and concept of bank and origin of Bank.
			CO 2	To understand the functions of Banks i.e. primary punctions and secondary functions.
			CO 3	To introduce with RBI, roles and functions of RBI.
			CO 4	To understand the needs and importance of technology in banking.
			CO 5	To understand the functions and advantages of ATM, debit card, credit card, tele banking, net banking, mobile banking, RTGS, NEFT, SWIFT.
			CO 6	To understand the structure of banking system in India.

SEMESTER IV				
SYBBA	401	Entrepreneurship and Small Business Management	CO 1	To understand the concept and process of entrepreneurship
			CO 2	To acquire entrepreneurial spirit and resourcefulness.
			CO 3	To get acquainted with the concept of small business management.
			CO 4	To understand the role and contribution of entrepreneurs and small businesses in the growth and development of individuals and the nation.
			CO 5	To introduce entrepreneurship development.
			CO 6	To understand the process of small business management.
SYBBA	402	Production and Operations Management	CO 1	To understand the various methods of manufacturing and layouts and safety consideration in management.
			CO 2	To know the product development, planning and controlling while manufacturing the product
			CO 3	To get acquainted with the productivity and quality management and know regarding the ergonomics and safety measures.
			CO 4	To understand the changing environment, production and operation maintenance methods.
			CO 5	To learn about plant layout and its types.
			CO 6	To learn about classification of production system.
SYBBA	403	Decision Making and Risk Management	CO 1	To learn the key topics in decision making and risk management so that they can improve decision making and reduce risk in their management activities and organization.
			CO 2	To study various models and tools of decision making and its applicability
			CO 3	To understand the role and importance of organizational values in Decision making and Risk management.
			CO	To understand the role of leadership

			4	while making decisions	
			CO 5	To learn about decision making process.	
			CO 6	To understand the concept of risk management.	
SYBBA	404	International Business Management 3 CC	CO 1	To learn the key topics in decision making and risk management so that they can improve decision making and reduce risk in their management activities and organization.	
			CO 2	To study various models and tools of decision making and its applicability.	
			CO 3	To understand the role and importance of organizational values in decision making and risk management.	
			CO 4	To understand the role of leadership while making decisions	
			CO 5	To learn about decision making process.	
			CO 6	To understand the concept of risk management.	
SYBBA	404	International Business Management 3 CC	CO 1	To understand the basics of International Business concepts and its role.	
				CO 2	To understand the various International trade theories' use and experiments on the world trade.
				CO 3	To understand how a country can gain through International trade practices
				CO 4	Understand the regional integration and regional groups' concept in international trade.
				CO 5	To introduce with the international business managerial skills.
				CO 6	To learn about balance of trade, balance of payments.
SYBBA	405 A	Advertising and Promotion Management	CO 1	To understand the concept and process of entrepreneurship	

		3 CC		
			CO 2	To acquire entrepreneurial spirit and resourcefulness.
			CO 3	To get acquainted with the concept of Small Business Management.
			CO 4	To understand the role and contribution of entrepreneurs and Small Businesses in the growth and development of individuals and the nation.
			CO 5	To learn about current trends in advertising.
			CO 6	To learn about the digital marketing management.
SYBBA	405 B	Business Taxation CC	3	
			CO 1	To understand different concepts and definitions under Income Tax Act, 1961.
			CO 2	To get understanding of computation of Income of an individual under Five Heads of Income.
			CO 3	To acquire knowledge about the submission of Income Tax Return
			CO 4	To prepare students competent enough to take up to employment in tax planning.
			CO 5	To understand the concept of direct tax and indirect tax.
			CO 6	To learn about VAT and GST.
SYBBA	406 A	Digital Marketing		
			CO 1	To understand the role & importance of digital marketing.
			CO 2	To learn how digital marketing impacts the Sales of an organization & to develop digital strategy to influence consumer behavior
			CO 3	To understand the role of Face book, Google Adwords, YouTube and Email in digital marketing.
			CO 4	To understand the importance of digital platforms & its impact upon the performance of the organizations in complex & varied environments.
			CO	To learn about social media

			5	marketing.
			CO 6	To learn about search engine optimization (SEO)
SYBBA	406 B	Financial Services	CO 1	To study & understand the basic concepts of Indian financial system & to take an overview of financial structure of the nation.
			CO 2	To understand the functioning of primary & secondary market and to study the role of stock exchanges in India.
			CO 3	To Study & examine various financial services provided by various financial institutions in India.
			CO 4	To understand various types of financial services.
			CO 5	To learn about various financial Instruments.
			CO 6	To learn about the various financial services

SEMESTER V

TY BBA	501	Research Methodology 3 GC	CO 1	To understand basic concept of research & its methodology
			CO 2	The student will understand the concept of research problem & techniques involving defining research problem
			CO 3	To develop an understanding of research designs & concept of sampling
			CO 4	To learn sources of collection of data.
			CO 5	To enable the students in conducting research work and write research paper and research project report.
			CO 6	Students will aware about framing of hypothesis & hypothesis testing
			TY BBA	502
CO 2	To understand the data mining concepts			
CO 3	To understand the current trends in data management			
CO	To understand purpose and concepts			

			4	of data base administration.
			CO 5	To learn the basic concept of data warehouse.
			CO 6	To understand the difference between data analytics and data mining.
TY BBA	503	Business Ethics 3 GC	CO 1	To provide a comprehensive understanding of the concepts of role & scope of business ethics
			CO 2	To understand the concept & role of business & stakeholder ethics
			CO 3	To analyze the role of ethics in business, government and society.
			CO 4	To identify the efficiency of CSR in traditional & modern business
			CO 5	To learn about whistleblower Act and employee rights.
			CO 6	To learn Environmental and consumer ethical issues.
TY BBA	504	Managemen t of Corporate Social Responsibili ty 3 GC	CO 1	To understand the concept and process of CSR
			CO 2	To Understand the industrial contribution for CSR Policy
			CO 3	To Understand the context of CSR of present-day management
			CO 4	To understand the contribution of CSR for the development of Society
			CO 5	To understand the various Modules of CSR.
			CO 6	To understand the key stakeholders and their roles and recent trends and opportunities in CSR.
TY BBA	505 A	Marketing Environmen t Analysis and Strategies 4 CC	CO 1	To develop students' understanding of the factors shaping Marketing Environment
			CO 2	To develop students' ability to analyze the business environment
			CO 3	To develop students' understanding of the strategies for sustaining the

				forces in marketing environment
			CO 4	To understand the market segmentation and targeting strategies.
			CO 5	To understand the various steps in marketing research process.
			CO 6	To learn about the key performance Indicators (KPI) in business Analysis.
TY BBA	505 B	Analysis of Financial Statements 4 CC	CO 1	To develop the conceptual framework of financial analysis and provide practical exposure to apply various tools of financial statement analysis.
			CO 2	To enable to use of various types of ratios for financial and investment decisions.
			CO 3	To impart knowledge about cash flow and fund flow statements and their importance in financial analysis.
			CO 4	To understand various types of financial statements.
			CO 5	To learn the budget and budgetary control.
			CO 6	Case study/project work.
TY BBA	506 A	Legal Aspects in Marketing Management + Project and Viva 6 CC	CO 1	To understand the law related to sales home delivery, tele seller & direct mail send.
			CO 2	To understand the rules of law related to broad casting ads.
			CO 3	To get the knowledge about misled adv. Campaign.
			CO 4	To develop the analytical skill about issues related to online marketing Ts & Cs in CRM.
			CO 5	To aware about price related laws & consumer rights for surcharge payment.
			CO 6	Case study/project work.
	506 B	Legal	CO	To understand the legal aspects of

		Aspects of Finance & Security Law	1	finance & security laws.
			CO 2	To develop the analytical skill for the application of various tools of analysis of financial statements.
			CO 3	To evaluating the financial position of business corporation by calculation & comparative study of ratios.
			CO 4	To students will understand cash management of business by preparing a cash flow statement
			CO 5	To differentiate the various sources of funds, arrangement of fund through fund flow
+SEMESTER VI				
TY BBA	601	Essentials of E-Commerce 3 GC	CO 1	To understand the concept & role of E-commerce.
			CO 2	To understand the role of IT infrastructure in development of e-commerce.
			CO 3	To understand the concept of digital currencies.
			CO 4	To develop the modern digital payment system.
			CO 5	To learn use of E-Commerce tools .
TY BBA	602	Management Information System 3 GC	CO 1	To describe the basic concept of Information Technology and Management Information System.
			CO 2	To understand the role of IT and information systems in business.
			CO 3	To make students understand the models of decision making.
			CO 4	To make students aware of attribute of information.
			CO 5	To explain to students the concepts of system, system analysis.
			CO 6	To provide sound knowledge about DSS-GDSS-DSS application in E enterprises.
TY BBA	603	Business Project Management 3 GC	CO 1	To develop the skills of managing business projects.
			CO 2	To understand the relevance of a technique-based project management system in the success of business

				project.
			CO 3	To develop a mindset of calculation based business projects to minimize the chances of its failure.
TY BBA	604	Management of Innovations and Sustainability 3 GC	CO 1	To understand the concepts of Innovation and Sustainability in practical sense.
			CO 2	Students will practically understand the concept of innovation & sustainability.
			CO 3	To learn about the most common errors made when handling sustainable growth.
			CO 4	To understand the several aspects of sustainable development.
TY BBA	605 A	International Brand Management 4 CC	CO 1	To develop students' understanding of the concept of developing brands.
			CO 2	To develop students' understanding of the concept of brand equity.
			CO 3	To develop students' understanding of the strategies in managing brand portfolios.
			CO 4	To evaluate the process and methods of measuring brand performance.
			CO 5	To understand the characteristics of strong brand and purpose of brand.
			CO 6	To develop design marketing and marketing communication programs that build brand equity in the International market.
TY BBA	605 B	Financial Management	CO 1	To learn about the various Sources of Finance.
			CO 2	To understand the meaning and concept of capital structure of firm.
			CO 3	To analyze problems associated with capital structure.
			CO 4	To know about the shares, debentures, term loan, lease Finance, hire financing, bank overdraft, cash credit, bill discounting as sources of finance.
			CO 5	To understand the concept of capitalization, to study the causes and effects of over and under

				capitalization.
			CO 6	To understand the concept and importance of capital budgeting decisions. Understand the tools techniques of evaluation of capital budgeting decisions.
TY BBA	606 A	Cases in Marketing Management + Project 6 CC	CO 1	To Study & understand the core areas of marketing.
			CO 2	To study the practical applications of marketing.
			CO 3	To prepare project reports based on the internship & understanding of core areas of marketing
			CO 4	To understand the characteristics, importance and guidelines of case studies.
			CO 5	To understand the market segmentations.
			CO 1	To study & understand the core areas of marketing.
			CO 1	To study & understand the core areas of finance.
TY BBA	606 B	Cases in Finance + Project Viva + Internship 6 CC	CO 2	To study the practical applications of finance.
			CO 3	To prepare project reports based on the internship & understanding of core areas of finance

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Department of BBA
Annasaheb Magar Mahavidyalaya
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Pune District Education Association's

Annasaheb Magar Mahavidyalaya

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Pune- 411028.



Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of BBA-IB



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: BBA (International Business)
Programme Outcomes

Sr. No	PO No	Contents
1	PO 1	Understand the concept of Inventory and Inventory Management and also their Policies.
2	PO 2	To provide a right understanding about the present scenario of and international trade and relationship of domestic trade with international trade.
3	PO 3	Develop analytical skills to understand the problem correctly and develop solutions
4	PO4	To understand drivers and activities of logistic management
5	PO 5	Literacy of law and legislation related to business including contracts, intellectual property and dispute resolutions and their Implementations.
6	PO 6	Understanding international marketing strategies, including product adoption, pricing, promotion and distribution in diverse market.
7	PO 7	Develop ability to identify, assess and mitigate risks associated with international business.
8	PO 8	Knowledge of global economic trends and their impact on international business.
9	PO 9	Proficiency in the foreign language to communicate effectively.
10	PO 10	Understand international market trade practices including import –export procedures, currency exchange and risk management in international market.

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Hadapsar, Pune-28

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Hadapsar, Pune-411028.



Name of the Programme: BBA (International Business)

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
FYBBA (IB)	IB-101	Principles of Management (3 CC)	CO 1	Student will understand basic concept of management.
			CO 2	Students will learn about the basic aspects of management thinking, how management works.
			CO 3	Students will understand approaches to management thoughts and philosophy.
			CO 4	Student will learn about role and function of managers.
			CO 5	Student will able to analyze how to plan an organized and motivate group for activity.
FYBBA (IB)	IB-102	Business Communication Skills 4 CCT	CO 1	Students will understand the basic concept of communication its role and process.
			CO 2	Students will able to analyze verbal and non-verbal communication.
			CO 3	Students will understand different layout of business letters.
			CO 4	Student will gain the skills how to write business letters.
			CO 5	Students will able to how to draft the resume writing.
FYBBA (IB)	IB-103	Business Accounting 3 CC	CO 1	Student will understand basic concept of business accounting book-keeping and monetary and non monetary transitions.
			CO 2	Students will learn about the golden rules of accounting and its application.
			CO 3	Student will able to analyze the various business transactions and their entry in journal.

			CO 4	Students will able to write various financial statements.
			CO 5	Students will analyze the various software and its application in financial accounting.
FYBBA (IB)	IB- 104	Business Economics (Micro) 3 CC	CO 1	Students understand the basic concept of micro and macro economics.
			CO 2	Student will learn about circular flow of income.
			CO 3	Students understand the basic concept of demand and supply and its implications.
			CO 4	Students will able examine the factors determinates of revenue and cost.
			CO 5	Students understand the circular flow of income and expenditure.
FYBBA (IB)	IB- 105	Business Mathematics 3 CC	CO 1	Student will understand the concepts of number system, fraction, indices, ratio proportion and percentage and their use in commercial activities.
			CO 2	Students will able to examine the concept of discount in different business situations
			CO 3	Student will learn how to calculate simple interest compound interest ratio proportions
			CO 4	Students will develop the skill for data interpretation and inferences.
			CO 5	Students develop the logical approach towards the analytical approach data
FYBBA (IB)	IB- 106	Business Demography 4 CCT	CO 1	Students will understand the basic concept of demography in modern economic setup.
			CO 2	Students will learn about how the population growth influences on society.
			CO 3	Students will able to analyze modern and socio-economic status and role of literacy in economic deployment.
			CO 4	Students gain the knowledge about the components of demography.
			CO 5	Students will be able Students understand the concept of gender ratio, age and pyramid.
SEMESTER II				
FYBBA	IB-	Basics of	CO 1	Student will understand the basic

(IB)	201	Cost Accounting 3CC		concept of cost and cost accounting, cost center.
			CO 2	Students will able to learn to prepare cost statement.
			CO 3	Students will able to differentiate the overheads.
			CO 4	Students will learn about the role of contact costing.
			CO 5	Students will learn to ascertain the various processes cost.
FYBBA (IB)	IB-202	Origin & Development of Global Business CCT	CO 1	Students study the concept of globalization and its importance in the modern business.
			CO 2	Students study various characteristics/features of national and international business and its contribution in the growth of an economy.
			CO 3	Students develop an understanding about trade theories and its role in determining trade among countries.
			CO 4	Students understand the concept and need of international organizations/unions and its significance.
			CO 5	Students will understand the formation purpose and issues of various international institutions.
FYBBA (IB)	IB-203	Commercial Geography 3CC	CO 1	Students will understand the commercial geography and its bases regarding commercial activities
			CO 2	Students learn about the diversity and physical condition of environment.
			CO 3	Student will learn about GI concept and its utility.
			CO 4	Students will analyze the various national resources and its commercial usages in Indian context
			CO 5	Students will learn about the role of industries and geographical location and its commercial usages.
F.Y.BB A(IB)	IB-204	Principles of Marketing 3CC	CO 1	Students will understand role and importance of marketing manager. Students understand various challenges faced by marketing managers in different environments

			CO 2	Student will learn about the factors affecting the marketing environment.
			CO 3	Students will able to analyze the marketing mix application in business.
			CO 4	Students will able to categorize different types of market their role and functions.
			CO 5	Students learn about the recent trends in marketing.
FYBBA (IB)	IB- 205	Business Statistics	CO 1	Students represent the data by using appropriate graphs or diagrams.
			CO 2	Students compute suitable measure of central tendency for different data sets.
			CO 3	Students compute the various measures of dispersion Students compare two or more data sets.
			CO 4	Students identify and compute the correlation between two variables.
			CO 5	Students fit the equation of line of regression.
FYBBA (IB)	IB- 206	Fundamental of Computer	CO 1	Students will able to understand the need, role and importance of computers in business processes
			CO 2	Students will develop understanding regarding usage, functionality and services provided by operating systems in business processes.
			CO 3	Students will learn the process for usage of different computer applications in business processes & develop skills and ability Students handle different applications in business processes.
			CO 4	Students understand cautions and steps to be taken and net based services & able to handle various software and programmers with due cautions and care.
			CO 5	Students will learn about the internet and cyber security.
SEMESTER III				
SYBBA (IB)	IB- 301	Elements of Human Resource	CO 1	Students will understand basic concept and its functions.
			CO	Students learn about duties,

		Management 4CC	2	responsibility of HR manger.
			CO 3	Students gain the depth knowledge about manpower planning recruitment and selection process.
			CO 4	Students able to understand training and development process in HRM
			CO 5	Students willable to analyze various methods of performance appraisal . and modern trends in HRM
SYBBA (IB)	IB- 302	Global Competencie s and Personality Developmen t	CO 1	Students will understand basic concept and importance of personality.
			CO 2	Student will learn about the factors that build up the personality.
			CO 3	Students will gain knowledge about the self-assessment goal setting building self-confidence.
			CO 4	Students will learn how to work as a team player in different culture and work style.
			CO 5	Student will able to analyze various techniques in personality development and image management.
SYBBA (IB)	IB- 303	Internation al Economics	CO 1	Students understand the meaning, concept, definition and scope of international economics.
			CO 2	Students understand the role of international trade in economic growth.
			CO 3	Students learn about the theory of international trade.
			CO 4	Students will analyze the nation's balance of payment policy.
			CO 5	Students will able to evaluate the impact of tariff and non tariff barriers.
SYBBA (IB)	IB- 304	Production and Operation Management	CO 1	Student will understand the importance of production management and types of automaton.
			CO 2	Student learns about the process of selecting plant location and plant layout planning.
			CO 3	Students gain knowledge about the method of material handling in an industry.
			CO 4	Student will able to differentiate different standard using selecting materiel.
			CO	Students will analyze the different types

			5	of production control system.
SYBBA (IB)	IB- 305	Foreign Language- German (I)	CO 1	Student will understand about the fundamental German vocabulary,
			CO 2	Students will learn Alphabets, numbers tenses.
			CO 3	Students will adapt to communication skills with simple questions.
			CO 4	Students will able to practice singular, plural, articles and frame basic questions.
			CO 5	Students learn about tenses of verb, adjectives in sentences and orientation of time.
SYBBA (IB)	IB- 306		CO 1	Students understand the basic concept and importance of logistic management.
			CO 2	Students learn about internal and outbound logistics in SCM.
			CO 3	Students gain the knowledge about 3PL PL, and reverse logistics
			CO 4	Students analyze the issues and problems of global sourcing.
			CO 5	Students will able to categories the different types of warehouses.
SEMESTER IV				
SYBBA (IB)	IB- 401	Import- Export Procedure	CO 1	Students will understand basic concept of import export and its functions.
			CO 2	Students will learn about the export procedures.
			CO 3	Students learn about the import procedures
			CO 4	Students will analyze various remittance schemes.
			CO 5	Students will able to analyze the import and export procedure.
SYBBA (IB)	IB- 402	Research Methodolog y	CO 1	Student will understand the basic concept of research and its importance.
			CO 2	Students gain the knowledge about the types of research.
			CO 3	Student will able to prepare research design and its essentials.
			CO 4	Students understand the data collection process i.e. primary and secondary data.
			CO 5	Students able to adopt the skill of report writing.
SYBBA	IB-	Business	CO	Students will able to understand basic

(IB)	403	Ethics	1	concept role and scope business ethics.
			CO 2	Students learn about importance of ethics at individual level national, international level.
			CO 3	Student will gain the knowledge about the role of business and stakeholder's ethics.
			CO 4	Students can differentiate the role and responsibility of business govt. and societal ethic
			CO 5	Students will able to grasp the building sustainable role models
SYBBA (IB)	IB-404	Management Information System	CO 1	Students will understand basic concept of MIS and its importance.
			CO 2	Student will learn about types of information and use of information for competitive advantage
			CO 3	Students will gain the knowledge about the models and tools of system designating.
			CO 4	Students will analyze the components of DSS.
			CO 5	Students will learn about the information security and IPR.
SYBBA (IB)	IB-405	Foreign Language-German (II)	CO 1	Students will understand activities carried out within the different profession and their converse daily routine activities.
			CO 2	Students will learn about the Berlin tourism.
			CO 3	Students will able to write a post-card.
			CO 4	Student able to read write and speak German with limited vocabulary.(perfect tense, degree of comparison ,demonstrative article)
			CO 5	Students will get the skill to write a small letter /text in German.
SYBBA (IB)	IB-406 A	International Logistic and Port (II) + Computer Course and Projects (Viva SPPU)	CO 1	Students will understand the scope of international logistics

			CO 2	Students understand the concept and functions of 3PL, and 4PL.
			CO 3	Students will be able to categorize different modes of transportation.
			CO 4	Students will learn about the layout, cargo positioning, and facility for cargo port-time ship time in port.
			CO 5	Students understand the cargo transfer.
SEMESTER V				
TYBBA (IB)	IB- 501	International Relations	CO 1	Student will understand basic concept of international relations, its role and function.
			CO 2	Students will gain the knowledge of Detail various regional groupings.
			CO 3	Student will analyze the dispute redressal system of WSTUDENTS.
			CO 4	Student will learn about GATTs, TRIMs, TRIPs, And commodity agreement.
			CO 5	Student will understand the role and function of global culture and its sensitivity.
TYBB(I B)	IB- 502	International Business Law	CO 1	Student will understand the basic concept of international economic laws.
			CO 2	Learn about the role and function of various interactional institutions with respect Students internal economic laws.
			CO 3	Student will gain the knowledge of various models of governing international trade.
			CO 4	Students Will understand about the international court of justice.
			CO 5	Student will learn about the role and function of Indian government bodies promoting international trade.
TYBBA (IB)	IB- 503	Business Reporting & Analysis	CO 1	Student will understand the basic concept of Business reporting its scope and factors affecting on reporting.
			CO 2	Student will learn about the categorization and segmentation of business industries.
			CO 3	Student will understand Students analyze various parameters' of business

				industries.
			CO 4	Student will gain the knowledge about areas of business reporting and its analysis.
			CO 5	Student will learn about descriptive business analysis, its Student tools and techniques.
TYBBA (IB)	IB- 504	Foreign Exchange management	CO 1	Student will understand the foreign exchange its structure, basic of transaction and limitations.
			CO 2	Student will gain the knowledge about the exchange rate, convertibility of rupees etc.
			CO 3	Students will learn about foreign exchange market and payment system.
			CO 4	Students will understand the methods of exchange control.
			CO 5	Student will understand the descriptive features and provisions of FEMA.
TYBBA (IB)	IB- 505- A	International Marketing Management -I	CO 1	Student will understand the scope in international marketing.
			CO 2	Understand the concept of MNCs and TNCs.
			CO 3	Student will learn about the entry modes and market entry in international market.
			CO 4	Student will analyze various international distribution strategies.
			CO 5	Student will gain the knowledge about the product positioning and role of branding in international market.
TYBBA (IB)	IB- 505 B	International Financial Management -I	CO 1	Students will understand the basic functions of international financial system and institutions.
			CO 2	Students will gain the knowledge about the evolution about the international monetary system.
			CO 3	Student will learn about international financial institutions and credit rating agencies.
			CO 4	Students will able Students categories different types of bonds available in global capital market

			CO 5	Student will identify convergence of Indian accounting standards with IFRS.
TYBBA (IB)	IB-506-A	Legal Dimensions in International Marketing-II	CO 1	Student will understand the complexity of international trade law.
			CO 2	Student will learn about the principal of international business contract.
			CO 3	Student will gain the knowledge of the dispute settlement mechanism at international level.
			CO 4	Student will learn about provisions on anti-dumping.
			CO5	Student will analyze the legal and ethical issues in international marketing.
TYBBA (IB)	IB-506-B	Legal Dimensions in Financial Management -II	CO 1	Student will understand the fundamentals of the contract act 1872 and its essentials Students a contract.
			CO 2	Students will gain the knowledge about the discharge of contract and the consequences of breach of contract.
			CO 3	Students will learn about the fundamental statures and financial aspect of companies under the companies' act 2013.
			CO 4	Student will understand the various regulations governing foreign exchange transactions
			CO5	Student will understand about the fundamentals of foreign investment and taxation of foreign income.
			CO6	
SEMESTER VI				
TYBBA (IB)	IB-601	New Venture Creation and Start-up	CO 1	Student will understand the concept related Students entrepreneurship.
			CO 2	Student will gain the knowledge about the skill and ability desired by entrepreneur.
			CO 3	Student will learn about role responsibility opportunity of an entrepreneur.
			CO 4	Student will analyze requirement and sources while starting a new venture.
			CO 5	Student will get descriptive knowledge about creation of start-up and how Students prepare business plan.
TYBBA	IB-	International	CO	Student will understand basic concept of

(IB)	602	Project Management	1	international project management.
			CO 2	Student will understand role and functions of project manager.
			CO 3	Student will learn about the role of strategic planning in project management.
			CO 4	Student will gain the knowledge about the project planning and its limitations.
			CO 5	Students will learn about time cost and quality planning.
TYBBA (IB)	IB-603	Decision Making and Risk Management	CO 1	Student will understand the role and scope of decision making and risk management in organization.
			CO 2	Student will learn about the various tools and models of decision making.
			CO 3	Student will analyze the work place problem conflict and causes.
			CO 4	Student will able Students analyze decision making tools.
			CO 5	Student will gain the knowledge about the organization values in decision making and risk management.
TYBBA (IB)	IB-604	Management of Agree business and Agri exports	CO 1	Student will understand the structure and features of agro business.
			CO 2	Student will learn about the concept of contract farming.
			CO 3	Student will gain the knowledge about the classification and characteristics of agriculture marketing.
			CO 4	Student wills able Students categories of the role of commercial bank, the national bank, and co-operative banks RRBs, in agriculture sector.
			CO 5	Students will learn about how Students prepare marketing plan of agro export.
TYBBA (IB)	IB-605-A	International Service Management	CO 1	Student will understand the classification of international service sector.
			CO 2	Student will learn about the service marketing triangle.
			CO 3	Students will gain the knowledge about the 7ps in service marketing and service life cycle.
			CO 4	Student will analyze steps in service design, blueprinting and service mapping.

			CO 5	Students will analyze the service failures and recovery strategies
TYBBA (IB)	IB-605-B	International Human Resource Management	CO 1	Student will understand the basic concept of international HRM.
			CO 2	Student will gain the knowledge about the role, function, and significance of HRM.
			CO 3	Student will able differentiate the domestic and international HRM and its challenges.
			CO 4	Students will learn about the key aspect of work force recruitment and selection standards.
			CO 5	Students will learn about the performances management form a global dimension with their issues and challenges.
TYBBA (IB)	IB-606-A	Brand Management	CO 1	Students will understand about the Branding, Brand equity importance, challenges & opportunities.
			CO 2	Students will understand the basic concept of brand equity.
			CO 3	Students will gain knowledge about the competitive advantage through strategic positioning of brands.
			CO 4	Student will analyze the different brand image dimensions.
			CO 5	Student will learn about the methods of brand valuation brand licensing and global branding strategies.
TYBBA (IB)	IB-606-B	Cross Cultural Relationships	CO 1	Students will understand the basic work culture of different countries.
			CO 2	Students will gain the knowledge about the role of cross-cultural management.
			CO 3	Students will able Students analyze the cross- cultural process and its failures.
			CO 4	Students will learn about the conflict management with a cross- cultural audience.
			CO 5	Students will understand how Students manage Cultural teams and transitions.



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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of BBA-CA



Pune District Education Association's
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune- 411028
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Name of the Programme : BBA(CA)

Sr. No.	PO Number	Contents
1	Po1	Develop the career in Computer Application.
2	Po2	Demonstrate Conceptual grounding in computer usage as well as its practical business application will be provided.
3	Po3	Develop the programs in different languages and applications.
4	Po4	Use the knowledge of Software Testing apply it to validate system
5	Po5	Use the knowledge of Networking and apply to hardware configuration
6	Po6	Using different technologies like JAVA, VB, PHP, Dot Net etc and develop applications
7	Po7	To import practical skills and manage database, arrange database using relational Database.
8	Po8	To make industry ready resource.
9	Po9	Design and develop Web and Mobile based computer applications
10	Po10	An ability to gain knowledge on design and control strategy; techniques to secure information and adapt to the fast changing world of information technology needs.
11	Po11	Apply software engineering practices and strategies in software project and development using open source programming environment to deliver a quality product for business success.
12	Po12	Students should be able to apply modern practices and strategies in software project Development using open-ended programming environments to deliver quality product for business success in context with societal needs.

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Department of BBA (CA)
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune-28

[Signature]

Co-ordinator
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PRINCIPAL
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
 Hadapsar, Pune- 411028
 Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: BBA (CA)

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
FYBBA(CA)	CA-101	Business Communication.	Co1	Become adopt to communicate and write effectively.
			Co2	Developing and delivering effective presentations.
			Co3	Create awareness among students about Methods and Media of communication.
			Co4	To understand system and communication and their utility.
			Co5	Make students familiar with information technology and improve job seeking skills.
			Co6	To develop proficiency in how to write business letters and other communications in required.
FYBBA(CA)	CA-102	Principles of Management	Co1	Practice the process of management's four functions: planning, organizing, leading, and controlling.
			Co2	Evaluate leadership styles to anticipate the consequences of each leadership style.
			Co3	Understand the working of business organization.
			Co4	Describe the contributions of Frederick W. Taylor, Mayo and Ducker.
			Co5	Interpret and design the different forms of organization

			Co6	Apply the managerial functions in different business setup
FYBBA(CA)	CA-103	C programming	Co1	Improve upon a solution to a problem.
			Co2	Use different data types in a computer program.
			Co3	To understand the concept of Procedural Programming. Use the 'C' language constructs in the right way
			Co4	Understand the dynamics of memory by the use of pointers and Structures.
			Co5	Design programs involving decision structures, loops and Functions. Design, develop and test programs written in 'C'
			Co6	Analyze a given problem and develop an algorithm to solve the problem
			FYBBA(CA)	CA-104
Co2	To develop skills related with Database basic Concepts			
Co3	To Develop right understanding of various Data models			
Co4	To Understand the Programming in SQL and Implementation			
Co5	To Learn about Relational Database Designing.			
Co6	Understand the concept of data anomalies of un-normalized database, Normalization, normal form etc.			
FYBBA(CA)	CA-105	Statistics	Co1	To identify the power of excel spreadsheet in computing summary statistics.
			Co2	To understand the concept of various measures of central tendency and variation and their importance in business.
			Co3	To discuss the concept and

				applications of probability, probability distributions in real life situations.
			Co4	To understand simulations in business world and decision making.
			Co5	To develop skills related with basic statistical technique
			Co6	Develop right understanding regarding regression, correlation and data interpretation
FYBBA(CA)	CA-106	Lab Course based on 103 &104	Co1	Understanding foundation concepts of information and information processing in computer systems: a matter of information, data Representation, coding systems.
			Co2	Devise pseudo codes and flowchart for computational problems.
			Co3	Write, debug and execute simple programs in 'C'.
			Co4	To develop an ability/skill for creations, manipulation of data in databases through queries
			Co5	Create database tables in PostgreSQL.
			Co6	Write and execute simple, nested queries.
FYBBA(CA)	CA-107	Add-on(PPA)	Co1	Understanding of an algorithm and its definition. Understanding foundation concepts of information and information. Processing in computer systems: a matter of information, data Representation, and coding systems.
			Co2	Ability to write simple programs in C language by using basic Control structures (conditional, statements, loops, switches, branching, etc.).
			Co3	Ability to create a programmable

				model for a problem given. Understanding a function concept and how to deal with function Arguments and parameters.
			Co4	Ability to use pointers and pointer arithmetic in the simple cases. Basic knowledge of working with Arrays in C language.
			Co5	Understanding a defensive programming concept. Ability to handle Possible errors during program Execution.
			Co6	Elementary knowledge of programming code style.
SEMESTER II				
FYBBA(CA)	CA-201	Organizational Behavior & Human Resource Management	Co1	To define and explain the basic concepts of organizational behaviour and motivation
			Co2	To explain the essential concepts of organizational conflicts, resolution of conflicts through negotiation, change management and organizational development.
			Co3	To familiarize the various aspects of HR, to deal effectively with people resourcing and talent management and HR functions in an organization.
			Co4	To understand the concepts of HRD, its role and importance in the success of organization.
			Co5	To develop an understanding towards compensation management and industrial relations.
			Co6	To provide the students to analyse specific strategic human resources demands for future action.
FYBBA(CA)	CA-202	Financial Accounting	Co1	To help for preparing financial statements in accordance with appropriate standards.
			Co2	To interpret the business implications of financial statement

				information.
			Co3	To Employ critical thinking skills to analyse financial data as well as the effects of differing financial accounting methods on the financial statements.
			Co4	To effectively define the needs of the various users of accounting data and demonstrate the ability to communicate such data effectively, as well as the ability to provide knowledgeable recommendations.
			Co5	Acquire the knowledge in accounting, system of maintenance of accounts, journal, ledger, bill of exchange, and account current, average due date and bank reconciliation statement.
			Co6	Develop the analytical skills in accounting equation, preparation of trial balance and suspense account, normal loss in consignment. Analyzing the reasons for differences between pass book and cash book transactions in the Bank Reconciliation Statement
FYBBA(CA)	CA-203	Business Mathematics	Co1	Explain the concepts and use equations, formulae, and mathematical expressions and relationships in a variety of contexts
			Co2	Apply the knowledge in mathematics (algebra, matrices, calculus) in solving business problems
			Co3	Analyse and demonstrate mathematical skills required in mathematically intensive areas in Economics and business.
			Co4	Integrate concept in international business concepts with functioning of global trade

			Co5	Understand the use of equations, formulae, and mathematical expressions and relationships in a variety of contexts.
			Co6	Demonstrate critical thinking, modelling, and problem-solving skills in a variety of contexts.
FYBBA(CA)	CA-204	RDBMS	Co1	To understand concepts of RDBMS, learn about the advantages of RDBMS and different RDBMS products. To know about the relationships between application programs and RDBMS.
			Co2	To Understand basic building blocks of PL/SQL, Exception Handling, writing functions, Procedures, Triggers and Packages.
			Co3	To know about the advantages of concurrent execution, the concept of schedule and serializability, properties and states of transaction.
			Co4	To learn about Deadlock and how it can occur.
			Co5	To know different types of Failures.
			Co6	The concept of Locks and its use in Lock based Protocol, to understand the Recovery Techniques.
FYBBA(CA)	CA-205	Web Technology	Co1	To Study Internet basic and Internet Protocol (HTTP, FTP, IP) and HTTP Request message and HTTP Response message.
			Co2	To learn Planning and Publishing Website and Designing Effective Navigation
			Co3	To Understand HTML, List, Table, Frames, Embedding Audio, Video.
			Co4	To Understand the need for CSS, implement CSS.

			Co5	To Study Documents Object Model.
			Co6	To Study Array in JavaScript, learn Events handling in JavaScript's
FYBBA(CA)	CA-206	Lab Course based on 204 & 205	Co1	Write, debug and execute Advance programs in 'C'.
			Co2	Understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger views and embedded SQL.
			Co3	To learn HTML tags and JavaScript Language programming concepts and techniques.
			Co4	To develop the ability to logically plan and develop web pages.
			Co5	To learn to write, test, and debug web pages using HTML and JavaScript.
FYBBA(CA)	CA-207	Add-on(Advanced C)	Co1	Improve upon a solution to a problem.
			Co2	Use Structure and union data types in a computer program.
			Co3	To understand the concept of file programming. Use the 'C' language constructs in the right way
			Co4	Understand the arrays and vectors.
			Co5	Design programs involving arrays, pointers and develop and test programs written in 'C'
			Co6	Analyze a given problem and develop a coding in c programming to solve the problem

SEMESTER III

SYBBA(CA)	CA-301	Digital Marketing	Co1	Understanding basic concepts of E-commerce related to digital Marketing
			Co2	Identify SWOT analysis and use of various digital marketing tools
			Co3	To understand Case study and Exercise on various terms

			Co4	To understand Digital marketing for business purpose
			Co5	Explaining the SEO optimization
			Co6	Applying the different models of social marketing to solve the real world problems
SYBBA(CA)	CA-302	Data Structure	Co1	Understand the concept of dynamic memory allocation, data types, algorithms, asymptotic notation, ADTs.
			Co2	To learn linear data structures – lists, stacks, and queues
			Co3	To understand sorting, searching
			Co4	Student should be able to apply Tree and Graph structures
			Co5	Student should be able to efficiently implement different data structure
			Co6	To apply Tree and Graph structures
SYBBA (CA)	CA-303	Software Engineering	Co1	To understand system concepts.
			Co2	To identify the quality factor of McCall's for Software
			Co3	To apply the concepts of Software Engineering to design & Development of Software
			Co4	Distinguish between SDLC & Spiral Model to solve problems
			Co5	Describe the use of modules and system testing in solving the real world problems
			Co6	Students can apply the knowledge, techniques, and skills in the development of a software product.
SYBBA (CA)	304	PHP	Co1	Understand how server-side programming works on the web.
			Co2	Identify the PHP Basic Syntax and able to do programming
			Co3	Understanding POST and GET in form submission. How to receive and Process form submission data.
			Co4	Reading and writing cookies.

			Co5	Creating conditional structures and sorting data in arrays
			Co6	Create a database in php My Admin, Read and process data in a MySQL Database.
SYBBA (CA)	CA-305	Big Data	CO1	The students will be able to identify Big data and its Business Implications
			CO2	Student understand and able to develop analytical skills in current and developing areas of analysis statistics and machine learning.
			CO3	Student can be able to identify, develop and apply detailed analytical creative, problem solving skills.
			CO4	Course provides a comprehensive platform for career development and innovation to the student.
			CO5	nt able to understand concepts of Regression Analysis with its types
			CO6	Student able to understand Data manipulation and data visualization
			SYBBA(CA)	CA-306
CO2	Distinguish between linear and non-linear data structures using linked list			
CO3	Implement various kinds of searching and sorting technique and decide when to choose which technique.			
CO4	write PHP scripts to handle HTML forms			
CO5	Create PHP programs that use various PHP library functions and that manipulate file and directories			
CO6	Able to understand R programming, Decision making and loop control structures			
CO7	Apply the Vector, list, Array and			

				Matrices in R programming
			CO8	The students will learn practical application for how to implement different data structures to solve the problems.
SYBBA(CA)	CA-307	Environment Awareness	CO1	Provide an opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment
			CO2	To develop conscious towards a cleaner and better managed environment
			CO3	To reduce dependency on chemicals
			CO4	To built the models to sustain the environment
SEMESTER IV				
SYBBA(CA)	CA-401	Networking	Co1	To understand various network topologies and Network types
			Co2	To get information about IP addressing
			Co3	To understand about guided media such as twisted pair cable, coaxial cable, fiber optic cables.
			Co4	To Learn about standard Ethernet, fast Ethernet, Gigabit Ethernet, Ten-Gigabit Ethernet.
			Co5	To study about Hubs, Repeaters, Bridges, Switches, Routers and Gateways.
			Co6	To get knowledge of cryptography, Plain Text, Cipher Text, Encryption and Decryption
			Co1	To understand various network topologies and Network types
SYBBA(CA)	CA-402	Object Oriented Concepts through CPP	Co1	To study basic concepts, features, advantages and applications of OOP. And Input and Output Operator, Namespace, Manipulators, Variable, Data types and Keywords in C++.
			Co2	To study Concepts of Classes and

				Objects, understand about Access Specifier, Study Data Member and Member Functions, Friend Function and Friend Class.
			Co3	To understand Concepts of Constructors and Types of Contractors, Dynamic Constructor, multiple constructor in a class,
			Co4	To learn about different types of Inheritance, and learn about Virtual Base Class, Abstract class, derived class.
			Co5	To study about Compile time and run time polymorphism, function overloading, operator overloading.
			Co6	To learn about Unformatted I/O operations and Formatted console I/O operations and different File operations.
SYBBA (CA)	CA-403	Operating System	Co1	To understand about Operating System, Services provided by OS, Types of OS, Computer system architecture.
			Co2	To learn about System Structure, Process Management, CPU scheduling.
			Co3	To study Process Synchronization, Deadlock, Deadlock Prevention and Avoidance, Deadlock Detection.
			Co4	To learn about Memory Management, Address Binding, Dynamic Loading & Linking, Segmentation, Virtual Memory, Page replacement algorithms.
			Co5	To understand the concept of File System, Access methods, File structure, Free space management.
			Co6	To learn about I/O System, Application of I/O Interface, Kernel I/O Subsystem, Disk scheduling.
SYBBA (CA)	CA-	Advance	Co1	To Understand OOP's concept of

	404	PHP		visibility, inheritance and interface and examining classes and Object characteristics.
			Co2	To learn about processing forms, how to used sticky forms, how to set response headers and server Information.
			Co3	To understand concept of XML how php work with XML, XML Parser, study documents object model and XML extensions.
			Co4	To study the AJAX basic concepts and Asynchronous and Asynchronous communication between web client and web server.
			Co5	To understand model of web services tools and technologies used to unable web services core building block of web services and the basic steps of implementing a web service.
			Co6	To learn about PHP framework, MVC Architecture, understand Drupal or Joomla.
SYBBA (CA)	CA-405	Project	CO1	Demonstrate a sound technical knowledge of their selected project topic.
			CO2	Undertake problem identification, formulation and solution
			CO3	Design system solutions to complex problems utilizing a systems approach.
			CO4	Demonstrate how to control errors with exception handling
			CO5	Communicate with Customer to check the requirements.
SYBBA (CA)	CA-406	Lab Course based on 402,404(C++, Adv	CO1	To understand the concept of Object Oriented Programming. Use the 'C++' language constructs in the right way
			CO2	The students will learn practical

		PHP)		application for how to implement different data types, to solve the problems.
			CO3	Create C++ programs that for Classes and object, data members and function, Static data member and function, Friend function and Friend class.
			CO4	Te students will learn practical program of C++ for Inheritance, Polymorphism.
			CO5	Create PHP programs that use various PHP library functions and that manipulate file and directories
			CO6	Make your application secure by using built-in security features
			CO7	Create lightweight APIs using PHP web services
			CO8	Understand and implement object-oriented features of PHP programming
SYBBA (CA)	CA-407	Add-On (J-Query)	Co1	Understand the JavaScript language & the Document Object Model.
			Co2	To study Detect and respond to user actions.
			Co3	To learn Alter, show, hide and move objects on a web page.
SEMESTER V				
TYBBA(CA)	CA-501	Cyber Security	Co1	Interpret and forensically investigate security incidents. Develop and implement an incident response strategy.
			Co2	Implement identity and access management controls
			Co3	Develop policies and procedures

				to manage enterprise security risks.
			Co4	Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering vulnerabilities and training.
			Co5	Design, develop, test and evaluate secure software.
			Co6	Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure.
TYBBA(CA)	CA-502	Object oriented Software Engineering	Co1	Compare Different Process Models
			Co2	Formulate Concepts of Requirements Engineering and Analysis Modeling
			Co3	To Understand The Fundamental of Objects Oriented Design
			Co4	Apply Systematic Procedure For Software Design
			Co5	Find Error with Various Testing Techniques
			Co6	Evaluate Project Schedule Estimate Project Cost and Effort Required
TYBBA(CA)	CA-503	Core Java	Co1	Define the concepts of Object oriented programming in java
			Co2	Able to write programs using Java collection API as well as the java standard class library.
			Co3	Solve the inter-disciplinary applications using concept of inheritance
			Co4	Apply JDBC to provide a program level interface for communicating with DB using java programming
			Co5	Develop applets for web applications.
			Co6	Design GUI based applications
TYBBA (CA)	CA-504	Python	Co1	Define Python Syntax and semantics and use of Python Flow

				control
			Co2	Express proficiency in the handling of strings and function.
			Co3	Determine the methods to create and manipulate Python program by utilizing the data structure like list, dictionaries, tuple and sets.
			Co4	Identify the commonly used operation involving file system and regular expression.
			Co5	Explain the object oriented programming concept such as encapsulation, Inheritance and Polymorphism as used in Python.
			Co6	Develop application using built-in data structures "lists" and "dictionary".
TYBBA (CA)	CA- 505	Project	Co1	Students can express their ideas clearly and effectively, both verbally and in written form
			Co2	Students can work as a team to achieve common goals.
			Co3	Students are able to make links across different areas of knowledge to generate and develop
			Co4	Students are able to learn on their own, reflect on their learning and improve upon it.
			Co5	Evaluate ideas and Information related to the project.
			Co6	Apply the techniques to solve real world problems
TYBBA(CA)	CA- 506	lab course based on 503,504	CO1	Write Test and Debug Python Programs.
			CO2	Implement conditionals and loops for python program.
			CO3	Use functions and repeat compound data using Lists, Tuples and Dictionaries.
			CO4	List and use object oriented programming concept for problem solving.

			CO5	Write programs using java collection API as well as the Java standard class library.
			CO6	Solve the inter disciplinary application using the concept of Inheritance.
TYBBA(CA)	CA-507	IOT (Add-On)	CO1	To understand Technical aspects of Internet of things.
			CO2	To describe smart objects and IOT Architecture.
			CO3	To study and compare different Application protocols of IOT.
			CO4	To understand IOT platform using Arduino Uno.
SEMESTER VI				
TYBBA (CA)	CA-601	Recent Trends in IT	Co1	To introduce the concept of Artificial Intelligence, Data Mining, Data Warehousing and Spark
			Co2	To study about the basics of search and control strategies, Problem characteristics, space search and AI techniques.
			Co3	To know about the different Uninformed search strategies and Informed strategies, different Heuristic search Techniques, to apply search algorithms to real-world problems.
			Co4	To get information of OLAP and OLTP servers, Multidimensional Data Models, Various types of OLAP servers.
			Co5	Study the KDD process in details.
			Co6	To learn about Spark Installation, Apache Spark Architecture, RDD ,SQL and Data Frames KAFKA.
TYBBA (CA)	CA-602	Software Testing	Co1	List a range of different software testing techniques and strategies and be able to apply specific(automated) unit testing method to the projects
			Co2	Distinguish characteristics of structural testing methods

			Co3	Demonstrate the integration testing which aims to uncover interaction and compatibility problems as early as possible
			Co4	Discuss about the functional and system testing methods.
			Co5	Demonstrate various issues for object oriented testing.
			Co6	Discuss about the automation tools for testing
TYBBA (CA)	CA- 603	Advance Java	Co1	To learn about JDBC Architecture, JDBC Process and working with Resultset Interface.
			Co2	To understand concept in Life cycle of Thread and Implementation of Thread, Thread Priorities and Execution of Thread Application.
			Co3	To know about Java.net Package , Networking classes and Interfaces & implement TCP/IP based server and client
			Co4	To learn Session Tracking using Served and Life cycle of Served and JSP
			Co5	To understand Spring Architecture and MVC.
			Co6	To study Hibernate Architecture and Mapping Files.
TYBBA (CA)	CA- 604	Dot Net Framework	Co1	To learn about Form-based application, Web-based application and Web services.
			Co2	To study about Assemble multiple forms, modules and menus into working VB.NET.
			Co3	Understand variables and Data types, code decision and control structures.
			Co4	To understand concept of Read, Write, execute and debug C# application.
			Co5	Explain the three pillars of object oriented programming.
TYBBA	CA-	Project	Co1	Students are able to learn on their own, reflect on their learning and

(CA)	605			improve upon it
			Co2	Apply the techniques to solve real world problems
			Co3	Students can express their ideas clearly and effectively, both verbally and in written form
			Co4	Students can work as a team to achieve common goals.
			Co5	Students are able to make links across different areas of knowledge to generate and develop
TYBBA (CA)	CA-606	Computer Laboratory Based on 603 and 604	Co1	To learn about JDBC Architecture, JDBC Process and working with Resultset Interface.
			Co2	To know about Java.net Package , Networking classes and Interfaces & implement TCP/IP based server and client
			Co3	To understand concept in Life cycle of Thread and Implementation of Thread, Thread Priorities and Execution of Thread Application.
			Co4	To study about Assemble multiple forms, modules and menus into working VB.NET
			Co5	To learn about Form-based application, Web-based application and Web services.
TYBBA (CA)	CA-607	Add on Course-Soft Skills	Co1	To Improve Effectively communicate through verbal/oral communication and improve the listening skills
			Co2	Write precise briefs or reports and technical documents
			Co3	Actively participate in group discussion / meetings / interviews and prepare & deliver presentations
			Co4	Become more effective individual through goal/target setting, self motivation and practicing creative thinking.


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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Botany



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Department of Botany
Programme Outcomes (PO):

Knowledge outcomes:

After completing B.Sc. Botany Programme students will be able to:

PO1:	Demonstrate and apply the fundamental knowledge of the basic principles of major fields of biology
PO2:	Application of the knowledge to solve the issues related to plant sciences with the help of computer technology
PO3:	Conservation of endemic and endangered plant species by applying the knowledge .

Skill outcomes:

After completing B.Sc. Botany Programme students will be able to:

PO4	Disseminate knowledge by effective collaboration on team-oriented projects in the field of life sciences.
PO5	For creating the scientific temperament, communication of scientific information in a clear and concise manner both orally and in writing
PO6	By explaining the exact role of individual in Biodiversity conservation, climate change and plant pathology, inspire individuals to do some efforts in the same direction.
PO7	Improve the understanding of the individuals by applying the knowledge of Biotechnology, Ecology, Genetics and Plant breeding techniques in plant sciences
PO8	Create interest in individuals by applying the knowledge of Medicinal and Economic botany in to their day to day life.
PO9	For the conservation of nature apply the knowledge to develop the sustainable and eco-friendly technology in Industrial Botany

Generic outcomes:

Students will

PO10	Developed the various soft skills in the students by their critical reasoning, judgment and communication skills.
PO11:	Created awareness about the recent developments in the field of Molecular and cell Biology, Biotechnology, Computational Botany and relevant fields of research and development.
PO12	Inspired students from scientific for developing a research culture and Implementation the policies to tackle the burning issues at global and local level.


Head

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Name of the Programme: B.Sc. Botany

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
F.Y. BSc.	111	Plant Life and Utilization - I	CO1	Outlining and defining of general characters of cryptogams and phanerogams. cryptogams (Lower and Higher) and phanerogams (Gymnosperms and Angiosperms)
			CO2	Defining the general characters of Algae , Classification of group algae and their utilization w.r.t. Biofuel Industry, Agriculture, Pharmaceuticals, food and fodder.
			CO3	Describing and sketching the Life cycle of plant forms Algae: <i>Spirogyra</i>
			CO4	Defining the general characters of lichens, lichen forms and their utilization
			CO5	Defining the general characters of Fungi, Classification of group fungi and their utilization w.r.t. Industry, Agriculture, food and Pharmaceuticals.
			CO6	Describing the Life cycle of plant forms- Fungi : <i>Agaricus bisporous</i>
			CO7	Defining the general characters of Bryophytes, Classification of group Bryophytes and their utilization w.r.t. Ecological indicators, fuel Industry, Agriculture and medicine.
			CO8	Describing the Life cycle of plant forms- Bryophytes : <i>Riccia</i>
F.Y. BSc.	112	Plant Morphology and Anatomy	CO1	Defining Morphology and its type, importance w.r.t. Identification, nomenclature, classification, phylogeny and Plant breeding.
			CO2	Discussing the morphology of reproductive parts of plants w.r.t. inflorescence : its types and significance
			CO3	Discussing morphology of reproductive parts

				of plants w.r.t. Flower: Floral whorls - Calyx, Corolla and Perianth
			CO4	Discussing morphology of reproductive parts of plants w.r.t. Flower: Floral whorls - Androecium and Gynoecium.
			CO5	Discussing definition and different types of Fruits
			CO6	Defining Anatomy and its importance in different branches of botany.
			CO7	Explaining the plant tissues w.r.t. Types structure and functions.
			CO8	Describing anatomy of Monocot and dicot plants w.r.t. root, stem and leaf
F.Y. BSc.	113	PRACTICALS BASED ON BO 111 & BO 112	CO1	Categorizing the living forms of Cryptogamic and Phanerogamic plants.
			CO2	Explaining the Life Cycle of <i>Spirogyra</i>
			CO3	Explaining the Life Cycle of <i>Agaricus</i>
			CO4	Explaining the Life Cycle of <i>Riccia</i>
			CO5	Demonstrating the methods of cultivation of mushrooms
			CO6	Recognizing type of inflorescence
			CO7	Elucidating the floral parts and recognize types of fruits
			CO8	Categorizing the plants into Monocot and Dicot on the basis of anatomical characters of Root, Stem and Leaf.
SEMESTER II				
F.Y. BSc.	121	Plant Life and Utilization - II	CO1	Illustrating plant diversity with reference to vascular plants
			CO2	Defining general characters of Pteridophytes and explain Classification of group Pteridophytes
			CO3	Describing the Life cycle of plant forms Pteridophytes - <i>Nephrolepis</i>
			CO4	Defining general characters of gymnosperms, Classification of group gymnosperms
			CO5	Describing the Life cycle of plant forms - gymnosperms : <i>Cycas</i>
			CO6	Defining general characters of Angiosperms and explain Outline of classification of Bentham and Hooker's system
			CO7	Annotating comparative account of monocotyledons and dicotyledons.
			CO8	Explaining Utilization and economic importance of Pteridophytes , Gymnosperms and Angiosperms
F.Y. BSc.	122	Principles of Plant Science	CO1	Defining the plant physiology and molecular biology and its scope of
			CO2	Defining the different physiological phenomenon viz. Diffusion, osmosis, Plasmolysis and Explain its type

				and significance
			CO3	Examining the Plant growth w.r.t. phases of growth, factors affecting growth
			CO4	Discussing plant cell and differences between prokaryotic and eukaryotic cell.
			CO5	Discussing plant cell wall and chloroplast structure and function.
			CO6	Describing Cell cycle in plants and Illustrate different stages of mitosis and meiosis.
			CO7	Explaining the structure of DNA and RNA and its type
			CO8	Explaining the types of chromosomes and process of DNA replication
F.Y. BSc.	123	Practicals Based on BO 121 & BO 122	CO1	Finding the living forms of Cryptogamic and Phanerogamic plants.
			CO2	Explaining the life Cycle of Nephrolepis and prepare slides
			CO3	Explain Life Cycle of Cycas and prepare slides
			CO4	Categorizing Dicotyledonous and Monocotyledonous plants on the basis of external morphological characters.
			CO5	Differentiating usage of Angiospermic plants for food, fodder, fibers, horticulture and medicines
			CO6	Commenting prokaryotic and eukaryotic plant cell
			CO7	Diagnosing the different stages of mitosis and meiosis
			CO8	Demonstrating physiology experiments like Chlorophyll estimation, DPD, Osmosis, Plasmolysis
SEMESTER III				
S.Y. B.Sc.	231	Taxonomy of Angiosperms and Plant Ecology	CO1	Defining plant taxonomy and highlighting the taxonomic related concepts w.r.t scope, objectives and importance of taxonomy, historical background, Exploration, Description, Identification, Nomenclature and classification,
			CO2	Explaining different classification systems of angiosperms like Artificial system (by Carl Linnaeus), Natural system- (by Bentham and Hooker), Phylogenetic system (by Engler and Prantl) and APG system (brief review)
			CO3	Explaining plant families with examples.
			CO4	Preparing Floral formula and floral diagram
			CO5	Determining Botanical Nomenclature of angiosperm plants.
			CO6	Defining ecology and different concepts
			CO7	Explaining hotspots and diversity concept with types

			CO8	Categorizing the ecological plant groups with examples
S.Y. B.Sc.	BO 232	Plant Physiology	CO1	Defining and explain Scope and applications of plant physiology
			CO2	Explaining processes of absorption of water in plants.
			CO3	Explaining processes of absorption of ascent of sap in plants.
			CO4	Defining and explaining transpiration in plants
			CO5	Explaining Nitrogen metabolism process, types and role; Importance and production technique of BGA
			CO6	Explaining concept of Denitrification, ammonification and nitrification; Reductive amination and transamination
			CO7	Defining and explain Seed dormancy and germination
			CO8	Explaining Physiology of flowering w.r.t. photoperiodism mechanisms and application ; Phytochrome theory and its role; Mechanism of Vernalization
S.Y. B.Sc.	233	Practical based on BO 231 & BO 232	CO1	Annotating different tools of taxonomy and ecological instruments and explain its use
			CO2	Defining the botanical terms to identify the plant families.
			CO3	Explaining and Identify the plant families
			CO4	Sketching the floral diagram of plants belonging to specific families.
			CO5	Explaining and locating ecological adaptations in Hydrophytes and Xerophytes
			CO6	Determining frequency, abundance and density of Vegetation by list count quadrat method
			CO7	Experimenting physiological experiments viz. LPC, DPD, rate of transpiration
			CO8	Estimating phytochemical test for starch and protein
SEMESTER IV				
S.Y. B.Sc.	BO 241	Plant Anatomy and Embryology	CO1	Defining terms associated to plant Anatomy, Embryology
			CO2	Explaining various tissue systems in plants viz. epidermal, mechanical and vascular.
			CO3	Commenting the Principles involved in distribution of mechanical tissues
			CO4	Explaining the process of normal and abnormal secondary growth in plants.
			CO5	Defining embryology and its scope
			CO6	Elucidating the Structure and development process of Microsporangium and male gametophyte
			CO7	Elucidating the Structure and development process of Megasporangium and female

				gametophyte	
S.Y. B.Sc.	BO 242	Plant Biotechnology	CO8	Finding process of Pollination and Fertilization; types of Endosperm and embryo	
			CO1	Defining the terminologies related to plant biotechnology and recognize Scope importance and Current status of plant biotechnology	
			CO2	Defining Plant Tissue Culture and describe Concept, Basic techniques	
			CO3	Elucidating applications of Plant Tissue Culture	
			CO4	Structuring the production and importance of Single cell proteins.	
			CO5	Annotating Application of plant genetic engineering and its Applications in crop improvement.	
			CO6	Interpreting the concept of Genomics, Proteomics and Bioinformatics	
			CO7	Summarizing the concept of Bioremediation	
S.Y. B.Sc.	BO 243	Practical based on BO 241 & BO 242	CO8	Defining Biofuel technology and explain Concept and types	
			CO1	Identifying epidermal tissues in plants and explain its function and structure	
			CO2	Categorizing mechanical tissues and their distribution in root, stem and leaves	
			CO3	Interpreting the normal / anomalous secondary growth in plant and developed slide preparation skill	
			CO4	Identifying and explaining structure of gamete producing organs and differentiate types of embryo	
			CO5	Identifying Instruments/equipment used in plant tissue culture laboratory and explain its uses	
			CO6	Demonstrating media preparation and its sterilization for tissue culture	
			CO7	Demonstrating various culture procedure for tissue culture	
				CO8	Demonstrating cultivation of <i>Spirulina</i> and practical on transgenic crops
SEMESTER V					
T.Y.B.Sc.	BO 351	Cryptogamic Botany (Algae and Fungi)	CO1	Defining Lower Cryptogams. Describe Thallus Organization of Cryptogams.	
			CO2	Explaining Algae And Its General Characters, Distribution, Thallus Organization, Habit And Habitat Reproduction	
			CO3	Discussing The Study Of Life Cycle of Algae With Reference To Taxonomic Position.	
			CO4	Commenting on Economic Importance of Algae and Its Role In Industry, Agriculture, Fodder And Medicine.	
			CO5	Describing Fungi and Its General Characters, Habit and Habitats, Thallus Organization, Cell Wall	

				Composition And Classification.
			CO6	Studying Of Life Cycle Of Fungi With Reference To Taxonomic Position
			CO7	Defining Symbiotic Associations
			CO8	Commenting on Lichens, Mycorrhiza And Their Significance
T.Y.B.Sc.	BO 352	Archegoniate-2	CO1	Defining Archegoniate
			CO2	Categorizing general characters, distribution of Bryophytes to land habit, classification of Bryophytes according to G.M. Smith (1955) up to classes with reasons
			CO3	Discussing range of thallus organization, origin of Bryophytes - Pteridophytes and Algal hypothesis, evolution of sporophyte.
			CO4	Explaining Study of Life Cycle of Bryophytes
			CO5	Defining Vascular Cryptogams, General characteristics, Classification. Explain Ecological and Economical Importance of Pteridophytes
			CO6	Defining resemblances of Pteridophytes with Bryophytes, Differences between Pteridophytes and Bryophytes Algal and Bryophytes, Evolution of Pteridophytes- with Telome and Enation Theory.
			CO7	Discussing Study of Life Cycle of Pteridophytes
			CO8	Enlisting Ecological and Economical Importance of Pteridophytes
T.Y.B.Sc.	BO 353	Spermatophyta and Palaeobotany	CO1	Defining Origin of angiosperms with reference to time, place and ancestry
			CO2	Explaining Speciation & Endemism Species Concept
			CO3	Discussing Classification with its Outline, Merit and Demerits of Cronquist's System and Study of families.
			CO4	Defining Herbaria and Botanical Gardens
			CO5	Categorizing Introduction, general characters, economic importance and classification According to Chamberlain (1934).
			CO6	Discussing Study of life cycle of <i>Pinus</i> and <i>Gnetum</i>
			CO7	Defining Fossil and process of fossil formation
			CO8	Explaining types of fossils.
T.Y.B.Sc.	BO 354	Plant Ecology	CO1	Defining Ecology and interrelationship between the living world and the Environment, levels, concept.
			CO2	Explaining Biogeography and its type.
			CO3	Discussing Population ecology: Definition, characteristics, population growth form, and k selection.
			CO4	Estimating the Community ecology: Introduction and Definition, community structure, physiognomy, Raunkiaer's life form classification, keystone species, edge and ecotone.
			CO5	Illustrating various Biogeochemical cycles
			CO6	Applying Environmental Impact Assessment in ecology.
			CO7	Evaluating the Environmental Audit.
			CO8	Explaining data analysis of remote sensing

T.Y.B.Sc.	BO 355	Cell and Molecular Biology		technique.
			CO1	Defining terminologies related to cell and molecular biology.
			CO2	Discussing the dynamics of plant cell structure and function
			CO3	Describing Nucleus and chromosomes.
			CO4	Describing DNA replication, Transcription and Translation.
			CO5	Explaining the concepts as well as mechanisms of damage and repair.
			CO6	Explaining gene action and regulation (concept of operon, its structure and regulation).
			CO7	Interpreting the genomic organization and its role in gene expression
T.Y.B.Sc.	BO 356	Genetics	CO8	Analyzing Translation Definition, concept and properties of genetic code, molecular mechanism of translation.
			CO1	Defining the terminologies of Genetics and its applications.
			CO2	Describing the concept of Mendelism
			CO3	Discussing the Interactions of genes.
			CO4	Explaining the Concept, Characters and Examples of multiple alleles.
			CO5	Determining Linkage, Recombination and Crossing Over
			CO6	Defining Mutation: Concept, definition and types
			CO7	Describing the Euploidy, Aneuploidy and chromosomal aberrations.
T.Y.B.Sc.	BO 357	Practical based BO351 and BO352	CO8	Summarizing Structural alterations of chromosomes.
			CO1	Recognizing Algae and Fungi with respect to systematic position, thallus structure and reproduction with suitable examples..
			CO2	Recognizing Bryophytes with respect to systematic position, structure of gametophyte, anatomy of thallus, structure of Sporophytes, reproduction
			CO3	Performing the Study of Sporophyte evolution in Bryophytes with the help of permanent slides.
			CO4	Demonstrating the Study of <i>Psilotum</i> with respect to Taxonomic position, Morphology of sporophyte, anatomy and reproductive structure
			CO5	Performing Study of <i>Selaginella</i> with respect to Taxonomic position, Morphology of sporophyte, Anatomy and reproductive structures.
			CO6	Demonstrating the Study of <i>Equisetum</i> with respect to taxonomic position, Morphology of Sporophyte, anatomy and reproductive structure
			CO7	Demonstrating Study of Stele evolution in Pteridophytes with the help of permanent slides
T.Y.B.Sc.	BO 358	Practical based BO353 and BO354	CO8	Botanical Excursion and submission of Tour Report with Photographs is compulsory.
			CO1	Identifying the plant families.
			CO2	Demonstrating Botanical keys by using vegetative and reproductive characters
			CO3	Illustrating gymnosperms - <i>Gnetum</i> and <i>Pinus</i> .
			CO4	Recognizing the fossil forms with help of slides

				and specimens.
			CO5	Performing Calculate polluted water body with ref. to BOD
			CO6	Demonstrating the physicochemical properties of water body by using Sacchi disc, pH meter and electric conductivity meter.
			CO7	Judging Acquisition of ecological data of particular locality by using GPS/ altimeter/geographical maps etc
			CO8	Explaining Study of suitable ecosystem by line/belt transect method/ nested quadrat Method
T.Y.B.Sc.	BO 359	Practical based on BO355 and BO356	CO1	Demonstrating cytological techniques like mitosis and meiosis as well as plant physiology practical
			CO2	Performing Study of various stages of mitosis and meiosis 01 4 Induction of C metaphase in suitable plant material
			CO3	Demonstrating Isolation of plant genomic DNA by suitable method. Estimation of Plant DNA by DPA method
			CO4	Calculating the monohybrid and dihybrid crosses with suitable data and its Analysis by Chi-Square test.
			CO5	Testing the monohybrid and dihybrid crosses with suitable data and its Analysis by Chi-Square test. Induction of tetraploidy in onion root cells and preparation of squash for observation of tetraploid cells
			CO6	Estimating the Preparation of salivary gland chromosomes in Chironomous larvae. Study of human genetic traits viz. PTC taste sensitivity, earlobe and rolling tongue, height, Skin colour, Hair colour, Eye colour in known population
			CO7	Testing Genetic problems on gene mapping using three point test cross data. Study of structural heterozygotes in Rhoeo.
			CO8	Calculating the Problems on quantitative inheritance. Problems on Multiple Alleles.
			T.Y.B.Sc.	BO 3510
CO2	Defining Definition and Scope of Indigenous Medicinal Sciences;			
CO3	Explaining concept of Ayurvedic Pharmacy.			
CO4	Recognizing drug adulteration, methods of extraction and evaluation.			
CO5	Discussing the process of Conservation of endangered and endemic medicinal plants			
CO6	Recognizing medicinally important drugs.			
CO7	Explaining principles and scope of ethnic societies in India.			
CO8	Describing the methods in Analytical Medicinal Botany.			
T.Y.B.Sc.	BO 3511	Plant Diversity and Human Health	CO1	Defining plant diversity and its scope
			CO2	Discussing Agro-biodiversity
			CO3	Evaluating the loss of Biodiversity
			CO4	Discussing management of plant diversity
			CO5	Discuss methodology for IUCN,

				UNEP, UNESCO, WWF, NBPGR
			CO6	Summarizing conservation of biodiversity
			CO7	Summarizing Role of plants in relation to Human Welfare.
			CO8	Discussing Important fruitcrops their commercial importance. Wood and its uses
SEMESTER VI				
T.Y.B.Sc.	BO 361	Plant Physiology and metabolism	CO1	Defining mineral nutrition and its elements.
			CO2	Classifying different photosynthetic pathways and their significance
			CO3	Explaining respiration and its mechanism.
			CO4	Discussing stomatal biology
			CO5	Explaining the role of resolving power of photosynthesis
			CO6	Explaining mechanism of translocation in phloem
			CO7	Summarizing plant growth regulators
			CO8	Evaluating the term of Photomorphogenesis
T.Y.B.Sc.	BO 362	Biochemistry	CO1	Explaining Description foundation of Biochemistry and classification of biomolecules.
			CO2	Discussing term Water- The solvent of life
			CO3	Summarizing the Amino acids and proteins and Commercial applications.
			CO4	Defining Enzyme and its properties and mechanism
			CO5	Contrasting factors affecting enzyme activity.
			CO6	Distinguishing Carbohydrate and its Classification, function and uses.
			CO7	Elaborate Lipids and its Classification, function and uses.
			CO8	Elaborating Vitamins and its Classification, function and uses.
T.Y.B.Sc.	BO 363	Plant Pathology	CO1	Defining terminologies related plant diseases.
			CO2	Discussing Disease Development Concept of disease cycle and
			CO3	Defining Defense mechanism concept
			CO4	Summarizing Methods of Studying Plant Diseases.
			CO5	Evaluating the disease cycle of diseases caused by fungi, Bacteria, nematode, viruses
			CO6	Evaluating brief study of Mycoplasma and non-parasitic Disease
			CO7	Applying wide spectrum control measures for plant diseases
			CO8	Justifying molecular techniques to control the plant diseases
T.Y.B.Sc.	BO 364	Evaluation and Population genetics	CO1	Defining terminologies related to Evolution.
			CO2	Discussing various Theories of Evolution,
			CO3	Justifying Evidences of Evolution w.r.t. various aspect.
			CO4	Summarizing Evolution Through Fossils and fossilization
			CO5	Discussing Geological Time scale
			CO6	Elaborating Population Genetics and Evolution
			CO7	Defining Speciation in detail
			CO8	Programming various Isolating Mechanisms
T.Y.B.Sc.	BO 365	Advanced	CO1	Commenting biotechnology Traditional and

		Plant Biotechnology		modern Impact on Health care, Agriculture, and Environment
			CO2	Experimenting Plant Tissue Culture techniques.
			CO3	Explaining the concept and technique of Genetic Engineering
			CO4	Describing the concept of gene transfer in Plants
			CO5	Explaining application of cryopreservation and Germplasm Conservation
			CO6	Presenting the method of Microbial Biotechnology
			CO7	Describing the concept of Transgenic Plants as Bioreactors.
			CO8	Defining concept of Nano- Biotechnology and its application.
T.Y.B.Sc.	BO 366	Plant Breeding and seed technology	CO1	Defining plant breeding and hybridization
			CO2	Describing conventional techniques, methods and practices of breeding.
			CO3	Defining concept of Seed technology and seed legislation
			CO4	Summarizing the mechanisms of Seed sampling, storage and packaging.
			CO5	Analyzing general procedure of seed certification
			CO6	Explaining the seed Testing and Seed marketing.
			CO7	Defining the term seed pathology and seed entomology
			CO8	Summarizing the mechanisms of storage and packaging.
T.Y.B.Sc.	BO 367	Practical based on BO361 and BO362	CO1	Determining of osmotic potential of plant cell sap by plasmolysis method
			CO2	Calculating of stomatal index and stomatal frequency of a mesophyte and aXerophyte. Demonstrate the activity of catalase and study the effect of pH and enzyme concentration
			CO3	Evaluating study the effect of light intensity and bicarbonate concentration on O ₂ Evolution in photosynthesis.
			CO4	Performing Comparison of the rate of respiration in any two parts of a plant.Separation of amino acids by paper chromatography.
			CO5	Estimating of total free amino acids by spectrophotometry
			CO6	Separating of amino acids by paper chromatography.
			CO7	Estimating of soluble proteins by Lowery et. al. method.
			CO8	Demonstrating of Enzyme activity: Amylase /invertase /catalase
T.Y.B.Sc.	BO 368	Practical based on BO363 and BO364	CO1	Performing Preparation of any one culture media for isolation of plant pathogens. Culture technique- Streak plate methods, pour plate methods, Spread platemethods.
			CO2	Demonstrating Study of any two of fungal bacterial and mycoplasma, viral and non-parasitic diseases
			CO3	Examining Preparation of 1% Bordeaux mixture and Bordeaux paste 10%. Jivamruta
			CO4	Explaining Study of Koch's Postulates.Study of Fungicides and Microbial pesticides
			CO5	Detecting Study of Geological time scale and

				Study of types of Fossils
			CO6	Calculating Numerical Problems based on Allele frequency and Genotype frequency Numerical Problem based on Hardy-Weinberg Equilibrium
			CO7	Predicting Study of Sympatric and Allopatric speciation with suitable example. Study of Isolation mechanism
			CO8	Submission of Report on Visit to Paleobotany Laboratory/Museum/Fossil Garden
T.Y.B.Sc.	BO 369	Practical based on BO365 and BO366	CO1	Performing Preparation and sterilization of MS Medium and Callus Induction using leaf primordial. Production of secondary metabolites in any suitable plant material
			CO2	Executing Demonstration to equipments used in genetic engineering Study of Transgenic plants
			CO3	Annotating Effect of chemical mutagens on seed germination and seedling growth. Study of pollen viability and floral morphology of crops
			CO4	Solving To test seed moisture by hot air oven method. To study germination methods
			CO5	Demonstrating to Fermentation of fruit juice and wine production from grapes/pomegranate/jamun/ apple/ber
			CO6	Calculating Problems on genetic engineering Demonstration of Hybridization Techniques
			CO7	Judging Physical purity analysis of seed sample. Visual examination of dry seeds for disease symptoms To study any one common seed insect pest w.r.t to their life cycle, way of infestation/damage, symptoms and control measures
			CO8	Visit to a Plant Breeding Research Centre/ Seed Industry and reports submission
T.Y.B.Sc.	BO 3610	Nursery and Gardening Management	CO1	Defining Nursery: definition, objectives and scope
			CO2	Elaborating building up of infrastructure for nursery
			CO3	Defining Seed Structure and types
			CO4	Discussing Seed dormancy, Seed storage Seed banks, factors affecting seed viability
			CO5	Elaborating method of vegetative propagation
			CO6	Defining concept gardening and its types
			CO7	Discussing various gardening operations
			CO8	Explaining different vegetables cultivation, storage and marketing procedure.
T.Y.B.Sc.	BO 3611	Biofertilizers	CO1	Defining Biofertilizers, Scope and importance
			CO2	Discussing General account of the microbes used as Biofertilizers
			CO3	Explaining bacterial Biofertilizers
			CO4	Explaining Algal Biofertilizers
			CO5	Criticizing application of Blue green algae(BGA)
			CO6	Explaining fungal Biofertilizers
			CO7	Defining Compost and Manure
			CO8	Discussing Bio compost making methods and its Types


Head

Department of Botany
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Co-ordinator
IQAC Committee
Annasaheb Magar Mahavidyalaya,
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PRINCIPAL
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
Pune- 411028.



Programme & Course Outcome





Pune District Education Association's
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Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Chemistry



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: B.Sc. Chemistry

General

1. The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
2. It is expected to inspire and boost interest of the students towards chemistry as the major subject.
3. To impart practical skills and learn basics behind experiments.
4. To prepare background for advanced and applied studies in chemistry.
5. To inculcate the scientific temperament in the students and outside the scientific community.
6. To inculcate the scientific temperament in the students and outside the scientific community.
7. Use modern techniques, decent equipments and Chemistry softwares.

Program Outcomes (PO's)

PO1	Transfer and apply the acquired fundamental knowledge of chemistry and ability to explain the importance of the Periodic Table of the Elements
PO2	Apply and demonstrate knowledge of essential, concepts, laws, principles and theories related to chemistry and enabling the qualitative and quantitative analysis of given samples and able to make conclusions on it.
PO3	Set procedures and synthesize simple compounds of commercial importance also they can think critically and work independently.
PO4	Communicate effectively using graphical techniques, reports and presentations within a scientific environment and also ability to recognize problems in chemical science and make strategies to solve it.
PO5	Respond effectively to unfamiliar problems in scientific contexts.
PO6	Plan, execute, design experiment and make documentation of it, interpret data at entry level of chemical industry and report the results;
PO7	Integrate and apply these skills to study different branches of chemistry.
PO8	Able to apply logically appropriate analytical and approximation methods.


Head

Department of Chemistry
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Hadapsar, Pune-411028.



Co-ordinator
IQAC
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune-411028.



Principal
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Hadapsar, Pune-411028.



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Name of the Programme: B.Sc. Chemistry

Course Outcomes (CO's)	
F.Y.B.Sc . Chemistry Semester-I	
CH-101:Physical Chemistry [2Credit,36L]	
After successful completion of the course, students will acquire	
CO1	Understand basic concept of Thermodynamics, Chemical Equilibrium and Ionic equilibrium
CO2	Understand established theories, principles and concepts
CO3	Ability of reasoning and Critical thinking: Able to explain, discuss and describe concepts
CO4	Explain 3 rd law of thermodynamics, Van't Haff's Equation and its applications
CO5	Understand the concepts of common ion effect, hydrolysis constant, solubility product
CO6	Problem solving :To knowledge of Thermodynamics, Chemical equilibrium and Ionic equilibrium to solve Problems

CH-102: Organic Chemistry [2 credit,36 L]	
After successful completion of the course, students will acquire	
CO1	To understand the fundamentals, Principle and recent developments in the subject area.
CO2	To inspire and boost interest o the students towards Organic chemistry as the main subject.
CO3	To familiarize with current and recent developments in Chemistry.
CO4	To create foundation for research and developments in Chemistry
CO5	Learn functional group approach for aliphatic hydrocarbons
CO6	Aware and able to apply the fundamentals of stereochemistry

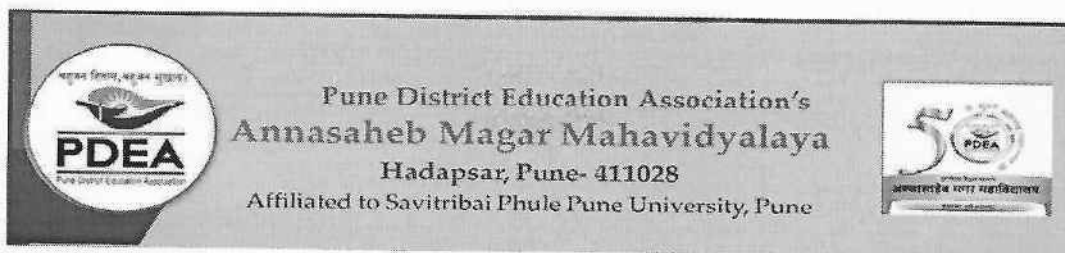
CH-103: Chemistry Practical-I [1.5 Credit, 54L]	
After successful completion of the course, students will acquire	
CO1	To know the importance of Chemical safety and lab safety in laboratory

CO2	Experimental verification and understanding concepts in thermochemistry, Chemical equilibrium
CO3	Experimental techniques of pH measurements and preparation of buffer solutions.
CO4	To understand elemental analysis and Identification technique-Chromatographic techniques of organic chemistry.
CO5	Use of paper chromatography as a technique for separation of mixture constituents.
CO6	Perform elemental analysis of organic compounds by non – instrumental methods


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Principal
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Hadapsar, Pune-411028.




Name of the programme: B.Sc.Chemistry

Course Outcomes (CO's)	
F.Y.B.Sc. Chemistry Semester- II	
CH-201:Inorganic Chemistry [2 Credit,36 L]	
After successful completion of the course, students will acquire	
CO1	History of quantum mechanics, different experiments and theories like black body radiation, photoelectric effect, Bohr's theory, Heisenberg Uncertainty principle.
CO2	What is periodicity of elements, writing correct electronic configuration of atoms by following different rules.
CO3	Long form of periodic table, different properties like ionization energies, effective nuclear charge, atomic radii in case of S and P block elements.
CO4	Different types of bonds, Born-Lande equation and Born-Haber cycle, Fajan's rule
CO5	Understand periodicity of elements
CO6	Understand various theories of chemical bonding

CH-202: Analytical Chemistry [2Credit,36 L]	
After successful completion of the course, students will acquire	
CO1	To understand the perspective of analytical Chemistry, preparation of solutions and its calculation.
CO2	To understand the Concept of molecular formula, empirical formula and stoichiometric calculation, Organic qualitative Analysis, Chromatography, pH meter its working and application.
CO3	Critical Thinking and ability of reasoning able to apply though to non stoichiometric calculations, chromatographic techniques and pH metery.

CO4	Problem Solving: able to solve problems based on stoichiometry, chromatography and pH metry.
CO5	Understand the theoretical back ground of paper and thin layer chromatography.
CO6	Acquire knowledge of analytical techniques of analysis.

CH-203: Chemistry Practical-II [1.5 Credit,54 L]	
After successful completion of the course, students will acquire	
CO1	Practical Skills and understanding of concepts in chemistry
CO2	Quantitative Analysis technique– Volumetric analysis
CO3	Preparation of Organic compounds and purification techniques
CO4	Synthesis of Inorganic compounds
CO5	Analyze commercial products from the market.
CO6	Quantitative techniques of organic and inorganic compounds.


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Name of the Programme: B.Sc. Chemistry

Course Outcomes (CO's)

S. Y. B. Sc. Chemistry (Semester-III)

CH-301: Physical and Analytical Chemistry [2Credit, 36L]

After successful completion of the course, students will acquire

CO1	Understand Basic concepts of chemical kinetics, surface chemistry, errors in quantitative analysis and volumetric analysis
CO2	Principle, Laws, assumptions and derivations related to chemical kinetics, surface chemistry, errors in quantitative analysis and volumetric analysis
CO3	Critical thinking ability–explanation and reasoning ability on topic learn
CO4	Apply volumetric methods of analysis to real problems in analytical chemistry
CO5	Define and explain concepts of accuracy, precision and other such terms.
CO6	Problem solving skills

CH-302: Inorganic and Organic Chemistry [2 Credit, 36 L]

After successful completion of the course, students will acquire

CO1	Understand Basic concepts of Molecular Orbital Theory, coordination-chemistry, Aromatic Hydrocarbon, Alcohol, Phenols and Ethers
CO2	Laws, Principles and theories related to Molecular Orbital Theory, coordination chemistry, Aromatic Hydrocarbon and Alcohol, Phenols and Ethers
CO3	Explain Werner's theory of co – ordination compounds
CO4	Understand the concept of EAN Rule
CO5	Critical Thinking and ability of reasoning related topic learn
CO6	Problem solving– problem related to analytical Chemistry

CH-303: Practical Chemistry [2 Credit, 72 L]

After successful completion of the course, students will acquire

CO1	Systematic working skills in laboratory will be imparted to the students
CO2	Set of experiments and preparation of solutions for the experiments
CO3	Perform organic and inorganic synthesis and confirm the outcome by suitable techniques.

CO4	Understand the systematic methods of identification of substances by chemical methods
CO5	Co- relate theory to experiments
CO6	Writing of laboratory reports and calculations.



Head

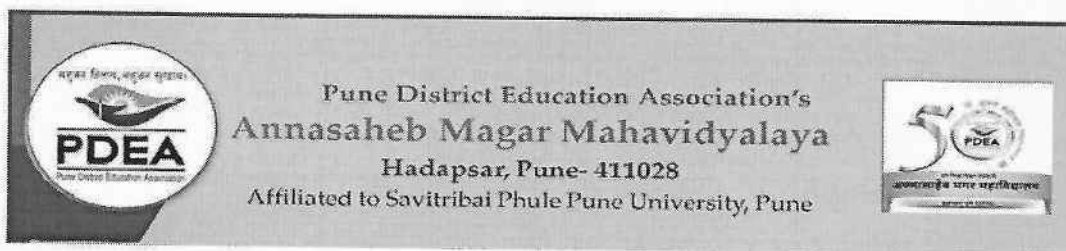
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Name of the Programme: B.Sc. Chemistry

Course Outcomes (CO's)	
S. Y. B. Sc. Chemistry (Semester-IV)	
CH-401: Physical and Analytical Chemistry [2 Credit,36 L]	
After successful completion of the course, students will acquire	
CO1	Define the terms and types in Phase Equilibrium, Ideal/Real Solutions, Conductometry, Colorimetry and Column Chromatography
CO2	Correlate different terms with each other and derive the equations related to Phase Equilibrium, Ideal and Real Solutions ,Conductometry, Colorimetry and Column Chromatography
CO3	Apply the knowledge of important equations to solve the problems
CO4	Explain the logical behavior of solution based on appropriate concepts
CO5	Apply Colorimetric method in the chemical analysis
CO6	Define various terms in conductometry

CH-402:Inorganic and Chemistry[2 Credit,36 L]	
After successful completion of the course, students will acquire	
CO1	Define the terms and types in Phase Equilibrium, Ideal/Real Solutions, Conductometry, Colorimetry and Column Chromatography
CO2	Correlate different terms with each other and derive the equations related to Phase Equilibrium, Ideal and Real Solutions, Conductometry,Colorimetry and Column Chromatography
CO3	Apply the knowledge of important questions to solve the problems
CO4	Explain the logical behavior of solution based on appropriate concepts
CO5	Explain different types of isomerism in co – ordination compounds
CO6	Principles of various theories of CFT, VBT

CH-403: Chemistry Practical-IV [2 Credit,72 L]

After successful completion of the course, students will acquire

CO1	Systematic working skills in laboratory will be imparted to the students
CO2	Experimental verification of theoretical principal and Laws
CO3	Skill of handling instruments -Conductometer, Colorimeter.
CO4	Analytical Skill for data treatment, Interpretation and conclusion.
CO5	Non – Instrumental techniques for analysis, Synthesis of compounds
CO6	Perform the quantitative chemical analysis of substances and explain principles behind it



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Name of the Programme: B.Sc. Chemistry

Course Outcomes (CO's)	
T.Y.B.Sc. Chemistry (Semester- V) CBCS - 2019 Pattern	
CH-501: Physical Chemistry [Credit -2, 36 L]	
After successful completion of the course, students will acquire	
CO1	Historical development of quantum mechanics, differences between classical and quantum mechanics, Various developments in quantum mechanics. Laws of Quantum mechanics. Comparison of classical and quantum mechanics
CO2	Schrodinger equation for 1D, 2D and 3D model, Nature of wave and its characteristics such as wavelength, wave number, frequency and velocity, Energy level diagram, Rotational spectra of rigid diatomic molecules, selection rules, nature of spectral lines, Born-Oppenheimer approximation factors affecting the quantum yield, Experimental method for the determination of quantum yield
CO3	Physical interpretation of the ψ and ψ^2 and sketching the wave function Difference between Rayleigh, Stokes and anti-Stokes lines in a Raman spectrum. Various photochemical phenomena like fluorescence and phosphorescence, Chemiluminescence
CO4	Understanding the operators: Position, momentum and energy, Draw the Stokes and anti-Stokes lines in a Raman spectrum, Pure rotational Raman spectra of diatomic molecules, Energy Expression, Selection rule, Rotational energy level diagram, Rotational Raman spectrum
CO5	Applications to conjugated systems, zero-point energy, Rotational energy level diagram, Rotational Raman spectrum, photocatalysis, photosensitization
CO6	Evaluating various Numerical.

CH-502: Analytical Chemistry- I [Credit -2, 36 L]	
After successful completion of the course, students will acquire	
CO1	Define basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis
CO2	Beers law, absorbance, transmittance, molar absorptivity, monochromator, wavelength of maximum absorbance, metal ligand ration, qualitative analysis.
CO3	Explain different principles involved in the gravimetry, spectrophotometry, parameters in instrumental analysis, qualitative analysis.
CO4	Perform quantitative calculations depending upon equations student has studied in the theory. Select particular method of analysis of analyte sample

CO5	Apply whatever theoretical principles he has studied in theory during practical session in laboratory.
CO6	Evaluating various Numerical.

CH-503: Physical Chemistry Practical - I [Credit -2, 73 L]

After successful completion of the course, students will acquire	
CO1	To develop the practical skill and knowledge of instrumental method like refractometry, conductometry, photo-fluorometry etc
CO2	To develop the practical skill and knowledge of non-instrumental analysis.
CO3	Understanding of non-instrumental techniques like Chemical kinetics, viscosity, adsorption
CO4	Handling of instruments like refractometry, conductometry, photo-fluorometry etc
CO5	Calculations and findings of molecular weight using viscometry.
CO6	Finding of relative strength of acids using conductometric titrations.

CH-504: Inorganic Chemistry- I [Credit -2, 36 L]

After successful completion of the course, students will acquire	
CO1	Understand the terms related to MOT, Co -ordination Chemistry
CO2	Understanding of Chemistry of F - Block and D block elements
CO3	Understanding the metals, semiconductors and superconductors
CO4	Understanding nephelauxetic Effect, electroneutrality principle and Charge transfer Spectra
CO5	Understand separation methods of lanthanides
CO6	Classification of the reactions of Co - ordination compounds

CH-505: Industrial Chemistry [Credit -2, 36 L]

After successful completion of the course, students will acquire	
CO1	Familiarize with chemical industries such as sugar, soap, dyes and pigments
CO2	Knowledge of sugar, fermentation, soap, detergent, dyes, paints
CO3	Manufacturing processes of sugar, soap, detergents
CO4	Understanding of basic chemicals, manufacturing process.
CO5	Synthesis, structure, properties and applications of Dyes
CO6	To know the various industrial aspects

CH-506: Inorganic Chemistry Practical – I [Credit -2, 73 L]

After successful completion of the course, students will acquire	
CO1	Systematic working skill in laboratory will be imparted in students.
CO2	To understand the concepts of volumetric, gravimetric analysis.
CO3	To understand various separation techniques.
CO4	To understand and perform purification and identification techniques.
CO5	To prepare inorganic complexes and spot tests for metal ions and ligands.
CO6	Qualitative and confirmatory tests of inorganic toxicants

CH-507: Organic Chemistry [Credit -2, 36 L]	
The student who successfully completes this course students will acquire:	
CO1	Understanding of classification, synthesis.
CO2	Understanding of reactions and functions of hetero nuclear compounds
CO3	To know and understand the methylene group.
CO4	Reactivity of methylene group
CO5	Understanding the nucleophilic substitution and elimination reactions
CO6	Familiarization with organic reagents and rearrangement


CH-508: Chemistry of Biomolecule [Credit -2, 36 L]	
After successful completion of the course, students will acquire:	
CO1	Understanding the molecular logic of life.
CO2	Familiarize with biochemistry and molecular biology
CO3	Understanding biomolecules such as proteins, carbohydrates
CO4	Understanding the bio molecules such as lipids, vitamins and hormones
CO5	Familiarize with enzymes, and biochemical techniques
CO6	Understanding the Mechanistic action of various bio molecules

CH-509: Organic Chemistry Practical – I [Credit -2, 73 L]	
After successful completion of the course, students will acquire:	
CO1	Systematic working skill in laboratory will be imparted in students
CO2	To know and understand the concepts qualitative analysis.
CO3	To understand techniques of drying and recrystallization techniques
CO4	To know the separation purification by making derivative techniques
CO5	To know the separation purification techniques for binary mixture.
CO6	To understand the importance of Green Chemistry


CH-510 (B): Polymer Chemistry [Credit -2, 36 L]	
After successful completion of the course, students will acquire:	
CO1	History of polymers,
CO2	Understanding the difference between natural, synthetic, organic and inorganic polymers.
CO3	Understanding of various terms in polymers, classification.
CO4	Understanding various processes of polymerization.
CO5	Advantages of polymers.
CO6	Role of polymer industry in economics.

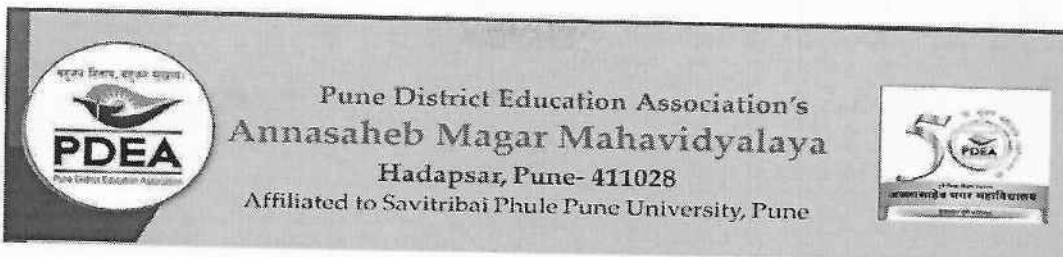
CH-511(A): Environmental Chemistry [Credit -2, 36 L]	
The student who successfully completes this course students will acquire:	
CO1	Understanding concepts and scope of Environmental Chemistry.

CO2	Understanding the various terms involved in environmental chemistry.
CO3	Analysis of Water
CO4	Water pollution and various treatment methods
CO5	Important bio – geo chemical cycles
CO6	Importance of conservation of environment


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Name of the Programme: B.Sc. Chemistry
Course Outcomes (CO's)

T.Y.B.Sc. Chemistry (Semester-VI) 2019 Pattern

CH-601: Physical Chemistry – II [Credit -2, 36 L]

After successful completion of the course, students will acquire:

CO1	Understanding the various electrochemical cells, Reversible and irreversible cells, Nerst Equation, various types of electrodes.
CO2	Applications of emf measurement, study of redox reactions, potentiometric titrations, primary and secondary cells and the use of secondary cell as battery, Fuel cells, types of fuel cells, advantages and disadvantages of fuel cells
CO3	Crystalline and amorphous solids, laws of crystallography, Weiss and Miller indices, Bravais lattice, Cubic lattice and its types
CO4	Crystal structure analysis, Bragg's equation, NaCl by Bragg's method, X ray analysis of NaCl and calculation of d and λ for a system.
CO5	Understand the concept of radioactivity, types of decay and type of radiations
CO6	Applications of radioactivity and numerical solving

CH-602: Physical Chemistry – III [Credit -2, 36 L]

After successful completion of the course, students will acquire:

CO1	To know the colligative properties of dilute solutions and their applications.
CO2	To study the solid-state reactions, their chemical kinetics and rate law
CO3	Electronic Structure of solids, cohesive energy of solids
CO4	Electronic Structure of metals, conductors, semi – conductors and insulators
CO5	To know the history, classifications and physical properties of polymers
CO6	Evaluating various Numericals

CH-603: Physical Chemistry Practical - II [Credit -2, 73 L]

After successful completion of the course, students will acquire:

CO1	To develop the practical skill and knowledge of instrumental and non – instrumental Techniques.
CO2	Develop skills in chemical kinetics, viscosity adsorption..
CO3	Potentiometric titration, redox reaction and estimations.

CO4	Understand the use of pH – metry.
CO5	Understand and of turbidometry.
CO6	Calculations and graph drawing.
CH-604: Inorganic Chemistry- II [Credit -2, 36 L]	
After successful completion of the course, students will acquire:	
CO1	Understanding of synthesis, reactivity and properties of organometallic compounds
CO2	Understanding the basics of catalysis
CO3	Familiarize with homogenous and heterogeneous catalysis
CO4	Understanding of basic concepts in Bioinorganic chemistry
CO5	Familiarization with the types of inorganic polymers, their synthesis, reactivity and properties.
CO6	Understand preparation of solids by various methods

CH-605: Inorganic Chemistry- III [Credit -2, 36 L]	
After successful completion of the course, students will acquire:	
CO1	Concept of acid base and their theories, properties.
CO2	To know the nature of solids, crystal structures of solids
CO3	Understanding of zeolites, types of zeolites and classification
CO4	Synthesis and structure of zeolites.
CO5	Basics of Nano particles, their properties
CO6	Applications of nano particles

CH-606: Inorganic Chemistry Practical – I [Credit -2, 73 L]	
After successful completion of the course, students will acquire:	
CO1	To develop the practical skill and knowledge of instrumental and non-instrumental Techniques.
CO2	Familiarize with volumetric analysis
CO3	Synthesis of nano particles
CO4	Understanding the various chromatographic techniques
CO5	Understanding Flame photometry and its use
CO6	Explain UV /Vis spectra

CH-607: Organic Chemistry –I [Credit -2, 36 L]	
After successful completion of the course, students will acquire:	
CO1	Introduction to Spectroscopic techniques.
CO2	Understanding Ultra violet/ Visible spectroscopy.
CO3	Understanding Infrared spectroscopy.
CO4	Understanding Nuclear Magnetic Resonance spectroscopy.

CO5	Solving combined problems on UV/Vis, IR, NMR Spectroscopy.
CO6	Understanding the concepts of stereochemistry.

CH-608: Organic Chemistry – III [Credit -2, 36 L]

After successful completion of the course, students will acquire:

CO1	Understanding of retrosynthesis, basic concepts and terminology.
CO2	Understanding of reaction mechanism in synthetic organic chemistry
CO3	Understanding the mechanism of Various rearrangements in organic chemistry.
CO4	To know and understand various synthetic reagents.
CO5	Understanding the Chemistry of naturally occurring compounds
CO6	Familiarization with alkaloids and terpenoids.

CH-609 : Organic Chemistry Practical-II [Credit -2, 73 L]

After successful completion of the course, students will acquire:

CO1	Systematic working skill in laboratory will be imparted in students
CO2	To know and understand the concepts quantitative analysis.
CO3	To know and understand interpretation of IR and NMR spectra
CO4	To know the principle of extraction techniques
CO5	To know the separation and purification of chromatographic techniques.
CO6	To understand use of NMR spectra for determine structure of compound

CH-610 (A): Chemistry of Soil and Agrochemicals [Credit -2, 36 L]

After successful completion of the course, students will acquire:

CO1	Understanding the molecular logic of life.
CO2	Familiarize with biochemistry and molecular biology
CO3	Understanding biomolecules such as proteins, carbohydrates
CO4	Understanding the bio molecules such as lipids, vitamins and hormones
CO5	Familiarize with enzymes, and biochemical techniques
CO6	Understanding the Mechanistic action of various bio molecules

**CH-611 (A): Analytical Chemistry - II
[Credit -2, 36 L]**

After successful completion of the course, students will acquire:

CO1	Solvent extraction terms,
CO2	Instrumental methods of chromatography, Van Deemter Equation
CO3	Introduction to HPLC, various terms and instrumental parts, analysis of Aspirin
CO4	Introduction to Gas Chromatography, Instrumentation and parts, Analysis using GC
CO5	Introduction to Atomic Absorption spectroscopy, various parts of instrument, Estimation of Ca and Mg from water.
CO6	Introduction to Flame Photometry, calibration Curve method, Trace analysis.


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Name of the Programme: M.Sc. Analytical Chemistry

Program Outcomes (PO's)	
M. Sc. Analytical Chemistry	
General	
PO1	The students will be able to understand the characterization of materials.
PO2	To improve the ability to define problems and find out its solution
PO3	Students will be able to understand the basic principle and handling of equipment's, instruments used in the chemistry laboratory and to demonstrate the experimental techniques and methods of their area of analytical Chemistry.
PO4	Select and apply suitable method of chemical analysis
PO5	Recognize the impact of soil, air and water pollutants in an environment
Subject specific	
PO6	Analyze problem, formulate a hypothesis, evaluate the results and draw reasonable conclusions.
PO7	To effectively use good laboratory practices and laboratory safety
PO8	Able to set up industrial unit related to chemical science.
PO9	Ability to develop knowledge and understanding of essential facts concepts, principle and theories in analytical chemistry
PO10	Skills in communicating scientific materials and arguments
Institutional	
PO11	To inculcate moral and ethical values and create social awareness.
PO12	To train manpower in accordance with global perspectives.

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Name of the Programme: M.Sc. Analytical Chemistry
Course Outcomes (CO's)


M. Sc.-I (Semester-I) 2019 Pattern	
CHP:- -110 Fundamentals of Physical Chemistry [Credit -4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To describe Kinetics of different orders of reaction and Kinetics of complex reaction.
CO2:	Understanding: To explain the basic Principles of classical and statistical thermodynamics.
CO3:	Applying: To determine the thermodynamics of mixtures and colligative properties.
CO4:	Analyzing: To categorize historical development of quantum mechanics and to find Schrodinger wave equation of particle in 1-d box.
CO5:	Evaluating: Predict the quantum mechanical based problems.
CHI:- -130 Inorganic Chemistry [Credit-4 , 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Student should identify the visualize/ imagine molecules in 3 dimensions.
CO2:	Understanding: To understand the elements of symmetry and should be able to apply symmetry elements and their operations on different molecules.
CO3:	Applying: They should be able to analyze and construct character table for a given point group.
CO4:	Analyzing: Students should know the concept of SALC.
CO5:	Evaluating: Predict the character table and SALC equation for different point groups.
CHO:- -150 Basic Organic Chemistry (Credit-4, 48L)	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To recall heterocyclic compound containing one and two hetero atoms with their structure, synthesis and reactions.

CO2:	Understanding: To understand some fundamental aspects of organic chemistry, to learn the concept aromaticity, to understand the various types of aromaticity.
CO3:	Applying: To determine stereochemistry of organic compounds; able to do interconversion of Fischer to Newmann, Newmann to Sawhorse and vice versa, Able to assign R and S to given molecules; understand stereoselective and stereospecific reactions; acquire knowledge on topicity.
CO4:	Analyzing: To discriminate structure, formation, stability and related name reaction of intermediates like Carbocation, Carbanion, Free Radical, Carbenes and nitrenes; Recognize neighboring group participation.
CO5:	Evaluating: Judge what type of reagent need for the organic Conversion
CHG-190: Introduction to solid state of matter [Credit 2,24 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Memorize the Bonding in solids – band theory.
CO2:	Understanding: To explain the Semiconductors, photoconductivity.
CO3:	Applying: To determine the Non-stoichiometry, defects and types of defects in solids.
CO4:	Analyzing: To analyze Ionic conductivity and their applications.
CO5:	Evaluating: Compare the different types of conductor
CHP-107: Practical Course-I - Basic Practical Chemistry-I [Credit -4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Describe the preparation of solution and calibration of the instrument according to respective practical's.
CO2:	Understanding: Differentiate the experiment of non-instrumental methods like chemical kinetics, viscosity, partial molar volume and steam distillation.
CO3:	Applying: Determine the concentration of sample by conductometry, potentiometry, pH-metry colorimetry and spectrophotometrically.
CO4:	Analyzing: Calculate the concentration of solutions.
CO5:	Evaluating: Predict the needs of every experiment including instrumental and non-instrumental.
CHG-190: Section-II: General Chemistry Practical Inorganic Chemistry-Material Analysis, Synthesis and Applications [Credit-2]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Examine the laboratory glassware's, hazardous chemicals, and safety in laboratory.
CO2:	Understanding: Students are generalize the aware of safety techniques and handling of chemicals. .

CO3:	Applying: To construct the assembling of different glass apparatus such as oxhlet apparatus. Distillation unit, column of chromatography, Rota evaporator.
CO4:	Analyzing: Students are categorize the different types of reactions and their workup methods.
CO:5	Evaluating: Summarise inorganic material analysis, synthesis and applications.
M.Sc. I Introduction To Cyber Security Pre-requisites in Information and Network Security SEM-I (Credit -1)	
CO1:	Remembering: To describe computers, networks, and software program from cyber attacks
CO2:	Understanding: Understand the conceptual foundation of information security Awareness
CO3:	Applying: To develop the best practices in security concepts to maintain confidentiality, integrity and availability of computer systems
M.Sc. I Human Rights I Introduction to Human Rights and Duties SEM-I: (Credit -1)	
CO1:	Remembering: Memorize the conceptual General Introduction Life and Works, Ruling through Virtue, Rituals and Filial Piety.
CO2:	Understanding: To understand the fares, Perspectives & Interrelationship of Rights and Duties.
CO3:	Applying: To judge the knowledge of the course to introduced to Nature
CO4:	Analyzing: To apply the principles of Study of Human Rights International & National Perspectives, Provision of the charters of United Nations, Universal Declaration of Human Rights.


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Name of the Programme: M.Sc. Analytical Chemistry

Course Outcomes (CO's)	
M. Sc.-I (Semester-II) 2019 Pattern	
CHP--210 Molecular spectroscopy and Nuclear and radiation Chemistry [Credit -4,48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To define basic principles of nuclear chemistry and radioactivity
CO2:	Understand: To understand basic principles behind nuclear reactions
CO3:	Applying: To apply core concepts related to different spectroscopic techniques and their applications
CO4:	Analyzing: To analyze the problems and elucidate the molecular structures from spectroscopic data
CO5:	Evaluating: Summarize Concepts of molecular spectroscopy and nuclear chemistry
CHI-230 Inorganic Chemistry [Credit-4 , 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Student should remember Hund's rules for arranging the terms according to energy
CO2:	Understanding: Student should understand inter electronic repulsion
CO3:	Applying: Student should able to find out splitting of the free ion terms in weak ligand field and strong ligand field
CO4:	Analyzing: Students should able to analyze the microstate table for various configuration
CO5:	Evaluating: Summarize magnetism, metalloproteins, DNA, RNA
CHP--250 Organic spectroscopy and Photocyclic and Pericyclic Chemistry (Credit-4, 48L)	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To remember core concepts related to different spectroscopic techniques and their applications
CO2:	Understanding: To classify the different molecular changes in different regions of electromagnetic Spectrum


CO3:	Applying: To solve spectroscopic problems and elucidate the molecular structures from spectroscopic data
CO4:	Analyzing: Students should able to analyze different types of functional groups using spectroscopy data
CO:5	Evaluating: find the different functional groups in organic compounds.
CHG-290: General Chemistry-II Material Characterization Technique [Credit-2, 24L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To remember basics of X-rays, Principle of XRF, types of XRF, instrumentation, qualitative and quantitative analysis, numerical. To remember different characterization technique of solids.
CO2:	Understanding: Students should understand the principle of XRD, instrumentation of powder XRD, Bragg's law,
CO3:	Applying: students should apply XRD for crystal structure determination
CO4:	Analyzing: Students should able to calculate numerical problems.
CO5:	Evaluating: Estimate the result obtained from XRD.
CHO-290: Section-II: General Chemistry, Practical Electrochemical Methods of Analysis [Credit-2]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Students memorize of carrying out different types of reactions and their workup methods.
CO2:	Understanding: Describe the methods of organic synthesis.
CO3:	Applying: Judge the reaction mechanism and synthesis process.
CO4:	Analyzing: Classifying the different instruments.
CO5:	Evaluating: Summarize Basics of X-rays, Principle of XRF, types of XRF, instrumentation, qualitative and quantitative analysis, numerical.
CHI-227: Basic Practical Chemistry-II [Credit-4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define the principles in qualitative and quantitative determination of ore and alloy analysis.
CO2:	Understanding: Discuss the methods of extraction of the ore and alloy analysis.
CO3:	Applying: Apply the knowledge to synthesize co-ordination complexes, studied composition, structure, properties, and reactions and checked their Purity with respect to metal.
CO4:	Analyzing: Analyzed the data and interpret UV-visible spectra.
CO5:	Evaluating: Measure percentage composition of metal and minerals in alloy.
M.Sc. Chemistry Part I Security Management SEM-II (Credit -1) Introduction To Cyber Security II	

CO1:	Remembering: To describe ability for security management and its application to protecting assets, infrastructure and people.
CO2:	Understanding: To understand and comprehend how to manage risks in the real world.

Human Rights II -Human rights of vulnerable and disadvantaged groups SEM-II (Credit -1)	
CO1:	Remembering: To define the Social status of women and children in International and national perspective.
CO2:	Understanding: To understand and comprehend the General Introduction of Vulnerable and Disadvantage, Groups, Customary, Socio-Economic and Cultural Problems, Vulnerable and Disadvantaged Groups.
CO3:	Applying: To apply the Status of Social and Economically Disadvantaged people.
CO4:	Analyzing: To analyze the enable the students to Introduce of Human rights of valuable groups-Stateless Persons, Sex Workers, Migrant Workers, HIV/AIDS Victims.


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Name of the Programme: M.Sc. Analytical Chemistry

Course Outcomes (CO's)	
M. Sc. II Analytical Chemistry (Semester-III) 2019 Pattern	
CHA-390 Electrochemical and Thermogravimetric Methods of Chemical Analysis [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To describe the trace analysis technique such as polarography and voltammetry.
CO2:	Understanding: Explain instrumentation in electrochemistry and thermogravimetry.
CO3:	Applying: Apply the knowledge of basic principles of electrochemistry and thermogravimetry.
CO4:	Analyzing: Analyze the applications of electrochemistry and thermogravimetry in industry and in analytical laboratory.
CO5:	Evaluating: Predit polarogram, cyclic voltammogram, pulse polarogram, thermogram, differential thermogram and DSC thermogram.
CHA-391 Analytical Method Development and Extraction Techniques [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define various terms in analytical extraction and method development and validation.
CO2:	Understanding: Explain instrumentations and methodology in analytical extraction.
CO3:	Applying: Apply the basic principles of analytical extraction method development and validation.
CO4:	Analyzing: Analyze the different applications of analytical extraction and method development and validation in industry and in analytical laboratory.
CO5:	Evaluating: Compare among the methods of analytical extraction.
CHA-392 Advanced Chromatographic Methods of Analysis [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define various terms in chromatography (GC and HPLC) and mass spectroscopy.

CO2:	Understanding: Explain instrumentations in chromatography (GC and HPLC) and mass spectroscopy.
CO3:	Applying: Apply the i) basic principles of chromatography (GC and HPLC) and mass spectroscopy. ii) Separation in GC / HPLC column. iii) Functioning and construction of GC / HPLC/ MS detectors.
CO4:	Analyzing: Analyze the applications chromatography (GC and HPLC) in industry and in analytical laboratory.
CO5:	Evaluating: . Summarize GC and HPLC chromatogram, Mass spectrum

CHA-393 Analysis of Food and Controlled Substances Analysis [Credit -4, 48L]

The student who successfully completes this course students will be able to:

CO1:	Remembering: Define various terms in food analysis techniques and methods, forensic science and drug substances.
CO2:	Understanding: Explain methods and principles of analysis of i) Food - carbohydrates, proteins, preservatives, ii) drug substances.
CO3:	Applying: Choose the appropriate methods of food analysis for its quality.
CO4:	Analyzing: Classify the appropriate methods for identification of drug and analysis of drug from sample.
CO5:	Evaluating: Distinguish among the different methods of analysis of food and drug substances.


CHA-387: Practical I: Basics of Instrumental Methods of Chemical Analysis SEM III [Credit -4]

The student who successfully completes this course students will be able to:


CO1:	Remembering: Describe basic principles of chromatography different instrumental methods of analysis. Able to handle particular instrument according to SOP.
CO2:	Understanding: Generalize the personal safety in laboratory and able handle all chemicals, instruments, etc. safely in laboratory.
CO3:	Applying: Collect the data obtained from instrumentations of colorimeter, spectrophotometer, photofluorometer, TGA, HPLC, GC, Flame-photometer, CV, AAS, etc.
CO4:	Analyzing: To analyze the various equations involved practical methods of quantitative analysis.
CO5:	Evaluating: Justify theoretical principle practically or apply theory to explain practical observations.

M.Sc. Chemistry Part II Introduction To Cyber Security III Information and Network Security SEM-I (Credit -1)

CO1:	Remembering: To describe the issues of security management and its application to protecting assets, Infrastructure and people.
CO2:	Understanding: To understand basics of Cryptography and Network Security.
CO3:	Applying: To apply the adapt risk management methods and skills to their current area of expertise in cyber security


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Name of the Programme: M.Sc. Analytical Chemistry

Course Outcomes (CO's)	
M. Sc. II Analytical Chemistry (Semester-IV) 2019 Pattern	
CHA-490 Advanced Analytical Spectroscopic Techniques [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Recall the instrumentation of atomic absorption, atomic emission, ICPAES, ICPAES-MS, fluorescence, ESR and electron spectroscopy and its analysis.
CO2:	Understanding: To describe basic principles of atomic absorption, atomic emission, ICPAES, ICPAESMS, fluorescence, ESR and electron spectroscopy.
CO3:	Applying: To employ appropriate methods for sample treatment in AAS / AES, ICPAES, ICPAES-MS.
CO4:	Analyzing: Categorize the different advantages of ICPAES-MS over AES spectroscopy, fluorescence spectroscopy.
CO5:	Evaluating: . Deeside ESR spectra, super hyperfine splitting and g value in ESR, and parameters affecting it.
CHA-491 Chemical Methods of Pharmaceuticals Analysis [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define various terms in pharmaceutical raw material and finished product analysis.
CO2:	Understanding: Explain various pharmaceutical dosage forms and types of raw materials used.
CO3:	Applying: To apply principles of methods of pharmaceutical analysis according to IP.
CO4:	Analyzing: Explain importance particular test in pharmaceutical raw material and finished product analysis.
CO5:	Evaluating: Compare IR spectra, HPLC chromatogram, UV-Visible spectra of pharmaceutical materials.
CHA-492 Analytical Chemistry of agriculture, Polymer and Detergents [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define various terms in soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
CO2:	Understanding: Explain techniques / methods of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
CO3:	Applying: To determine importance of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.

CO4:	Analyzing: To analyze results of analysis soil, pesticide residue, detergent and polymer.
CO5:	Evaluating: Decide conclusion regarding water and air quality from analytical results.

CHA-493-A: Optional Analytical Chemistry Practical OR CHA-493-B: Project [Credit -4]

The student who successfully completes this course students will be able to:

CO1:	Remembering: list the proper record of analytical data in notebook. Observe personal safety in laboratory and able handle all chemicals, instruments, etc safely in laboratory.
CO2:	Understanding: Understand various terms involved practical methods of quantitative analysis.
CO3:	Applying: Apply / select particular method / instrumental parameters for analysis of given sample
CO4:	Analyzing: To deduce basic principles of chemical / instrumental methods used for analysis.
CO5:	Evaluating: To conclude the results able to take the decision regarding quality of sample.

CHA-494: Practical II: Applied Analytical Chemistry [Credit -4]

The student who successfully completes this course students will be able to:

CO1:	Remembering: Identify the sample with described procedure.
CO2:	Understanding: Determine appropriate reaction conditions as described in procedures
CO3:	Applying: Apply / select particular method / instrumental parameters for analysis of given sample..
CO4:	Analyzing: To plan i) selective analysis of particular component from sample. ii) Analysis at trace level from sample.
CO5:	Evaluating: To conclude the results able to take the decision regarding quality of sample.

M.Sc. Chemistry Part II Introduction To Cyber Security IV System and Application Security SEM-II (Credit -1)

CO1:	Remembering: To describe about how to maintain the Confidentiality, Integrity and availability of data.
CO2:	Understanding: To understand and learn various methods for securing a message over internet.
CO3:	Applying: To apply the various protocols for network security to protect against the threats in the networks.

M.Sc. Chemistry Part II Introduction to Constitution SEM-II (Credit -2)

CO1:	Remembering: Explain the historical background of the Indian Constitution. They will get the knowledge of the Preamble of India.
CO2:	Understanding: Discuss of all fundamental rights which are given by the constitution to all Indians.
CO3:	Applying: Apply Directive Principles of the state policy.
CO4:	Analyzing: Plan of their fundamental duties for the nation.

M.Sc. Chemistry Part II Skill Development SEM-II (Credit -2)	
CO1:	Remembering: To recall the knowledge of different chromatography techniques.
CO2:	Understanding: Understand various terms in mass spectroscopy.
CO3:	Applying: Apply the knowledge regarding GC-HPLC-MS detectors.
CO4:	Analyzing: To correlated GC and HPLC chromatogram.
CO5:	Evaluating: Distinguish among the chromatography (GC and HPLC) methods of analysis



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Name of the Programme: M.Sc. Organic Chemistry

Program Outcomes (PO's)	
M. Sc. Organic Chemistry	
General	
PO1	Students will be able to use the evidence based comparative chemistry approach to explain the chemical synthesis and analysis.
PO2	The students will be able to understand the characterization of materials.
PO3	Students will be able to understand the basic principle and handling of equipment's, instruments used in the chemistry laboratory and to demonstrate the experimental techniques and methods of their area of specialization in Chemistry.
PO4	Enable students acquire jobs in R and D, QC and QA in scientific laboratories, industries, teaching at college level, management, marketing and sales in public sector organizations and pursue research.
PO5	Disciplinary knowledge and skill: The student will be capable of using of advanced instruments and related soft-wares for in-depth characterization of materials/chemical analysis and separation technology.
Subject specific	
PO6	Analyze problem, formulate a hypothesis, evaluate the results and draw reasonable conclusions.
PO7	Interpretation and data analysis of UV, IR, NMR, CMR, Mass spectroscopic technique.
PO8	Able to set up industrial unit related to chemical science.
PO9	Synthesis of Natural products and drugs by using proper mechanisms and mole concept.
PO10	Literature survey and research methodology.
Institutional	
PO11	To inculcate moral and ethical values and create social awareness.
PO12	To train manpower in accordance with global perspectives.


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Name of the Programme: M.Sc. Organic Chemistry
Course Outcomes (CO's)

M. Sc.-I (Semester-I) 2019 Pattern	
CHP:- -110 Fundamentals of Physical Chemistry [Credit -4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To describe Kinetics of different orders of reaction and Kinetics of complex reaction.
CO2:	Understanding: To explain the basic Principles of classical and statistical thermodynamics.
CO3:	Applying: To determine the thermodynamics of mixtures and colligative properties.
CO4:	Analyzing: To categorize historical development of quantum mechanics and to find Schrodinger wave equation of particle in 1-d box.
CO5:	Evaluating: Predict the quantum mechanical based problems.
CHI:- -130 Inorganic Chemistry [Credit-4 , 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Student should identify the visualize/ imagine molecules in 3 dimensions.
CO2:	Understanding: To understand the elements of symmetry and should be able to apply symmetry elements and their operations on different molecules.
CO3:	Applying: They should be able to analyze and construct character table for a given point group.
CO4:	Analyzing: Students should know the concept of SALC.
CO5:	Evaluating: Predict the character table and SALC equation for different point groups.
CHO:- -150 Basic Organic Chemistry (Credit-4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To recall heterocyclic compound containing one and two hetero atoms with their structure, synthesis and reactions.

CO2:	Understanding: To understand some fundamental aspects of organic chemistry, to learn the concept aromaticity, to understand the various types of aromaticity.
CO3:	Applying: To determine stereochemistry of organic compounds; able to do interconversion of Fischer to Newmann, Newmann to Sawhorse and vice versa, Able to assign R and S to given molecules; understand stereoselective and stereospecific reactions; acquire knowledge on topicity.
CO4:	Analyzing: To discriminate structure, formation, stability and related name reaction of intermediates like Carbocation, Carbanion, Free Radical, Carbenes and nitrenes; Recognize neighboring group participation.
CO5:	Evaluating: Judge what type of reagent need for the organic Conversion
CHG-190: Introduction to solid state of matter [Credit 2,24 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Memorize the Bonding in solids – band theory.
CO2:	Understanding: To explain the Semiconductors, photoconductivity.
CO3:	Applying: To determine the Non-stoichiometry, defects and types of defects in solids.
CO4:	Analyzing: To analyze Ionic conductivity and their applications.
CO5:	Evaluating: Compare the different types of conductor
CHP-107: Practical Course-I - Basic Practical Chemistry-I [Credit -4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Describe the preparation of solution and calibration of the instrument according to respective practical's.
CO2:	Understanding: Differentiate the experiment of non-instrumental methods like chemical kinetics, viscosity, partial molar volume and steam distillation.
CO3:	Applying: Determine the concentration of sample by conductometry, potentiometry, pH-metry colorimetry and spectrophotometrically.
CO4:	Analysing: Calculate the concentration of solutions.
CO5:	Evaluating: Predict the needs of every experiment including instrumental and non-instrumental.
CHG-190: Section-II: General Chemistry Practical Inorganic Chemistry-Material Analysis, Synthesis and Applications [Credit-2]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Examine the laboratory glassware's, hazardous chemicals, and safety in laboratory.
CO2:	Understanding: Students are generalize the aware of safety techniques and handling of chemicals. .

CO3:	Applying: To construct the assembling of different glass apparatus such as oxhlet apparatus. Distillation unit, column of chromatography, Rota evaporator.
CO4:	Analyzing: Students are categorize the different types of reactions and their workup methods.
CO:5	Evaluating: Summarise inorganic material analysis, synthesis and applications.
M.Sc. I Introduction To Cyber Security Pre-requisites in Information and Network Security SEM-I (Credit -1)	
CO1:	Remembering: To describe computers, networks, and software program from cyber attacks
CO2:	Understanding: Understand the conceptual foundation of information security Awareness
CO3:	Applying: To develop the best practices in security concepts to maintain confidentiality, integrity and availability of computer systems
M.Sc. I Human Rights I Introduction to Human Rights and Duties SEM-I: (Credit -1)	
CO1:	Remembering: Memorize the conceptual General Introduction Life and Works, Ruling through Virtue, Rituals and Filial Piety.
CO2:	Understanding: To understand the fares, Perspectives & Interrelationship of Rights and Duties.
CO3:	Applying: To judge the knowledge of the course to introduced to Nature
CO4:	Analyzing: To apply the principles of Study of Human Rights International & National Perspectives, Provision of the charters of United Nations, Universal Declaration of Human Rights.


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Name of the Programme: M.Sc. Organic Chemistry

Course Outcomes (CO's)	
M. Sc.-I (Semester-II) 2019 Pattern	
CHP-:-210 Molecular spectroscopy and Nuclear and radiation Chemistry [Credit -4,48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To define basic principles of nuclear chemistry and radioactivity
CO2:	Understand: To understand basic principles behind nuclear reactions
CO3:	Applying: To apply core concepts related to different spectroscopic techniques and their applications
CO4:	Analyzing: To analyze the problems and elucidate the molecular structures from spectroscopic data
CO5:	Evaluating: Summarize Concepts of molecular spectroscopy and nuclear chemistry
CHI-230 Inorganic Chemistry [Credit-4 , 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Student should remember Hund's rules for arranging the terms according to energy
CO2:	Understanding: Student should understand inter electronic repulsion
CO3:	Applying: Student should able to find out splitting of the free ion terms in weak ligand field and strong ligand field
CO4:	Analyzing: Students should able to analyze the microstate table for various configuration
CO5:	Evaluating: Summarize magnetism, metalloproteins, DNA, RNA
CHP-:-250 Organic spectroscopy and Photocyclic and Pericyclic Chemistry (Credit-4, 48L)	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To remember core concepts related to different spectroscopic techniques and their applications
CO2:	Understanding: To classify the different molecular changes in different regions of electromagnetic Spectrum

CO3:	Applying: To solve spectroscopic problems and elucidate the molecular structures from spectroscopic data
CO4:	Analyzing: Students should able to analyze different types of functional groups using spectroscopy data
CO:5	Evaluating: find the different functional groups in organic compounds.
CHG-290: General Chemistry-II Material Characterization Technique [Credit-2, 24L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To remember basics of X-rays, Principle of XRF, types of XRF, instrumentation, qualitative and quantitative analysis, numerical. To remember different characterization technique of solids.
CO2:	Understanding: Students should understand the principle of XRD, instrumentation of powder XRD, Brags law,
CO3:	Applying: students should apply XRD for crystal structure determination
CO4:	Analyzing: Students should able to calculate numerical problems.
CO5:	Evaluating: Estimate the result obtained from XRD.
CHO-290: Section-II: General Chemistry, Practical Electrochemical Methods of Analysis [Credit-2]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Students mesmerize of carrying out different types of reactions and their workup methods.
CO2:	Understanding: Describe the methods of organic synthesis.
CO3:	Applying: Judge the reaction mechanism and synthesis process.
CO4:	Analyzing: Classifying the different instruments.
CO5:	Evaluating: Summarize Basics of X-rays, Principle of XRF, types of XRF, instrumentation, qualitative and quantitative analysis, numerical.
CHI-227: Basic Practical Chemistry-II [Credit-4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define the principles in qualitative and quantitative determination of ore and alloy analysis.
CO2:	Understanding: Discuss the methods of extraction of the ore and alloy analysis.
CO3:	Applying: Apply the knowledge to synthesize co-ordination complexes, studied composition, structure, properties, and reactions and checked their Purity with respect to metal.
CO4:	Analyzing: Analyzed the data and interpret UV-visible spectra.
CO5:	Evaluating: Measure percentage composition of metal and minerals in alloy.
M.Sc. Chemistry Part I Security Management SEM-II (Credit -1) Introduction To Cyber Security II	

CO1:	Remembering: To describe ability for security management and its application to protecting assets, infrastructure and people.
CO2:	Understanding: To understand and comprehend how to manage risks in the real world.

Human Rights II -Human rights of vulnerable and disadvantaged groups SEM-II (Credit -1)	
CO1:	Remembering: To define the Social status of women and children in International and national perspective.
CO2:	Understanding: To understand and comprehend the General Introduction of Vulnerable and Disadvantage, Groups, Customary, Socio-Economic and Cultural Problems, Vulnerable and Disadvantaged Groups.
CO3:	Applying: To apply the Status of Social and Economically Disadvantaged people.
CO4:	Analyzing: To analyze the enable the students to Introduce of Human rights of valuable groups-Stateless Persons, Sex Workers, Migrant Workers, HIV/AIDS Victims.


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Name of the Programme: M.Sc. Organic Chemistry
Course Outcomes (CO's)


M. Sc. Organic Chemistry (Semester-III) 2019 Pattern	
CHO-350 – Organic Reaction Mechanism and Biogenesis [Credit -4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Memorize the reaction mechanism by using kinetics and non- kinetics methods.
CO2:	Understanding: Describe the reaction mechanism by using hammet plot and its equation.
CO3:	Applying: Apply the knowledge of mechanism in biological chemistry.
CO4:	Analyzing: Classify the Biogenesis of natural products (Terpenoids, Alkaloids, The shikimate pathway).
CO5:	Evaluating: Predict reaction with intermediate, structure, stability and reactions of free radicals.
CHO-351:- Structure Determination of organic compounds by Spectroscopic methods [Credit-4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Recall the Interpret 1D and 2D NMR.
CO2:	Understanding: To identify Molecular formula & Calculate J value and Integration.
CO3:	Applying: Predict possible 1D NMR (¹³ C and ¹ H) spectrum.
CO4:	Analyzing: Analyze the progress of reaction using the spectroscopic data of the intermediates and Identify %, stereochemistry using the spectra provided.
CO5:	Evaluating: Summarize all spectroscopic UV,IR, NMR, Mass values.
CHO-352:- Stereochemistry and Asymmetric Synthesis of organic compounds [Credit-4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Recall the mechanisms involved in the production of stereo chemically pure product.
CO2:	Understanding: Understand the principle and application of asymmetric synthesis.
CO3:	Applying: Illustrate the concept of resolution of racemic mixture with different techniques.

CO4:	Analyzing: Analyze the stereochemistry of fused and bridged ring system.
CO5:	Evaluating: Justify the three-dimensional structure of acyclic, homocyclic, heterocyclic compounds.
CHO-353(B):- Designing organic syntheses & Heterocyclic Chemistry [Credit -4, 48L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Memorize the concept of design of organic synthesis.
CO2:	Understanding: Explain the nomenclature and structural effects, ring strains in heterocyclic molecules.
CO3:	Applying: Evaluate the reactivity and general methods of various size ring systems.
CO:4	Analyzing: Analyze the applications of carbohydrate molecules
CO:5	Evaluating: Select proper pathway for retro synthesis and Synthesis of carbohydrate molecule using Chiron based source.


CHO-353 (A): Protection and Deprotection of functional group, Chiron approach and Carbohydrate Chemistry	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Memorize the concept of protection and deprotection
CO:2	Understanding: nomenclature Carbohydrates and bio - molecules.
CO:3	Applying: Synthesis of di, tri and poly saccharides using glycosyl donor and acceptor
CO4:	Analyzing: Analyze the applications of heterocyclic molecules.
CO5:	Evaluating: Select proper pathway for retrosynthesis of organic molecules.

CHO-354:- Solvent free Organic Synthesis [Credit -4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Examine the solvent free approach to synthesis organic molecule.
CO2:	Understanding: Understand the mechanochemical and ball-mill process.
CO3:	Applying: Employ the chemical reaction involving collision between molecules.
CO4:	Analyzing: To analyze the applications of principles of green chemistry.
CO5:	Evaluating: Summarize principles of green chemistry

M.Sc. Chemistry Part II Introduction To Cyber Security III Information and Network Security SEM-I (Credit -1)	
CO1:	Remembering: To describe the issues of security management and its application to protecting assets, Infrastructure and people.
CO2:	Understanding: To understand basics of Cryptography and Network Security.
CO3:	Applying: To apply adapt risk management methods and skills to their current area of expertise in cyber security


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Name of the Programme: M.Sc. Organic Chemistry Course Outcomes (CO's)

M. Sc. Organic Chemistry (Semester-IV) 2019 Pattern	
CHO-450:- Chemistry of Natural Products [Credit -4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: To remembering the mechanisms involved in the complex reactions.
CO2:	Understanding: Students able to classify the synthetic methods to design new synthetic strategies.
CO3:	Applying: Students apply the spectroscopic data to assign the absolute stereochemistry.
CO4:	Analyzing: Differentiate the retrosynthesis and synthesis of small natural products.
CO5:	Evaluating: Justify spectroscopic values in synthesis of natural products.
CHO-451: - Organometallic reagents in organic synthesis [Credit-4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Define the term transition metal complex in organic synthesis.
CO2:	Understanding: Explain the mechanistic details of common modern synthetic organometallic reactions.
CO3:	Applying: Students discuss the chemistry and applications of a range of Boron, silicon, sulfur and selenium reagents in modern organic synthesis.
CO4:	Analyzing: Analyze the outcome of some simple transition metal catalyzed processes and comment on the strategies used.
CO5:	Evaluating: Summarize various palladium catalysed coupling reactions.
CHO-452(A):- Concept and Application of Medicinal Chemistry [Credit-4, 48 L]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Identify the various stages and strategies used in drug discovery.
CO2:	Understanding: Discuss the principles of design and Development processes.
CO3:	Applying: Determine the different methods development of anti-infective agents.
CO4:	Analyzing: Predict the outcome of some simple transition metal catalyzed processes and conclude on the strategies used.

CO5:	Evaluating: Summarize SAR, mode of action, limitations and adverse effect of Anti-infective Agents, Beta lactum antibacterial agents.
CHO-453:- a) Ternary mixture separation b) carbohydrates synthesis and isolations of natural products c)Project/Industrial Training/Summer training/ Internships [Credit-4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Record the physical constants.
CO2:	Understanding: Understand and employ concept of type determination and separation.
CO3:	Applying: Examine the micro scale chemical elemental analysis.
CO4:	Analyzing: Estimate the qualitative analysis of functional groups.
CO5:	Evaluating: Test Functional group from isolated essential oils from the natural products.
CHO-454:- Convergent and Divergent Organic Syntheses Credit-4]	
The student who successfully completes this course students will be able to:	
CO1:	Remembering: Describe the Three stage synthesis of organic molecules.
CO2:	Understanding: Classify the five stage synthesis of organic molecules.
CO3:	Applying: Apply the knowledge for convergent synthesis of organic molecules.
CO4:	Analyzing: Plan for divergent synthesis of organic molecules.
CO5:	Evaluating: Summarize name reactions involved in Convergent and Divergent Organic Syntheses

M.Sc. Chemistry Part II Introduction To Cyber Security IV System and Application Security SEM-II (Credit -1)	
CO1:	Remembering: To describe about how to maintain the Confidentiality, Integrity and availability of data.
CO2:	Understanding: To understand and learn various methods for securing a message over internet.
CO3:	Applying: To apply the various protocols for network security to protect against the threats in the networks.
M.Sc. Chemistry Part II Introduction to Constitution SEM-II (Credit -2)	
CO1:	Remembering: Explain the historical background of the Indian Constitution. They will get the knowledge of the Preamble of India.
CO2:	Understanding: Discuss of all fundamental rights which are given by the constitution to all Indians.
CO3:	Applying: Apply Directive Principles of the state policy.
CO4:	Analyzing: Plan of their fundamental duties for the nation.
M.Sc. Chemistry Part II Skill Development SEM-II (Credit -2)	
CO1:	Remembering: To recall the knowledge of different chromatography techniques.

CO2:	Understanding: Understand various terms in mass spectroscopy.
CO3:	Applying: Apply the knowledge regarding GC-HPLC-MS detectors.
CO4:	Analyzing: To correlated GC and HPLC chromatogram.



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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Physics



Pune District Education Association's
Annasaheb Magar Mahavidyalaya


Hadapsar, Pune- 411028

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Name of the Program: B.Sc. (Physics)

PO No.	Outcomes
PO1	Study of Principles and Concepts of 1) General Physics 2) Mathematical & Statistical Physics 3) Applied Physics 4) Optics 5) Electricity and Electronics 6) Modern Physics.
PO2	Study of Physical Significance of different term involved in different equations or formulae which are derived.
PO3	Study of construction, Working of different structures diagrams related to physical phenomenon.
PO4	Evaluation and analysis of different physical phenomenon and their different equation/ formulae and their problem solutions.
PO5	To demonstrate and apply the different skills in experiments of different branches in Physics
PO6	To improve communication effectively using oral, viva, graphical techniques, seminars, presentation of physical phenomenon for scientific data and its representation.
PO7	To apply and execute the extended or complex experimental methods in research work.
PO8	To establish independent work capability in experimental Applied Physics by acquiring knowledge either by self-study or by working in a team with motivation.


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Name of the Programme: B.SC.PHYSICS

Name of the Class	Course Code	Course Title	Course Outcomes	
SEM I				
F.Y.B.Sc.	(PHY-111)	Mechanics	CO1	Understanding the concept of Newton's Laws and equations of motion
			CO2	Analyzing forces on object and applying these forces for problem solving of the motion of simple systems using the free body diagrams.
			CO3	Solving problems on conservation of energy or conservation of momentum
			CO4	Correlating the concepts of elasticity with real world problems.
			CO5	Identifying fundamental forces in nature and study on its applications and also evaluating factors affecting surface tension.
			CO6	Defining various laws of fluid mechanics and examining steady flow, turbulent flow.
F.Y.B.Sc	(PHY-112)	Physics Principles & Applications.	CO1:	Understanding atomic structure, study on various atomic models. Defining absorption, spontaneous emission and stimulated emission process to understand Laser action

			CO2:	Categorizing different types of bonding and their properties.
			CO3:	Charting electromagnetic spectrum and their different regions Analyzing vibrational and rotational spectra of diatomic molecule.
			CO4:	Explaining properties of Laser and its applications.
			CO5:	Describing operation of radar system and solving problems for a given frequency.
			CO6:	Summarizing principle and construction of solar cell and calculating efficiency and fill factor of solar cell.
F.Y.B.Sc.	PHY-113	Physics Laboratory	CO1:	Conceptual experimenting Physics practical and apply them for day to day life.
			CO2:	Understanding the concepts of LASER, moment of inertia, Surface tension and Spectrometer.
			CO3:	Inculcating problem solving skills in all the topics covered.
			CO4:	Developing practical skill for industrial application.
Sem.- II				
F.Y.B.Sc	PHY-121	Heat and Thermodynamics	CO1:	Defining laws of thermodynamics, thermodynamic processes, entropy.
			CO2:	Understanding the concept of entropy, Andrew's experiment, Amagat's experiment, Carnot engine.
			CO3:	Evaluating expression for efficiency of heat engine (Otto cycle, Diesel cycle, Carnot cycle), latent heat equation, adiabatic relations for perfect gas, work done during isothermal and adiabatic change

			CO4:	Determining critical constants using Vander Waal's gas equation, Reduced equation of state
			CO5:	Correlating reversible and irreversible processes and also adiabatic and isothermal process,
			CO6:	Categorizing thermometers and state its applications
F.Y.B.Sc.	PHY-122	Electricity and Magnetism	CO1:	Define the basic terms such as electric field, electric potential, magnetic intensity, magnetic induction, magnetic susceptibility and electric and magnetic flux.
			CO2:	State and conceptualise basic laws in electromagnetic.
			CO3:	Explain the superposition principle, gauss's law in dielectrics and relation between three electric vectors.
			CO4:	Solve numerical problems using Coulombs Law ,Gauss's law, Biot-Savart's law ,Ampere circuital law and principle of superposition.
			CO5:	Determine the electric field and potential due to an electric dipole and different types of charge distribution.
			CO6:	Derive the relation between three magnetic vectors and compare different types of magnetic material.
F.Y.B.Sc.	PHY-113	Physics Laboratory 1B	CO1:	Understanding the basic concepts of interpretation of Isothermal and Adiabatic curve on P-V diagram and theoretical study of Carnot's cycle by drawing graphs of Isothermal and Adiabatic curves
			CO2:	Inculcate the practical knowledge for various applications of Physics
			CO3:	Improve students hands on training of practical's for aspirants

			CO4:	Inculcate the practical knowledge and apply for industrial purpose
			CO1:	Understanding the basic concepts of interpretation of Isothermal and Adiabatic curve on P-V diagram and theoretical study of Carnot's cycle by drawing graphs of Isothermal and Adiabatic curves
			CO2:	Inculcate the practical knowledge for various applications of Physics
Sem.- III				
S.Y.B.Sc.	PHY-231	Mathematical Methods In Physics	CO1:	Define the basic operations in complex numbers;
			CO2:	Explain graphical representation of complex numbers and calculate roots of complex numbers;
			CO3:	Solve partial differential equations in Physics;
			CO4:	Discuss vector algebra required in Physics;
			CO5:	Define order, degree and homogeneity of ordinary differential equation;
			CO6:	Develop problem-solving skills of identifying strategies to solve unfamiliar problem
S.Y.B.Sc.	PHY-232(A)	Electronics	CO1:	Define the relations of different circuit elements and Statements of different circuit theorems and laws to electrical circuits.
			CO2:	Problem solutions for evaluation and analysis of different circuit theorems.
			CO3:	Understanding of i) the parameters, characteristics and working of transistors, ii) the functions of operational amplifiers, iii) basic principles of Oscillator circuit.
			CO4:	Design and explanation of circuits using transistors and operational

				amplifiers.
			CO5:	Applications of circuits using transistors and operational amplifiers.
			CO6:	Understanding the different number systems, codes, the Boolean algebra and logic circuits and their use.
S.Y.B.Sc.	PHY - 233	Physics Laboratory-2A	CO1:	Use various instruments and equipment.
			CO2:	Design experiments to test a hypothesis and/or determine the value of an unknown quantity.
			CO3:	Investigate the theoretical background of an experiment
			CO4:	Setup experimental equipment to implement an experimental approach.
Sem.- IV				
S.Y.B.Sc.	PHY - 241	Oscillations, Waves and Sound	CO1:	Define periodic and oscillatory motion;
			CO2:	Setup and solve differential equations of motion for simple harmonic, damped, and forced oscillators;
			CO3:	Discuss phenomenon of resonance and apply in different applications;
			CO4:	set and solve differential equation for wave motion for longitudinal and transverse waves;
			CO5:	Discuss the Doppler effect, and predict in qualitative terms the frequency change that will occur for relative motion between source and observer or listener;
			CO6:	Explain in qualitative terms how frequency, amplitude, and wave shape affect the pitch, intensity, and quality of tones produced by musical instruments.

S.Y.B.Sc.	PHY- 242	Optics	CO1:	Acquire the basic concepts of wave optics, interference and diffraction of light
			CO2:	Describe the geometrical formation of images by thin lenses, lens equation and lens makers formula using fundamental laws of geometrical optics.
			CO3:	Use mathematical analysis to calculate properties of image, formed by combination of lenses and applies theory of optics to calculate the cardinal points of an optical system and design optical devices
			CO4:	Describe the construction and operation of optical devices, including, eyepieces, compound microscope, grating, polarisers etc.
			CO5:	Demonstrate an ability to solve problems using 'paraxial' optics-based formulae, numerical calculations and graphical drawings.
			CO6:	Geometrical determination of polarization of light and concept and determine a polarisation state of light by interpreting polariser
S.Y.B.Sc.	PHY - 243	Physics Laboratory-2B	CO1:	Analyse data, plot appropriate graphs and reach conclusions from your data analysis.
			CO2:	Work in a group to plan, implement and report on a project/experiment.
			CO3:	Keep a well-maintained and instructive laboratory logbook.
			CO4:	Express their knowledge and ideas through oral and written language.
Sem.- V				
T.Y.B.Sc .	PHY-351	Mathematical Methods in Physics- II	CO1:	Define and generate a general equation for gradient ,divergence ,curl &laplacian in an orthogonal curvilinear coordinate system & their

				applications in physics.
			CO2:	Interpret relative motion, Galilean & Lorentz transformation equations.
			CO3:	Define proper time, Minkowski's space, Time dilation, length contraction
			CO4:	Describe Michelson Morley experiment & its negative result
			CO5:	Illustrate the problems on Frobenius method of series solution and to differentiate point of expansion of given differential equations.
			CO6:	List the most important special functions in physics and to solve different properties related to special functions.
T.Y.B.Sc	PHY-352	Electrodynamics	CO1:	Define the Coulombs law, Electric field, Gauss law, Electric susceptibility, Magnetic field, Biot-Savart law, Amperes law, Faradays law etc.
			CO2:	Explain equation of continuity, Magnetic vector potential, B.H curve, Maxwell's equation & wave equations.
			CO3:	Solve numerical problem on Coulombs force, Gauss law, magnetic induction, magnetic permeability and induced voltage, magnitude of electric & magnetic vectors.
			CO4:	Determine work done by charges, total charge, force on the wire in different symmetry
			CO5:	Apply Biot-Savart law in different symmetry problem and Summarize pointing vector, polarization, reflection & refraction
			CO6:	List the applications of Amperes law, Biot-Savart law, Poynting theorem and Elaborate magnetic

T.Y.B.Sc	PHY-353	Classical Mechanics		properties of the material.
			CO1:	Solve advanced problems involving the dynamic motion of classical mechanical systems with an intermediate knowledge of Newton's laws of motion
			CO2:	Apply the concept of centre of mass and mechanics of system of particles and conservation of energy, linear and angular momentum to solve dynamics problems
			CO3:	Demonstrate an intermediate knowledge of concept of laboratory frame and centre of mass frame and their use to calculate results of scattering experiments.
			CO4:	Explain Differential cross section, impact parameter and total cross section and relation between cross section in centre of mass and laboratory system
			CO5:	Explain limitations of Newtonian Mechanics, constraints, Degree of freedom, Generalized coordinates, configuration space
			CO6:	Derive Lagrange and Hamilton's equations, and represent the equations of motion for simple mechanical systems such as: the Atwood's machine, Simple pendulum using these formulations of classical mechanics.
T.Y.B.Sc	PHY-354	Atomic and Molecular Physics	CO1:	Derive the formulae for total energy of an atom so that energy level diagram can be drawn and also able to obtain the expression for spin orbit interaction energy
			CO2:	State laws, postulates in atomic and molecular Physics and able to compare various models of atomic structure.
			CO3:	Obtain formulae for Zeeman shift, wavelength of emitted X-ray s,

				Raman shift , rotational and vibrational energy for diatomic molecule and apply it.
			CO4:	Explain origin of line spectra and able to compare continuous spectra, characteristic spectra and can differentiate between rotational, vibrational and electronic
			CO5:	Draw and explain X-ray spectra, spectrum with and without magnetic field (Zeeman effect), Raman spectra and molecular spectra using quantum treatment
			CO6:	Explain experimental arrangement to produce X-ray,, to observe Raman effect and Zeeman effect.
T.Y.B.Sc.	PHY-355	Computational Physics	CO1:	define types of programming languages and their uses;:
			CO2:	gain basic competency with a widely used C-language for both general and scientific programming;
			CO3:	define operators and expression in C-programming and navigate commands;
			CO4:	explain control statements and loops as well as capable of writing C-program to solve problems;
			CO5:	describe arrays and pointers and apply them in C program;
			CO6:	implement numerical algorithms into C-program and visualize the results of the computations
T.Y.B.Sc.	PHY-356(D)	Renewable Energy Sources-I	CO1:	Definition, Classifications of the different energy sources.
			CO2:	Understanding of Structure, Characteristics and Composition of Sun and its radiations.
			CO3:	Explanation of working principles, design of Photothermal devices and Photovoltaic effect, Photovoltaic Conversion basic photovoltaic

				system for power generation.
			CO4:	Applications of Photothermal devices and basic photovoltaic system for power generation.
			CO5:	Definition, Characteristics and types of solar cell.
			CO6:	Understanding of Importance and Needs of Photothermal devices and Energy storage and their various forms.
T.Y.B.Sc.	PHY -357	Laboratory Course 3A	CO1:	Demonstrate the various classical methods for practical applications
			CO2:	Understand the concept of atomic and molecular Physics by experimental set up such as Zeeman effect
			CO3:	Verify statistical and Thermodynamics laws
			CO4:	Understand the experiments on Nuclear and Quantum Mechanics like characteristics of G M tube, Determination of Planck's constant
T.Y.B.Sc.	PHY -357	Laboratory Course 3B	CO1:	Acquire knowledge to handle laboratory instruments.
			CO2:	Achieve an ability to perform electronics experiments and to understand physics behind particular electronics experiment.
			CO3:	Understand the Computer Interfaced Physics Experiments.
			CO4:	Understand the Numerical Based Computational Physics using C Programming
T.Y.B.Sc.	PHY- 359	(Project-I)	CO1:	Develop skills pertaining to the laboratory work and understand the Physics concepts which brings out the creativity in the students
			CO2:	Undertake problem identification, formulation and solution in Physics

			CO3:	Demonstrate the knowledge, skills and attitudes towards research in Material Science and Physics
			CO4:	Demonstrate a sound technical knowledge of their selected project topic
T.Y.B.Sc	PHY-3510(H)	Python Programming	CO1:	Define structure and components of python program.
			CO2:	Use library matplotlib for plotting of graphs and its data visualisation.
			CO3:	Utilize libraries like NumPy for numeric computation .
			CO4:	Develop own functions for physics.
			CO5:	Apply statistical database application in python.
			CO6:	Acquire programming skills in python.
T.Y.B.Sc	PHY-3511(L)	Physics Workshop Skill	CO1:	Define basic terms of electronics/instruments.
			CO2:	Draw block diagrams of digital/multimeter electronic voltmeter, CRO,signal generator and bridges.
			CO3:	Explain their working, principle of various instruments.
			CO4:	Utilize specification and significance of instruments.
			CO5:	Experimenting electronic voltmeter, digital/multimeter, electronic voltmeter, CRO, signal generator and bridges.
			CO6:	Building various aspects of instruments and their usage through hands on mode.
Sem.- VI				
T.Y.B.Sc	PHY-361	Solid State Physics	CO1:	Define crystal structure to develop it in 2D as well as 3D and to determine Indices for 'Directions' and 'Planes'

				in a crystal structure.
			CO2:	Illustrate crystal structures and to analyze them with packing fraction, coordination number, number of atoms per unit cell etc.
			CO3:	Derive Bragg Diffraction condition in direct lattice and to relate it in reciprocal lattice using Ewald construction.
			CO4:	Illustrate various experimental techniques for characterisation of material.
			CO5:	Apply free electron theory to restate thermal and electrical properties
			CO6:	Explain superconductivity and Meissner effect
T.Y.B.Sc	PHY-362	Quantum Mechanics	CO1:	Outline the historical aspects of development of quantum mechanics.
			CO2:	Explain the differences between classical and quantum mechanics.
			CO3:	Describe Schrodinger's equation and its steady state form.
			CO4:	Solve Schrodinger's steady state equation for simple potentials to obtain eigen functions and eigen values.
			CO5:	Apply Schrodinger's steady state equation for spherically symmetric potentials obtain eigen functions and eigen values;
			CO6:	Deal with operator algebra in quantum mechanics.
T.Y.B.Sc.	PHY-363	Thermodynamics and Statistical Physics	CO1:	Describe transport phenomena and compute coefficient of thermal conductivity, viscosity and diffusion in terms of mean free path
			CO2:	Define and discuss the concepts and roles of thermodynamic functions from the view point of statistical mechanics


			CO3:	Derive Binomial distribution and Gaussian probability distribution using random walk problem and calculate mean values for a statistical system
			CO4:	Discuss the concepts of microstate and macro state, basic postulates and behaviour of density of states for model system and calculate the number of microstates for different statistical systems
			CO5:	Derive and compare Maxwell Boltzmann, Bose-Einstein and Fermi-Dirac distributions; state where they are applicable and explain the connection between classical
			CO6:	Derive probability distribution formula for micro canonical, canonical ensemble and calculate mean values in canonical ensemble
T.Y.B.Sc.	PHY-364	Nuclear Physics	CO1:	Define threshold voltage, dead time and recovery time in GM counter, threshold energy, nuclear fission, nuclear fusion, critical size, critical mass.
			CO2:	Determine the basic properties of nucleus
			CO3:	Classify nuclear radiations, elementary particles and nuclear states, nuclear detectors.
			CO4:	Derive expression for energy of ions and frequency of RF signal in cyclotron, Q-value equation, threshold energy, decay constant.
			CO5:	Estimate binding energy from fission. Justify nuclear reactions using conservation laws
			CO6:	Explain the different processes by which energetic particles interact with matter, kinematics of various reactors and decay processes.

T.Y.B.Sc.	PHY365	Electronics-II	CO1:	Definition and understanding of characteristics, working principles of various semiconductor devices like LED, Photodiode, Optocoupler, BJT and FET and their various types.
			CO2:	Definition and the meaning of terms such as amplification, voltage gain, line and load regulation, modulation, demodulation, flip-flop, counters, register, distortion, multiplexer, demultiplexer, etc.
			CO3:	Explanation of i) different applications of semiconductor devices as three pin regulators, switching regulators, ii) concept of modulation and demodulation and their methods.
			CO4:	Explanation of Integrated Circuits and their uses with reference to OPAMP applications and IC555 Timer as astable, monostable and bistable multivibrator.
			CO5:	Understanding of i) POS and SOP expression on K-map and design of half adder, full adder, half subtractor, full subtractor using K-map, ii) various types of flip-flops and their use as registers and counters.
			CO6:	Applications of LED, photodiode, varactor, power amplifiers, FET, UJT, counters, registers and solve the problems such as write the output for given circuit, design the circuit from given data.
T.Y.B.Sc.	PHY-366(R)	Microcontrollers	CO1:	Definition, Working Principles of Microprocessors and Microcontroller. Concept of assembly language programming and its directives.
			CO2:	Architecture of 8051 microcontroller and their block functions and its pin functions, Memory organization in 8051 microcontroller, Meaning and

				functions of 8051 registers. Concept of Stack and Subroutine.
			CO3:	Study of 8051 assembly language instructions groups, Understanding of assembly language instruction format and their addressing modes. Meaning of 8051 assembly language instructions and their use in programming.
			CO4:	Concept of serial data communication and its interfacing in 8051 microcontroller
			CO5:	Concept of Timer / Counters in 8051 microcontroller and their registers.
			CO6:	Concept of Interrupts and their structure in 8051 microcontroller and their registers.
T.Y.B.Sc.	PHY -357	Laboratory Course 4A	CO1:	Demonstrate the various classical methods for practical applications
			CO2:	Understand the concept of atomic and molecular Physics by experimental set up such as Zeeman effect
			CO3:	Perform experiments related electricity and Magnetism
			CO4:	Demonstrate the optical concepts through experiments
T.Y.B.Sc.	PHY -357	Laboratory Course 4B	CO1:	Acquire knowledge to handle laboratory instruments.
			CO2:	Achieve an ability to perform electronics experiments.
			CO3:	Gain knowledge of understanding concept of physics behind particular electronics experiment.
			CO4:	Understand the experiments on Acoustics and LASERs.
T.Y.B.Sc.	PHY- 369	(Project-II)	CO1:	Develop skills pertaining to the laboratory work and understand the Physics concepts which brings out the creativity in the students

			CO2: Undertake problem identification, formulation and solution in Physics
			CO3: Demonstrate the knowledge, skills and attitudes towards research in Material Science and Physics
			CO4: Demonstrate a sound technical knowledge of their selected project topic
T.Y.B.Sc.	PHY-3610(W)	Scientific Data Analysis using Python	CO1: Understand the functions available in existing Python modules.
			CO2: Understand awareness with different types of basic charts and functions in matplotlib library
			CO3: Use basic notions and definitions in data analysis
			CO4: Describe the visualization techniques from seaborn library
			CO5: Apply some of machine Learning algorithms to build smart models and make cool predictions.
			CO6: Translate a real-world problem into mathematical terms.
T.Y.B.Sc	PHY-3611(AC)	Radiation Physics	CO1: Use the knowledge in the applications of Radiation Physics in the fields like radio carbon Dating, medical diagnostic tools.
			CO2: Acquire skill in operating different types of radiation detectors to detect and measure radiation Levels in different places.
			CO3: Understand the mechanism of interaction of various types of radiations with matter
			CO4: Apply their skills to develop applications of radio activity in the fields like Agriculture, industry, hospitals etc.
			CO5: Explain principles of Measurement radiation levels, design principles And actual implementation of

				variety of radiation detectors.
			CO6:	Applications and Problems on different types of radiation detectors.


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 Department of Physics
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Name of the Programme: M.Sc. Physics

PO NO.	OUTCOMES
PO1	Students will get substantial knowledge in physics, basic knowledge in mathematics, and understanding of the interconnectedness of different disciplines;
PO2	Students will get ability to apply knowledge of physics to the real world problems;
PO3	Students will be familiar with contemporary research within various fields of physics;
PO4	Students will use creativity, critical thinking, analysis and research skills to solve theoretical and real-world problems. Students will get some research experience within a specific field of physics, through a project work;
PO5	Students will have the background and experience required to model, analyses, and solve advanced problems in physics; Students will use creativity, critical thinking, analysis and research skills to solve theoretical and real-world problems
PO6	Students will be able to employ up-to-date and relevant knowledge and skills in several disciplines. Students will able to enter new problem areas that require an analytic and innovative approach
PO7	The student will be able to understand the role of physics in society and has the background to consider ethical problems.
PO8	The student will know the historical development of physics, its possibilities and limitations, and understands the value of lifelong learning. The student will get an ability to participate in constructive discussions and debates.

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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-111: Mathematical Methods in Physics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Understand basics of complex analysis of complex functions and their applications in Physics
CO2	Illustrate the examples of vector spaces, linear dependence and linear independence by using different methods, applicability to Eigen values and Eigen vectors
CO3	Explain various special functions of Legendre, Hermite, Laguerre polynomials and Bessel functions of first kind.
CO4	Explain orthogonality of Legendre, Hermite, Laguerre polynomials and Bessel functions of first kind.
CO5	Solve problems on Fourier series, Fourier transform and Fourier integral.
CO6	Solve problem Laplace transform of standard functions
CO7	Explain orthogonality of Legendre, Hermite, Laguerre polynomials and Bessel functions of first kind.
CO8	Solve problems on linear dependence and linear independence by using different methods.

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-112: Classical Mechanics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Understand the Symmetry and conservation laws and Define generalized momenta and cyclic coordinates.
CO2	Choose an appropriate set of generalised coordinates to describe the system.
CO3	Solve Poisson's and Lagrange identities.
CO4	Apply variational principle to real physical problem
CO5	Understand the rigid body motion in Euler angles, Classify and handle the problem related to motion in non-inertial and inertial frames
CO6	Relate the concept of central forces to KeplersPlanetary motion
CO7	Formulate the Lagrange's and Hamilton's equation of motion for different systems, Solve problems on poisons brackets and canonical transformations.
CO8	Solve normal modes and normal coordinates of simple, compound, coupled pendulum.



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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-113: Electronics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Recall basic knowledge of electronics and Understand the semiconductor devices (SCR, DIAC, TRIAC) and its applications
CO2	Study the Concept of DC – DC converter and SMPS
CO3	Discuss IC 555, types of voltage regulators, types of counters and shift registers and types of ADC and DAC
CO4	Perform working of ICs (IC 555 in astable and monostable mode, IC78xx/IC79xx and ICLM317 of 3 pin regulators, IC 7490, IC 7495, VCO IC 566, PLL IC 565)
CO5	Apply the working of according to their applications.
CO6	Explain the difference between Combinational and sequential circuit
CO7	Designs and performs ICs and Assemble the ICs
CO8	Communicate, demonstrate and write effectively the needs in industrial fields.

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHOT- 114C2: Lasers and Application(Theory) (Credit- 2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Understand the difference between ordinary light source and laser source.
CO2	Understand difference between spontaneous emission and stimulated emission and how it leads to the amplification of light.
CO3	Define Einstein's coefficients and gives the relation so as to have stimulated emission probability to be more.
CO4	Understand the different pumping mechanisms and their applications.
CO5	List the characteristics of laser light. Categories the different types of lasers.
CO6	Discuss the applications of lasers in various fields



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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHOP- 114C2: Lasers and Application(Practical) (Credit- 2) (2020 Pattern)

CO No.	Course Outcomes
CO1	To determine the wavelength of He-Ne laser using grating and measuring scale, thus learning the measurement of small dimensions.
CO2	To determine divergence, spot size of laser beam, thus understanding the characteristics of Laser.
CO3	To determine the diameter of thin wire using laser, thus learning the measurement of small dimensions.
CO4	To understand the applications of Lasers using optical fibers.
CO5	To measure contamination in liquid sample using laser beam.
CO6	To determine energy and power of laser beam.

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCP-115: Physics Laboratory-I (Electronics) (Credit- 4) (2020 Pattern)

CO No.	Course Outcomes
CO1	Make custom of analog and digital multi meters, various types of power supply, CRO, Function generator
CO2	Designing and mounting circuits of OP-Amp applications.
CO3	Study special purpose ICs for electronics applications.
CO4	Use digital electronics applications.
CO5	Design and fabricate different types of power supplies.
CO6	Design various types of electronic circuits professionally and mounting of electronic components on bread board and PC – cum – soldering method.
CO7	Experiment with CRO to find the amplitude, peak, time interval.
CO8	Defend the results obtained in the experimental work.



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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-121: Electrodynamics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Solve monopole, dipole, quadrupole and multi-pole expansions of electrostatic fields.
CO2	Learn the basic laws of electromagnetism and understand the differential and integral forms of Maxwell's equation
CO3	Understand the concept of Faraday law of Moving Media.
CO4	Learn about the energy stored in electric and magnetic fields and the phenomenon of reflection and refraction of electromagnetic waves
CO5	Discuss origin of Maxwell's equations in magnetic and dielectric media and understand transport of energy and Poynting vector.
CO6	Get the idea of relativistic mechanics and introduces the four vector formalism for electric vector potential
CO7	Analyze propagation, reflection and transmission of plane waves
CO8	Evaluate radiation energy losses by passage through the matter.

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-122: Atoms and Molecules (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Recite atomic structure, quantum number, calculate the ground state, apply Hund's rule. Diagram the fine and hyperfine structure ,
CO2	Explain Zeeman effect Solve problems on Zeeman effect for different materials in Zeeman effect.
CO3	Explain spin-orbit interaction, LS and JJ coupling, energy levels and spectra of atoms and Lande's Interval Rule.
CO4	Classify different molecular spectra & analyse band structure
CO5	Determine dissociation energy and dissociation product for explanation of ESR & NMR,
CO6	Discuss Frank – Condon principle, rotational fine structure of electronic vibration transitions, and electronic angular momentum in diatomic molecules.
CO7	Recognize spectroscopy in microwave, Rotational spectra of rigid diatomic molecules, selection rules, interaction of spectral lines.
CO8	Describe Rotational Raman spectra, Mutual exclusion, Raman spectrometer, sample handling techniques, Fourier transform Raman spectrometer



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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCT-123: Quantum Mechanics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Recall the main aspects of the historical development of quantum mechanics by replacing the classical mechanics and able to discuss wave properties of matter.
CO2	Understand Schrodinger's equation, uncertainty principle, representation of states, relation between quantum mechanics and linear algebra
CO3	Solve Schrodinger's equation in one to three dimensions, Eigen function of operator, uncertainties as well as their physical interpretations.
CO4	Solve problems by applying Dirac notations.
CO5	Simplify angular momentum and spin, their rules for quantization and additions, Clebsch-Gorden coefficients in simple cases.
CO6	Explain Zeeman Effect, spin- orbit coupling
CO7	Solve Schrodinger equation using various approximation methods
CO8	Develop an understanding of both analytic and numerical methods and solution are important in quantum mechanics

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHOT-124B2: Physics of Nanomaterial (Credit-2) (Theory) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Realize Concept of Nano material and structure.
CO2	Understand the different Properties of nanomaterials.
CO3	Synthesize and characterize the nanomaterials by different techniques.
CO4	To differentiate between different techniques for research purpose.
CO5	To Study and Understand application of special nanomaterials (e.g. Graphene , Carbon nanotubes)
CO6	Understand mechanical, optoelectronic and Bio-medical applications.



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Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHOP-124B2: Physics of Nanomaterial (Credit-2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	To Understand Synthesis process of nanomaterial by different methods.
CO2	To Understand Synthesize the metal nanoparticles like CdS and TiO ₂
CO3	Calculate the average size of the crystal using XRD techniques
CO4	Understand the applications of nano materials.
CO5	Study of Optical Absorption
CO6	To Synthesize nanomaterial for different methods (Hydrothermal, Sol-gel, and biological method)

Name of the Program: M.Sc. (Physics)

M.Sc. – I : Course PHCP-125: Physics Laboratory-II (General Lab) (Credit-4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Determine the Lande's g factor by using Electron spin resonance experiment.
CO2	Study the discrete nature of the atomic energy levels.
CO3	Learn making small measurements like wavelength of laser using the interference principle
CO4	Study the nuclear detectors and measure the properties of nuclear radiations.
CO5	Study Temperature variation of semiconductors and black body radiation.
CO6	study the discrete energy levels using Frank-Hertz experiment
CO7	Understand the Skin depth in Al using electromagnetic radiation
CO8	Explain the basics of determination of resistivity of a thin film by using four probe methods.



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-231: Statistical Mechanics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Define basics of thermodynamics, states of the system, Macroscopic and Microscopic state system, phase space, phase trajectory and A Priori Probability.
CO2	Understand the need to go to systems of large number of particles where the probabilities are more appropriate to be calculated than finding the exact values, understand the specifications of state of systems, understand various spaces
CO3	Understand various ensembles and its use to calculate various thermodynamic functions , understand basic Thermodynamics laws
CO4	Understand the classical & quantum mechanics behind applications in statistical mechanics , Understand difference between Classical and Quantum Statistics
CO5	Understand concept of partition function , understand difference between MB, FD and BE statistics
CO6	Develop some problems dealing with statistical ensemble and Fermi energy, to solve some examples on particles by using particle distribution statistics.
CO7	Demonstrate understanding of various aspects of statistical mechanics
CO8	Communicate, write, and make effective presentation on industrial needs of thermodynamics and statistical mechanics.

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-232: Solid State Physics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Study structural, electronic and magnetic properties of solids.
CO2	Identify crystal structure, structure of atomic form factor, geometrical structure factor.
CO3	Understand the band structure, band theory, tight binding approximation
CO4	Discuss magnetism, types of magnetism, theories of magnetism and their comparison.
CO5	Understand the anti-ferromagnetism, Neel temperature & susceptibility.
CO6	Explain the concept of superconductivity and applications of superconductors.
CO7	Show how the London equations and Maxwell's equations lead to the prediction of the Meissner effect.
CO8	Explores the various properties of solid.



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-233: Solid State Physics (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Explain the signals, their analysis, Signal to noise ratio, various types of errors and also the sensors with its characteristics.
CO2	Identify of importance, basic terms of vacuum, and properties of vacuum and field applications of vacuum.
CO3	Memorize the kinetic theory of gases, impingement rate of molecules on a surface, average velocity of gas and mean free path, gas transport properties.
CO4	Understand the principle of pumping concept, types of vacuum pumps and vacuum techniques.
CO5	Describe different vacuum gauges and vacuum pumps with their working principle, range of measurement, advantages and drawbacks.
CO6	Convert vacuum measurement units from one unit to another unit.
CO7	Explain the theory behind low temperature technique to measure the specific parameters.
CO8	Compare the different techniques for the appropriate application in research.

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHOT-234M2: Material Science I (Theory) (Credit- 2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Define Mechanical, electrical, magnetic, thermal and optical properties
CO2	Discuss Point defects - Vacancies, interstitials, non-stoichiometry, substitution, Schottky and Frenkel defects with proofs
CO3	Explain Line defects - Edge and screw dislocations, properties of dislocations – force on dislocation, energy of dislocation, pinned dislocation
CO4	Solve problems on Solid solubility with few examples, Types of solid solutions – Substitutional and Interstitial, Factors governing solid solubility
CO5	Mechanism of Diffusion, Fick's first and second laws of diffusion, solution to Fick's second law
CO6	Applications of diffusion: Corrosion resistance of duralumin, Carburization of steel, Decarburization of steel, Doping of semiconductors



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHOP-234M2: Material Science I (Practical) (Credit- 2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Study of creep behaviour for binary Sn-Pb alloy
CO2	Determine Density of ceramic material using XRD
CO3	Analysis Humidity measurement
CO4	Determine Average grain size by SEM
CO5	Plotting of crystal structures using Software
CO6	To determine the magnetic susceptibility of FeCl ₃

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCP-235: Physics Laboratory III (Practical) (Credit- 2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Recall the fundamental concepts of c programming and various commands syntax structures in it
CO2	Learn the special functions of Mathematical Methods in Physics using C programming
CO3	Solving the computational Physics problems.
CO4	Use of Graphics for various Physics applications.
CO5	Graphical display of outputs in electronic circuits.
CO6	Interpret the value obtained on turbo C and manually.
CO7	Evaluate and manage data structure based on problem subject domain
CO8	Apply computing skills in all other fields of study like Mathematics, Geography, Bio Sciences, Physics.



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-241 : Nuclear Physics (Credit-4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Atomic and nuclear structure, importance of binding energy , electric and magnetic properties of nucleus
CO2	Radioactivity and disintegration through alpha, beta and gamma decay, Construction and working of different radiation detectors
CO3	Pros and cons of different nuclear models, Types of nuclear reactions and the ways to harness the nuclear energy, and nuclear reactors
CO4	Classify elementary particles and nuclear states in terms of their quantum numbers.
CO5	Principle of different particles accelerators, nucleon interactions and a glimpse of elementary particles (Leptons, Hadrons and quarks)
CO6	Calculate the kinematics of various reactions and decay processes.
CO7	Analyse production and decay reactions for fundamental particles by applying conservation principles.
CO8	Evaluating: Evaluate radiation energy losses by passage through the matter.

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-242: Experimental techniques in Physics-II (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	List of required characterization techniques for fundamental research in material science and nanotechnology.
CO2	Identify the crystal structure, crystalline nature of any material by using X-ray diffraction technique.
CO3	Provide phase transition, absorption, chemical changes as temperature changes by using thermal analysis methods.
CO4	Make use of spectroscopic analysis for identification of materials i.e. which type of material is present by analyzing their UV-Vis, IR, FTIR, DRS spectroscopies.
CO5	Study morphology, topography of any material by using SEM, TEM, and FESEM.
CO6	Find various applications like industrial, biomedical etc. by using magnetic characterization.
CO7	Apply the knowledge of characterization techniques for research.
CO8	Compile the information of characterization together to confirm the proposal in research work



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-243A4: Physics of Thin Films (Credit- 4) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Recognize the various aspects of different thin film deposition, fundamental properties and various measurement techniques.
CO2	Describe effect of various deposition parameters to growth of thin films.
CO3	Discuss the differences and similarities between techniques and fundamental properties of thin film deposition.
CO4	Explain the Hall Effect & Magneto-resistance in thin films, Fuch-Sondhemir theory, TCR and its effects.
CO5	Identify the relation between deposition technique, film structure and film properties.
CO6	Analyse effect of film growth on properties.
CO7	Design thin film material synthesis by modified growth technique.
CO8	Discuss the application of thin films like Resistors, capacitors, Junction devices, Solar cells, ICs, Optical coating, Thin film sensors etc.

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCT-244M2: Material Science – II (Theory) (Credit-2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Study Revision of laws of thermodynamics,
CO2	measurement of changes in enthalpy and entropy, Richard's rule, Trouton's rule, Phase equilibrium in a one component system, Chemical reaction equilibrium, Thermodynamic properties of solutions
CO3	Study Gibb's phase rule: proof, explanation and application to single component (H ₂ O) and binary phase diagram
CO4	Study Thermodynamic origin of phase diagrams, Lever rule,
CO5	Explain Type I (Cu-Ni) phase diagram, Type II (explanation only) phase diagram, Type III (Pb-Sn) phase diagram,
CO6	Maxima and minima in two phase regions, Miscibility gaps, Limited mutual solid solubility, Topology of binary phase diagrams



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Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCP-244M2: Material Science – II (Practical) (Credit-2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	Preparation of particles of different sizes by chemical method.
CO2	Study of the particles (e.g. CdS, ZnS, Au, Ag etc.) using UV/VIS spectroscopy for the particle size, colour, (Luminiscence/Fluorescence) and gap energy.
CO3	Determination of Band gap of given material by UV-Visible-IR spectroscopy.
CO4	Determination of interatomic bond length in diatomic molecules by studying Rotational vibrational IR spectra.
CO5	Study of Beer and Lamberts law in absorption spectroscopy by using UV-Vis spectroscopy.
CO6	Study of Hysteresis of hard and soft ferrites

Name of the Program: M.Sc. (Physics)

M.Sc. – II : Course PHCP 245 : Physics Laboratory IV (Project) (Credit -2) (2020 Pattern)	
CO No.	Course Outcomes
CO1	To Understand Research Problem for Project Chose
CO2	Analyze and solve various physics problems using reasoning skill based on the concepts of modern Physics and Learn to operate various research instruments
CO3	To Study for project related literature reviewsurvey.
CO4	Describe relation between Medical Physics and another branches of Physics
CO5	Demonstrate specialized analytical skills and techniques necessary to carry out research in advance Physics topics
CO6	Undertake independent research in an area of advance Physics
CO7	Interpret relationships in graphed data and develop an intuition for alternative plotting methods and communicate results from project work, orally or in a written laboratory report
CO8	Write a project report with literature review.



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M.Sc. Physics Part I&II
Additional Credits

M.Sc. Physics Part I	
Human Rights I	
Introduction to Human Rights and Duties SEM-I: (Credit -1)	
CO No.	Course Outcomes
CO1	To help the students to understand the conceptual General Introduction Life and Works, Ruling through Virtue, Rituals and Filial Piety.
CO2	To understand and Discuss the fares, Perspectives & Interrelationship of Rights and Duties.
CO3	To learn and evaluate the Knowledge of the course to Introduced to Nature, Types of Instruments Covenant-Charter, Declaration, Treaty Convention-Protocol Executive Orders and Statutes.
CO4	To help understanding of the principles of Study of Human Rights International & National Perspectives, Provision of the charters of United Nations, Universal Declaration of Human Rights.

M.Sc. Physics Part I	
Human Rights II	
Human rights of vulnerable and disadvantaged groups SEM-II (Credit -1)	
CO No.	Course Outcomes
CO1	To understand and comprehend the General Introduction of Vulnerable and Disadvantage, Groups, Customary, Socio-Economic and Cultural Problems, Vulnerable and Disadvantaged Groups.
CO2	To study the Social status of women and children in International and national perspective.
CO3	To introduce the Status of Social and Economically Disadvantaged people.
CO4	To enable the students to Introduce of Human rights of valuable groups-Stateless Persons, Sex Workers, Migrant Workers, HIV/AIDS Victims.

M.Sc. Physics Part I	
Introduction To Cyber Security I	
Pre-requisites in Information and Network Security SEM-I (Credit -1)	
CO No.	Course Outcomes
CO1	Understand the conceptual foundation of information security Awareness
CO2	To protect computers, networks, and software program from cyber attacks
CO3	To learn and evaluate best practices in security concepts to maintain confidentiality, integrity and availability of computer systems



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M.Sc. Physics Part I	
Security Management SEM-II (Credit -1)	
Introduction To Cyber Security II	
Course Outcomes	
CO No.	
CO1	To understand and comprehend how to manage risks in the real world.
CO2	To develop an ability for security management and its application to protecting assets, infrastructure and people.

M.Sc. Physics Part II	
Introduction To Cyber Security III	
Information and Network Security SEM-I (Credit -1)	
Course Outcomes	
CO No.	
CO1	To understand basics of Cryptography and Network Security.
CO2	To learn issues of security management and its application to protecting assets, infrastructure and people.
CO3	To adapt risk management methods and skills to their current area of expertise in cyber security

M.Sc. Physics Part II	
Introduction To Cyber Security IV	
System and Application Security SEM-II (Credit -1)	
Course Outcomes	
CO No.	
CO1	To understand and learn various methods for securing a message over internet.
CO2	To learn about how to maintain the Confidentiality, Integrity and availability of data.
CO3	To understand various protocols for network security to protect against the threats in the networks.

M.Sc. Physics Part II	
(30095) Introduction to Constitution SEM-II (Credit -2)	
Course Outcomes	
CO No.	
CO1	Students will understand the historical background of the Indian Constitution. They will get the knowledge of the Preamble of India.
CO2	Students will aware of all fundamental rights which are given by the constitution to all Indians.
CO3	Students will understand Directive Principles of the state policy.
CO4	Students will aware of their fundamental duties for the nation.

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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Zoology



Name of the Programme : B.Sc. Zoology

PO NO.	OUTCOMES <i>students will able to -</i>
PO1	Understand and be aware of relevant theories, paradigms, concepts and principles of Zoology.
PO2	Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.
PO3	Compare and contrast the characteristics of animals that differentiate them from other forms of life.
PO4	Apply the knowledge of Zoology to understand the complex life Processes and phenomena.
PO5	Explain the role of various biomolecules in living systems
PO6	Communicate scientific information through effective formal and informal methods generally used in sciences.
PO7	Understand the structure and functions of cell types
PO8	Acquire time management and self-management skills.
PO9	Relate the various abiotic factors with health of living forms and ecosystems.
PO10	Conduct basic scientific research and provide inputs for societal benefits.
PO11	Develop competence in basic sciences and in the content of the specific courses that constitute the principal knowledge of their degree.
PO12	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning.


Head

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Name of the Programme: B.Sc. Zoology

Name of the Class	Course Code	Course Title	Course Outcomes <i>students will able to -</i>	
F. Y. B. Sc	ZO-111	Animal Diversity I	CO1	Understand the importance of diverse group of animals.
			CO2	Understands the importance of classification of animals and classifies them effectively using the six levels of classification.
			CO3	Study of morphology, habit and habitat, and detail study of <i>Paramecium</i> .
			CO4	Demonstrate anatomical and physiological attributes of each animal group and why these have led to their success.
			CO5	Knows his crucial role in nature as a protector, preserver and promoter of life, which he has achieved by learning, observing and understanding life.
F. Y. B. Sc.	ZO-112	Animal Ecology	CO1	Identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.
			CO2	Understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.
			CO3	To link the details of food chains, food webs and links it with human life for its betterment and for non-exploitation of the biotic and abiotic components.

			CO4	Working in nature to save environment will help development of leadership skills to promote betterment of environment.
			CO5	To Identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.
F. Y. B. Sc.	ZO-113	Zoology Practical Paper	CO1	Understands the importance of classification of animals and classifies them effectively using the six levels of classification
			CO2	To understand the differences and similarities in the various aspects of classification.
			CO3	Explain various modifications in Invertebrate groups.
			CO4	The study of relationship between living organisms and their environment.
			CO5	To understand and evaluate natural resource issues and act on a lifestyle that conserves nature.
F. Y. B. Sc.	ZO-121	Animal Diversity II	CO1	State the outline of animal classification of non-chordates
			CO2	Categorize the diversity found in the invertebrate groups of animals like Arthropoda, Mollusca and Echinodermata.
			CO3	Explain various adaptations in insects including mimicry and metamorphosis
			CO4	Describe the morphology, habit and habitat, systematic position and various systems in Star fish.
			CO5	Classify the higher invertebrate groups.
F. Y. B. Sc.	O-122	Cell Biology	CO1	Differentiate prokaryotic and Eukaryotic cells.
			CO2	Describe the structure and functions of cell organelles.
			CO3	Explain the principles of staining.
			CO4	Explain the cell division process and its significance.
			CO5	The cellular mechanisms and its functioning depend on endo-membranes and structures. They are best studied with microscopy.
F. Y.	ZO-123	Zoology	CO1	Identify various animals based on morphological features.

B. Sc	ZO-123	Practical Paper-I		
			CO2	Prepare stained slides of mitosis and identify the cell division phases
			CO3	Detect human blood group
			CO4	Understand economic importance of vermicomposting unit
			CO5	Experience the field visit and insect pest collection
S. Y. B. Sc.	ZO-231	Animal Systematics and Diversity III	CO1	List the various animals in a given phylum and state the outline of animal classification of non-chordates and higher invertebrate groups.
			CO2	The students will be able to understand the complexity and understand different life functions of higher vertebrates
			CO3	Explain various modifications in these groups and the need of the modification for survival.
			CO4	The students will be able to understand the linkage among different groups of higher vertebrates.
			CO5	Categorize the diversity found in the invertebrate groups of animals like Arthropoda, Mollusca and Echinodermata.
S. Y. B. Sc.	ZO-232	Applied Zoology I	CO1	Define the concepts of the applied subjects like Agricultural pest and Sericulture.
			CO2	Identify different species of pests and species of silkworm.
			CO3	Explain the tools and techniques used in Agricultural pest control and sericulture.
			CO4	Explain the importance of Agricultural pest, their control and sericulture.
			CO5	Describe the economic importance of silkworm.
S. Y. B. Sc.	ZO-233	Zoology Practical Paper	CO1	The students will be able to understand, classify and identify the diversity and the complexity of higher vertebrates.
			CO2	The students will be able to understand the linkage among different groups of higher vertebrates.
			CO3	Identify different species of silkworm and types of agricultural pests, Major insect pests of agricultural importance and Pest control practices.

			CO4	Understand sericulture management and economically important species of silkworms.
			CO5	Describe the common agricultural pests from nearby area.
S. Y. B. Sc.	ZO-241	Animal Diversity IV	CO1	List the various vertebrate animals in a given class and the outline of chordate classification.
			CO2	Identify poisonous and non-poisonous snakes.
			CO3	Explain various modifications in the given group of animals and in avian group as well as migration and flight in birds.
			CO4	Describe the morphology, habit and habitat. Systematic position and various systems in Scoliodon.
			CO5	Categorize the diversity found in the vertebrate groups of animals like reptiles, birds and mammals.
S. Y. B. Sc.	ZO-242	Applied Zoology II	CO1	Define the concepts of the applied subjects like Apiculture and Fisheries.
			CO2	Explain the tools and techniques used in aquaculture and agricultural practices.
			CO3	Describe the economic importance of honeybee and fish species commonly used in Apiculture, fishery business.
			CO4	Select economically important species of <i>Apis</i> for honey production.
			CO5	Illustrate management of the apiary and fisheries units.
S. Y. B. Sc.	ZO-243	Zoology Practical Paper	CO1	Identify animals of higher groups in Invertebrates and Vertebrates.
			CO2	Distinguish between poisonous and non-poisonous snakes
			CO3	Explain the modifications and adaptations in animals.
			CO4	Observe the various tools, crafts and gears used in Apiary and Fishery.
			CO5	Illustrate management of the apiary and fisheries units
			CO6	Describe External features and economic importance of freshwater and Marine water fishes and other aquaculture organisms
			CO7	Experience the field visit at Fishery centre
T. Y. B. Sc.	ZO-351	Pest Management	CO1	Define pest management and describe the economic, ecological, and

				sociological benefits of IPM.
			CO2	Understand problems resulting from misuse, overuse, and abuse of chemical pesticides and describe pesticide resistance and how it develops.
			CO3	Identify ecological and biological characteristics important in development of pest populations.
			CO4	Analyses and compare management tactics to determine the best approach to reducing pest populations, weeds, and disease presence.
			CO5	Locate appropriate, scientifically valid sources of information on specific tactics to manage insect pests and diseases.
			CO6	Describe different groups of pests and compare them to weeds and plant pathogens and know and how to develop an IPM program
T. Y. B. Sc.	ZO-352	Histology	CO1	Define the basic terms in histology.
			CO2	List the various types of tissues.
			CO3	Identify the histological peculiarities in various organs.
			CO4	Explain the location, structure and functions of various organs.
			CO5	Illustrate the histology of endocrine glands.
			CO6	Diagrammatically represent the various organs.
T. Y. B. Sc.	ZO-353	Biological Chemistry	CO1	Define the basic terms in biochemistry.
			CO2	Basic concepts pH and Buffers and basic terms solution preparation.
			CO3	To understand the chemical structures of carbohydrate, proteins, lipids and their biological and clinical significance.
			CO4	Able to understand, interpret structure and importance of proteins, carbohydrates and lipids
			CO5	Able to comprehend variations in enzyme activity and kinetics.
T. Y. B. Sc.	ZO-354	Genetics	CO1	Define the terminologies in genetics.
			CO2	Explain the concept of mutation.

			CO3	Explain Mendel's principle, its extension and chromosomal basis and determination of gene action from genotype to phenotype and concepts of inheritance.
			CO4	Basic Concepts in population genetics Mandolin population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating). Hardy Weinberg law and its equilibrium.
			CO5	Know Sex linked inheritance in human Colour – blindness. Hemophilia. Hypertrichosis.
			CO6	Describe the chromosome anomalies and associated disorders
T. Y. B. Sc.	ZO-355	Developmental Biology	CO1	Identify the developmental stages
			CO2	Describe the key events in early and systematic embryological development.
			CO3	Describe the process of gametogenesis and chick development up to 96 hours of incubation and extra embryonic membranes.
			CO4	Explain the theories of reformation, and concepts like growth, differentiation and reproduction.
			CO5	Explain the principles and process of fertilization and cleavage.
T. Y. B. Sc.	ZO-356	Parasitology	CO1	The students will be able to learn about basics and scope of parasitology.
			CO2	The students will be able to learn the types of host and parasite with examples.
			CO3	The students will be able to learn about the morphology, life cycle, pathogenicity and treatment of common parasites (Protists and Platyhelminthes).
			CO4	The students will be able to learn about host -parasite relationships and their effects on host body.
			CO5	The students will be able to learn about the arthropod parasites and their role as vector.
T. Y. B. Sc	ZO-357	Practicals in Zoology	CO1	Describe different groups of pests and plant pathogens.
			CO2	Describe different pests and diseases of honeybees. Detection of damage caused by pests.
			CO3	Describe the beneficial insects, detection of damage caused by pests, plant disease and its intensity.

			CO4	Explain and identify the histological peculiarities in various organs.
			CO5	Explain the location, structure and functions of various organs.
			CO6	Explain and illustrate the histology of endocrine and exocrine glands.
			CO7	Illustrate the toxic effects of chemicals in the environment on human and his livestock.
T. Y. B. Sc.	ZO-358	Zoology Practical Paper 2	CO1	Explain the enzyme activity and specific activity of an enzyme.
			CO2	Detection of carbohydrates (monosaccharide's, disaccharides and polysaccharides) with the help of suitable tests.
			CO3	The students will be able to understand, interpret structure and importance of proteins, carbohydrates and lipids.
			CO4	Explain Mendel's principle, its extension and chromosomal basis of inheritance. Determination of gene action from genotype to phenotype and concepts of inheritance.
			CO5	Detect human blood group and identify the human genetic traits.
			CO6	Genetic disorders, structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).
T. Y. B. Sc.	ZO-359	Zoology Practical Paper - III	CO1	Understands the basics about growth, differentiation, dedifferentiation, cell determination, cell communication, morphogenesis, induction and regeneration.
			CO2	Describe the key events in early and systematic embryological development.
			CO3	Describe the chick development up to 96 hours of incubation and extra embryonic membranes.
			CO4	Describe the life cycle, pathogenicity, diagnosis and treatment of <i>Entamoeba histolytica</i> and <i>Plasmodium vivax</i> through permanent slides or microphotographs.
			CO5	Describe the life cycle, pathogenicity, diagnosis and treatment of <i>Ascaris lumbricoides</i> and <i>Taenia solium</i> through specimen, permanent slides or microphotographs.

			CO6	Convince the importance of hygiene with respect to epidemic diseases.
	ZO-3510	Aquarium Management	CO1	Explain exotic and endemic species of Aquarium Fishes and nutritional value of fish.
			CO2	Describe characters and sexual dimorphism of Aquarium fishes - Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish, Butterfly fish and Fighter fish.
			CO3	Describe Maintenance of Aquarium, common diseases of Aquarium fish and budget for setting up an Aquarium
			CO4	Understand Physico-chemical parameters of water for fish culture, Fish preservation and Fish breeding techniques
			CO5	The potential scope of Aquarium Fish Industry as a Cottage Industry.
T. Y. B. Sc.	ZO-3511	Poultry Management	CO1	Explain exotic and endemic species of pultry and its nutritional value.
			CO2	To understand the poultry breeding techniques.
			CO3	To understand poultry rearing techniques
			CO4	To understand feeding requirement and food ingredients.
			CO5	To understand the poultry disease and their pathogens.
			CO6	To understand market value of poultry products.
T. Y. B. Sc.	ZO-361	Medical & Forensic Zoology	CO1	To understand the basics principles of Medical and Forensic Zoology.
			CO2	To understand the advancements in the field of Medical and Forensic Zoology.
			CO3	To understand scientific methods in crime detection.
			CO4	To understand modern tools, techniques and skills in forensic investigations.
			CO5	To describe the fundamental principles and functions of forensic science and its significance to human society.
			CO1	To understand the basics principles of Medical and Forensic Zoology.
T. Y. B. Sc.	ZO-362	Animal Physiology	CO1	To describe various physiological organ-systems and their importance to the integrative functions of the human body.

			CO2	Understand Concept of energy requirements and various aspects of digestive physiology.
			CO3	Explain circulatory system with medical conditions
			CO4	Understand Respiratory mechanism and gases transport and eliminations of waste materials from the body.
			CO5	Understand structure, functions of muscles, formation of gametes and function of endocrine glands.
T. Y. B. Sc.	ZO-363	Molecular Biology	CO1	Understand the Structure of DNA and RNA, as genetic material
			CO2	Understand the Central Dogma of Molecular Biology
			CO3	Explain the concept of gene regulation
			CO4	Understand the DNA Damage and Repair
			CO5	Develop basic understanding of structure-function relationships of nucleic acids and proteins.
			CO1	Understand the Structure of DNA and RNA, as genetic material
T. Y. B. Sc.	ZO-364	Entomology	CO1	Understand basic concepts in Entomology and its scope.
			CO2	Learn morphology and anatomy and development process of Insects.
			CO3	Explain various adaptations in insects including mimicry and metamorphosis
			CO4	Identify disease causing insect vectors.
			CO5	Know economically important insects and Pest management of harmful insects, design and implement pest controlling methods against pests.
T. Y. B. Sc.	ZO-365	Techniques in Biology	CO1	Define the basic terms solution preparation
			CO2	List the separation techniques.
			CO3	Describe the techniques used in hematology.
			CO4	Explain the principle of separation techniques.
			CO5	Explain the procedure of preparing permanent histological slides.
			CO6	Illustrate the working of microscopes.
			CO7	Analyze the dimensions of the biological samples.
			CO8	Justify the selection of fixatives for histological procedures.

T. Y. B. Sc.	ZO-366	Evolutionary Biology	CO1	Define organic evolution and evolution of man.
			CO2	Explain the theories of organic evolution.
			CO3	Describe the concept of origin of life and theories of origin of life
			CO4	Describe evolution of man.
			CO5	Illustrate the presence of organisms at various geological time scales.
			CO6	Apply the knowledge in relevant experimentations.
T. Y. B. Sc.	ZO-367	Zoology Practical Paper – I	CO1	To understand modern tools, techniques and skills in forensic investigations.
			CO2	To describe the fundamental principles and functions of forensic science and its significance to human society.
			CO3	Carry out routine analysis of given urine sample, determine serum urea, uric acid calcium
			CO4	To examine hair morphology and determine the species to which the hair belongs and prepare slides of scale pattern of human hair.
			CO5	Estimate haemoglobin, blood glucose level, differential count of blood.
			CO6	Estimation of bleeding and clotting time.
T. Y. B. Sc.	ZO-368	Zoology Practical Paper – II	CO1	Isolation of DNA from Bacteria / liver / Onion and staining of DNA and RNA
			CO2	Able to study absorption spectra of isolated DNA
			CO3	Describe principle & application of Spectrophotometer & PCR.
			CO4	Illustrate the role of household insects in relation to human health.
			CO5	Estimate hemoglobin, blood glucose level, differential count of blood cells.
			CO6	Classify medically important insects.
			CO7	Justify the significance of social organization in insects and choose the control measures of medically important insects.
T. Y. B. Sc.	ZO-369	Zoology Practical Paper – II	CO1	Use techniques like chromatography, spectrophotometry in biological experiments.
			CO2	Observe different kind of cells under compound microscope and its

				measurement using micrometer scale or by image analysis software.
			CO3	Tissue collection, fixation & block preparation
			CO4	Sectioning, staining & mounting of animal tissues. Submission of any three permanent slides from three different organs
			CO5	Identify the fossil types/ adaptations in animals, explain the stages of human evolution.
			CO6	Elucidate the difference between ape and man.
			CO7	Explain the evidences of evolution
T. Y. B. Sc.	ZO-3610	Environmental Impact Assessment.	CO1	Understand Importance of environment and explain definition and divisions of environment.
			CO2	Describe types pollution and its impact on wildlife, natural resources, development.
			CO3	Explain sustainable development, exploitation of natural resources, Concept of carrying capacity, Three pillars of Sustainability, UN 17 Sustainable Development Goals (SDGs)
			CO4	Create awareness of Environmental Protection acts.
			CO5	Understand Environmental Impact Assessment (EIA) and Stakeholders in EIA process.
			CO6	Knows Overview of Scheme for Accreditation of EIA Consultant Organizations (NABET / QCI)
T. Y. B. Sc.	ZO-3611	Project Project	CO1	Understand Importance of environment and explain definition and divisions of environment.
			1.	Planning the project.
			2.	Selecting a suitable title.
			3.	Significance of the work.
			4.	Hypothesis, Objectives.
			5.	Reviewing the available literature.
			6.	Methodology to be used and Outcomes of the Project work.
			7.	Conclusion and Discussion and Future plans.
			8.	Conclusion and Discussion and Future plans.



Head

Department of Zoology
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



**Co-ordinator
IQAC Committee**

Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-28.



PRINCIPAL

Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
Pune- 411028.



Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Microbiology



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
 Hadapsar, Pune- 411028
 Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: B.Sc. Microbiology

PO NO.	OUTCOMES
PO1	Disciplinary Knowledge: Comprehensive knowledge and coherent understanding of the Chemistry. Execute compensatory theoretical and practical understanding generated from the specific graduate programme in the area of work.
PO2	Deliberative Thinking and Problem solving: Exhibit the skills of analysis, inference, interpretation and problem-solving by observing the situation closely and design the solutions. In-depth knowledge in Microbiology through understanding of key concepts, principles, theories and their manifestations.
PO3	Social competence: Display the understanding, behavioural skills needed for successful social adaptation ,work in groups, exhibit thoughts and ideas effectively in writing and orally.
PO4	Research-related skills and Scientific temper : Able to apply skills to design and conduct independent experiments, interpret, establish hypothesis and inquisitiveness towards research. Critical and analytical thinking, scientific reasoning, creativity, problem-solving skills, communication skills and teamwork.
PO5	Trans-disciplinary knowledge: Integrate different disciplines to uplift the domains of cognitive abilities and transcend beyond discipline-specific approaches to address a common problem. Knowledge and skills in Chemistry and related interdisciplinary areas thereby enhancing students' employability /entrepreneurship.
PO6	Personal and professional competence: Performing dependently and also collaboratively as a part of a team to meet defined objectives and carry out work across interdisciplinary fields. Execute interpersonal relationships, self-motivation and adaptability skills and commit to professional ethics.
PO7	Effective Citizenship and Ethics: Moral and ethical awareness, leadership qualities, innovation, and life-long learning.
PO8	Environment and Sustainability: Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development. Emaculate digital skills in Microbiology and interdisciplinary areas.
PO9	Self-directed and Life-long learning: Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes. Multicultural and multilingual competence, inclusive spirit, and value education.

Department of Microbiology
 Annasaheb Magar Mahavidyalaya.

Co-ordinator
 IQAC Committee

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Name of the Programme: B.Sc. Microbiology

Name of The Class	Course Code	Course Title	Course Outcomes	
SEM I				
F.Y. B.Sc	MB 111	Introduction to Microbial World	CO1	Students will Acquire knowledge of different Eras of Microbiology and become acquainted with Nobel laureates in Life Sciences of 21st Century
			CO2	Students will be able to identify, classify fungi into 6 classes based on morphological characterization.
			CO3	Students will be able to conceptualize, understand and use bacteria
			CO4	Gain knowledge about different types of Microorganism with their differentiating characters
			CO5	Students will be able to understand Neo-Darwinism and its importance in prokaryote evolution
			CO6	Understand beneficial and harmful effects of microorganisms in different fields of Microbiology
F.Y. B.Sc	MB 112	Basic Techniques in Microbiology	CO1	Students will Get knowledge of Modern SI units
			CO2	Students will Understand Principles and Working of different types of Microscopes
			CO3	Students will Gain knowledge of different types of staining techniques and role of fixatives, mordants, decolourisers

				and accentuators in staining
			CO4	Students will Understand the concept of sterilization and disinfection
			CO5	Students will learn the operations of Electron microscopic techniques
			CO6	Students will Understand Principles and Working of different electron types of Microscopes
F.Y. B.Sc.	MB 113	Practical Course based on theory paper I	CO1	Students gain the knowledge of Modern SI units
			CO2	Students will Gain knowledge of different types of staining techniques and role of fixatives, mordents, decolourisers and accentuates in staining
			CO3	Students will learn structure, organization and functions of carbohydrates, lipids, proteins & nucleic acids
			CO4	Students will Understand Principles and Working of different electron types of Microscopes
			CO5	Students will equipped with designing of different media
			CO6	Students will acquire the counting of microbial
			SEM II	
F.Y. B.Sc	MB 121	Bacterial Cell and Biochemistry	CO1	Students will learn to Classification of Carbohydrates
			CO2	Students will learn Understand structure, chemical composition and functions of the components in bacterial cell
			CO3	Students will learn Comprehend chemical basis of Microbiology
			CO4	Students will learn Learn structure, organization and functions of carbohydrates, lipids, proteins & nucleic acids

			CO5	Be familiar with classification of bacteria (Bergey's Manual and Systemic Bacteriology) and Viruses (ICTV Nomenclature)
			CO6	Students will learn Comprehend chemical basis of Microbiology
F.Y. B.Sc	MB 122	Microbial cultivation and growth	CO1	Students will acquire various microbial cultivation methods
			CO2	Gain knowledge of cultivation of microorganisms: Nutritional classification, Design and Preparation of media
			CO3	Students will acquire Comprehend isolation and maintenance of bacteria, algae, fungi, actinomycetes and viruses
			CO4	Students will acquire Understand the Role of National Biodiversity Authority for culture collection centres
			CO5	Students will acquire Become acquainted with Bacterial growth kinetics, Growth curve, Generation time and Diauxic growth
			CO6	Students will acquire Learn different methods of enumeration of bacterial growth with factors affecting bacterial growth
F.Y. B.Sc	MB 123	Practical Course based on theory paper I	CO1	Students gain the knowledge of Modern Staining methods and units
			CO2	Students will Gain knowledge of different types of staining techniques and role of fixatives, mordents, decolourisers and accentuates in staining
			CO3	Students will learn structure, organization and functions of carbohydrates, lipids, proteins & nucleic acids
			CO4	Students will Understand Principles and Working of different electron types of Microscopes

			CO5	Students will equipped with designing of different media
			CO6	Students will acquire the counting of microbial
SEM III				
F.Y. B.Sc	MB 231	Medical Microbiology and Immunology	CO1	Students will learn and acquire knowledge about the concept of epidemiology with respect to terms like incubation period, vability, susceptibility, pathogenicity, virulence, pathogenesis, lab diagnosis, epidemics, sporadic, endemic and pandemic.
			CO2	Students will be able to acquainted with knowledge of human pathogens such as <i>Escherichia coli</i> , <i>Staphylococcus aureus</i> and Fungi like Yeast- <i>Candida</i> as well as Dermatophytes.
			CO3	Students will be able to conceptualize, understand and use Principles of Chemotherapy based on Selective toxicity, Bioavailability, MIC, MBC, LD50. Accustomed with the terms Antagonism and synergism in drug administration., Antibiotic sensitivity, Antibiotic misuse/antibiotic overuse and Concept of drug resistance (e.g., MRSA, ESBL)
			CO4	Students will be able to comprehend the term immunity and able to differentiate its types.
			CO5	Students will be able to understand the haematopoiesis, Antigens and antibodies, Immunohematology, Inheritance of A, B, H antigens, Medico legal applications of blood groups
			CO6	Students will be able to Understand the Active and Passive immunization and their examples.
F.Y. B.Sc	MB 232	Bacterial	CO1	Students will be acquainted with the

		Physiology and Fermentation Technology		term Enzymes, its nomenclature and classification. They will understand models for catalysis.
			CO2	Students will understand the effect of pH, temperature, substrate concentration, enzyme concentration, activators and inhibitors on enzymes.
			CO3	Students will gain the concept of Bacterial Physiology with reference to metabolism, catabolism, anabolism, respiration and fermentation.
			CO4	Students will understand the concept of the different metabolic pathways with structures
			CO5	Students will learn the design of a fermenter, fermentation parameters, use of media for industrial fermentations
			CO6	Students will come to know the sources of contamination during fermentations
SEM IV				
F.Y. B.Sc	MB-233	Practical Course based on MB-231: Diagnostic Microbiology and	CO1	After completion of the course students will be able to, understand and appreciate microscopic nature of microorganisms and also measure cell dimensions
			CO2	After completion of the course students will be able to, perform and explain mechanism of cell wall staining.
			CO3	After completion of the course students will be able to, perform gram staining and motility of microorganisms.
			CO4	After completion of the course students will be able to, understand and explain mechanisms and perform sugar utilization test, IMViC test, various enzyme detection test.

			CO5	After completion of the course students will be able to, perform screening test for antibiotic producing and organic acid producing microorganism.
			CO6	After completion of the course students will be able to, perform screening and isolation of industrially important enzymes.
F.Y. B.Sc	MB 241	Air, Water and Soil Microbiology	CO1	After Learning the course students will be acquainted with the knowledge of the Air Microbiology, methods of air sampling, different types of air samplers, air sanitation and airborne infections
			CO2	Students will understand the Details of water microbiology including bacteriological analysis of water, methods of water purification, water borne infections and bacteriological standards of water quality
			CO3	Students will gain the importance of Soil Microbiology, rhizosphere, composting and humus formation, biofertilizers, biocontrol agents and microbial interactions.
			CO4	Students will understand and acquire knowledge of carbon and nitrogen cycles with role of microorganisms
F.Y. B.Sc	MB-243	Practical Course based on MB-241: Bacterial Genetics and MB-242: Air, Water and Soil Microbiology	CO1	After completion of the course students will be able to, understand principle and perform following staining technique – 1)Flagella Staining and 2) Metachromatic Granules
			CO2	After completion of the course students will be able to, perform air sampling and count bacterial and fungal count.
			CO3	After completion of the course

				students will be able to, understand and appreciate diversity in air flora and understand Simpson index and settling velocity determination
			CO4	After completion of the course students will be able to, understand and perform bacteriological test for potability of water
			CO5	After completion of the course students will be able to, understand UV- survival curve, Mutation and perform replica plate.
			CO6	After completion of the course students will be able to, understand how water treatment plant works.
SEM V				
T.Y. B.Sc.	MB 351	Medical Microbiology - I	CO1	Students will understand the human anatomy, pathogens associated with diseases.
			CO2	Students acquire knowledge of principles underlying establishment of pathogens in human body.
			CO3	Develop identification systems for microbial disease diagnosis, disease treatment and Prevention measures
			CO4	Students will be equipped with comprehend of pathogenesis of specific pathogens causing microbial diseases.
			CO5	Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.
			CO6	Students will gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate
T.Y.	MB-352	Immunology-	CO1	Students will Understand immune

B.Sc.		I		system structure, composition, function and comparison of different types of immunity
			CO2	Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immunodeficiencies.
			CO3	Applications of Immunology in monoclonal antibodies, vaccines Production and Immunotherapy Acquired by students
			CO4	Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology.
			CO5	To develop strategies for Diagnosis of diseases based on antigen and antibody reactions with emphasis on prevailing communicable diseases
T.Y. B.Sc.	MB 353	Enzymology	CO1	Students will understand methods of active site determination, role of enzymes and its cofactors in microbial physiology
			CO2	. Students will learn mechanisms of transport of solutes across the membrane
			CO3	Students will learn to perform enzyme assay, purification and quantification of enzymes activity,
			CO4	enzyme kinetics in terms of initial, final velocity, mathematical expression of enzyme kinetic parameters.
			CO5	Students will correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes
			CO6	Students will come to know applications of enzymes technology
T.Y. B.Sc.	MB 354	Genetics	CO1	Students will understand To exhibit a knowledge base in Genetics and Molecular Biology.
			CO2	Students will learn To construct genetic

				map of bacteria and fungi.
			CO3	Students will learn To understand the central dogma of Molecular Biology.
			CO4	To get introduced to concept of recombination and bacteriophage Genetics.
			CO5	Students will correlate To understand the concept cloning in bacteria.
			CO6	Students will come to know To demonstrate the knowledge of common and advanced laboratory practices in Molecular Biology
T.Y. B.Sc.	MB 355	Fermentation Technology-I	CO1	Students will understand To acquaint fermentation economics, process patentability, process validation.
			CO2	Students will learn To apply classical, advanced strain improvement and isolation techniques for fermentation processes.
			CO3	Students will learn to perform and comprehend the large scale productions of commercially significant fermentation products classical and recent significance.
			CO4	Students will learn to perform, optimize and sterilize media used in the fermentation industry for commercially economical and efficient fermentations.
			CO5	Students will be capable using suitable methods an ensuring quality of the finished product by quality assurance tests.
			CO6	Students will come to know technical understanding of commercial fermentations.
T.Y. B.Sc.	MB 356	Agricultural Microbiology	CO1	Students will understand the importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines.
			CO2	Students will learn To understand plant growth improvement with respect to disease resistance, environment tolerance.

			CO3	Students will learn to perform To correlate stages of plant disease development, epidemiology, symptom based classification, control methods.
			CO4	To correlate Soil Microbiome and Role of microorganisms in soil health
			CO5	Students will To determine the use of Microorganisms as tools in plant genetic engineering
			CO6	Students will come to know applications of enzymes technology
T.Y. B.Sc.	MB 358	Practical Course – II- Enzymology and Genetics	CO1	Students will understand methods of Determination of absorption spectra and molar extinction co-efficient of two different dyes (by colorimetry /spectrophotometry)
			CO2	Students will learn mechanisms of Extraction and quantitative estimation of total carbohydrate /proteins from natural sample
			CO3	Students will learn to perform Determination purity of DNA and its quantification: a. Estimation of DNA by UV-spectrophotometric method, 260/280 ratio b. Estimation of DNA by the diphenylamine
			CO4	Students will understand Separation and Identification of amino acids from mixture by paper chromatography
			CO5	Students will able to do Chromosome Staining (G-banding) Giemsa staining of chromosome from eukaryotic cell extract
			CO6	Students will able to know Bacterial Conjugation concept
T.Y. B.Sc.	MB 359	Practical course III- Fermentation Technology- I and Agricultural Microbiology	CO1	Students will understand Sterility Testing of pharmaceuticals (non-biocidal injectables): Direct inoculation method, membrane filtration method, using control test cultures as per IP guidelines availability at the centre).
			CO2	Students will learn mechanisms, Minimum inhibitory

				concentration and minimum bactericidal concentration of antibacterial compounds (MIC and MBC)
			CO3	Students will learn to perform Antibiotic and growth factor assay (agar gel diffusion technique)
			CO4	Students will correlate Validation of commercial formulations of bio inoculants based on BIS standards, Pot studies to check effect of bio inoculants on plant growth.
			CO5	Students will correlate Collection of plant disease specimens and study of symptoms/ Project based on digital record of plant diseases (Group Activity)
			CO6	Students will correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes
T.Y. B.Sc.	MB 3510	Marine Microbiology	CO1	Students will be imparting the awareness of unseen and unexplored niche of marine ecosystem of microbes.
			CO2	Students Isolation of extremophilic bacteria – halophiles, thermophiles, acidophilus, alkaliphiles, Psychrophiles, omophiles (any two of these)
			CO3	Students will be acquire advances in the knowledge of marine microbes and marine ecology.
			CO4	Students will be learn the field research on marine processes and laboratory research on microorganisms.
			CO5	Students will perform Physiology of marine microorganisms metabolic diversity, marine loop, marine snow, Role of marine microorganisms in biogeochemical cycles, nutrient cycling and hydrocarbon degradation
			CO6	Students will comprehend the role of marine microbes in bioremediation and bio prospecting.

T.Y. B.Sc.	Dairy Microbiology	MB 3511	CO1	Students will be understand prospects of dairying at commercial marketing.
			CO2	Students will be acquire skills of processing of milk and dairy products.
			CO3	Students will be assess quality control in dairy industry.
			CO4	Students will be comprehend production of dairy products of commercial significance with emphasis to local and global market demand
			CO5	Students will be assess sources of contamination of raw milk and relative importance in influencing quality of milk during production, collection, transportation, and storage, milk borne diseases
			CO1	Students will be understand prospects of dairying at commercial marketing.
SEM VI				
T.Y. B.Sc	MB 361	Medical Microbiology II	CO1	Students will Acquire knowledge of Routes of drug administration, Mode of action of antimicrobial agents on Bacteria, Fungi, Viruses and Protozoa.
			CO2	Students will be able to understand the mechanisms of drug resistance on a Genetic basis, Mechanisms of drug resistance by i. Limiting uptake of a drug. ii. Modification of a drug target. iii. Inactivation of a drug. iv. Active efflux of a drug
			CO3	Students will be able to conceptualize, and understand Human and Animal Viruses, Fungal and Protozoal Pathogens (with respect to – Virion, Characteristics, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis including serological diagnosis, Epidemiology, Prophylaxis and Chemotherapy)

			CO4	Gain knowledge about different types of parasites with respect to Classification, Lifecycle, Morphological characteristics, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis (Serological diagnosis wherever applicable), Epidemiology, Prophylaxis and Chemotherapy
			CO5	Students will be able to understand yeast and fungal pathogens With respect to – Morphological and cultural characteristics, Classification, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis, Epidemiology, Prophylaxis and Chemotherapy.
			CO6	Students will be able to conceptualize, and understand different types of Human and Animal Viruses, Fungal and Protozoal Pathogens
T.Y. B.Sc.	MB 362	Immunology II	CO1	Students will Get concept of Cytokines, Adaptive / Acquired Immunity, Hypersensitivity, Autoimmunity and Autoimmune diseases and Immunodeficiency
			CO2	Students will Understand Properties, Attributes and biological functions of cytokines
			CO3	Students will Gain knowledge of different types of Humoral Immune Response and Cell Mediated Immune Response
			CO4	Students will Understand the concept and General principles of different types of hypersensitivity reactions
			CO5	Students will learn the Autoimmunity and Autoimmune diseases
			CO6	Students will Understand Principles and Introduction to congenital immunodeficiency disorders.
T.Y. B.Sc.	MB 363	Metabolism	CO1	Students gain the knowledge of Membrane transport mechanisms.

			CO2	Students will Gain knowledge of Bioenergetics.
			CO3	Students will learn Laws of thermodynamics
			CO4	Students will Understand Biosynthesis and Degradation
			CO5	Students will learn Bacterial Photosynthesis: Photosynthetic bacteria with reference to photosynthetic apparatus, energy generation, and CO2 fixation
			CO6	Students will acquire the Concept and one example, Iron oxidizing bacteria
T.Y. B.Sc	MB 364	Molecular Biology	CO1	Students will learn the gene linkage and crossing over
			CO2	Students will Understand the Bacteriophage Genetics
			CO3	Students will learn Comprehend DNA damage and Repair mechanisms
			CO4	Students will learn Recombinant DNA Technology Tools and basics of recombinant DNA technology
			CO5	Be familiar with Methods of screening recombinants using selective markers and BlueWhite screening
			CO6	Students will learn Comprehend Molecular techniques used in RDT
T.Y. B.Sc	MB 365	Fermentation Technology II	CO1	Students will acquire Introduction to Solid State Fermentation and Submerged Fermentation
			CO2	Gain knowledge of Large scale production of (process with flow sheet, nature of the product, production pathway, applications, production strains, media, fermentation process, parameters, product recovery) of Primary Metabolites and Secondary metabolites
			CO3	Students will acquire Large scale production of enzymes, steroids,

				biomass-based products, milk products, vaccines, immune sera and Modern trends in microbial production
			CO4	Students will acquire Understand the Microbial transformation of steroids
			CO5	Students will acquire Become acquainted with Biomass based products: i. Yeast: Baker's and Distiller's yeast, ii. Probiotics: Lactobacillus sporogenes
			CO6	Students will acquire the production of Milk products: i. Cheese (Processed, soft, semi-hard, hard ripened types- bacterial and mold) ii. Yogurt (plain, flavoured, fruit, sundae style. Stirred type, set type, probiotic yoghurt)
T.Y. B.Sc	MB 366	Food Microbiology	CO1	Students gain the knowledge of Classification of food- Perishable, non-perishable, and stable
			CO2	Students will Gain knowledge of Factors affecting Microbial growth in food
			CO3	Students will learn Sources of food spoilage microorganisms
			CO4	Students will Understand Principles of food preservation
			CO5	Students will come to know Microbial food poisoning and food infection
			CO6	Students will acquire the Concept of Prebiotic and Probiotic and fermented food and Food sanitation and regulatory authorities (ISO, FDA, WHO)
T.Y. B.Sc	MB 367	Practical course I-based on Medical Microbiology II and Immunology II	CO1	Students will Study the permanent slides/ of following microbial pathogens: a) Entamoeba histolytica b) Giardia spp. c) Plasmodium spp. d) Mycobacterium (tuberculosis and leprae) 1 e) Epidermophyton spp.

			CO2	Students will be able to understand the Isolation and identification of Candida and Aspergillus niger, Total fungal spore count by Neubauer's chamber
			CO3	Students will be able to perform Antibiotic sensitivity testing of the bacterial pathogens (for Gram negative and Gram Positive)
			CO4	Gain knowledge and specify Cross-matching (Major and Minor) and Coomb's test (Direct and Indirect)
			CO5	Students will be able to understand and comprehend Immunoprecipitation: Double diffusion (Ouchterlony) technique
			CO6	Students will be able to Demonstrate- a. ELISA (Antigen/ Antibody detection) b. Egg inoculation technique
T.Y. B.Sc	MB 368	Practical course II-based on Metabolism and Molecular biology	CO1	Students will Get concept of Clinical Biochemistry and perform Estimations of Blood sugar, Blood urea, Serum cholesterol ,Serum proteins and albumin.
			CO2	Students will Understand and can perform Enzyme production, purification, quantification and Immobilization of Amylase using calcium alginate and Lab scale production of amylase using isolates
	CO3		Students will Gain knowledge of Enrichment, Isolation and Enumeration of Bacteriophages (Principle, Methodology and Calculations of phage titer.)	
	CO4		Students will Understand the concept of Isolation of Plasmid DNA and Agarose Gel Electrophoresis	
	CO5		Students will learn the demonstration/hands on as per infrastructure availability.	

			CO6	Students will have hands on practice of Mitotic cell division from onion root tips
T.Y. B.Sc	MB 369	Practical course III-based on Fermentation technology II and Food Microbiology	CO1	Students will examine the Lab Scale production of the fermentation products like Ethanol and Citric acid
			CO2	Students will perform Solid state fermentation for production of any one fermentation product (Trichoderma sp. / mushrooms / enzymes)
			CO3	Students will act on isolation and identification of Probiotic microflora from natural sources or any commercial formulation.
			CO4	Students will perform study of SOPs for pharmaceutical industry disinfectant efficacy testing, Physical monitoring of microbiology section, Handling of biological indicators, Microbiological testing of vials
			CO5	Students will learn Detection of aflatoxin
			CO6	Students will acquire the Determination of TDP and TDT value
T.Y. B.Sc	MB 3610	Waste Management	CO1	Students gain the knowledge of Principles of Wastewater Treatment and The need for treatment of wastewater
			CO2	Students will examine the role of microorganisms in wastewater treatment. Aerobic and Anaerobic digestion models; attached / anchored and suspended growth.
			CO3	Students will learn unit operations in wastewater treatment plant. Collection system, Screen chamber, Grit chamber, Oil and grease removal. Stabilization pond, Aerated lagoon. Activated sludge process.
			CO4	Students will Understand the Rotating biological contactors, anaerobic digestion processes, fluidized bed

				reactor.
			CO5	Students will learn Solid Waste Management and hazardous waste Characterization of solid wastes Dairy and e-waste. Biomedical waste Definition, Types, Processing.
			CO6	Students will acquire the Solid biodegradable waste processing: Composting, Vermicomposting, Biogas production.
T.Y. B.Sc	MB 3611	Nanobiotechnology	CO1	Students acquire the knowledge Introduction to nanoscale, nanomaterials, nanoscience and nanotechnology , Nanoscale bio assemblies
			CO2	Students will perform the Microbial mediated metallic nanoparticles synthesis
			CO3	Students will learn Characterization techniques for nanomaterials: UV-visual spectroscopy, Fourier transform infrared (FTIR), X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), Scanning electron microscopy (SEM), Transmission electron microscopy (TEM) and dynamic light scattering (DLS)
			CO4	Students will Understand Applications of nanoparticles: Antibacterial agent, drug delivery, biosensor, animal industry and nanotechnology in wastewater treatment
			CO5	Students will learn Microbial synthesis of metallic nanoparticle synthesis (any two): silver, chromium, cobalt)
			CO6	Students will acquire the Detection and Characterization of metallic nanoparticles in colloidal solutions by: a. UV-Spectrophotometer b. FTIR analysis


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Hadapsar, Pune-411028.



Name of the Programme: M.Sc. Microbiology

PO NO.	OUTCOMES
P01	Disciplinary Knowledge: Demonstrate Extensive knowledge of the disciplines that form a part of a graduate programme. Execute compensatory theoretical and practical understanding generated from the specific graduate programme in the area of work.
P02	Deliberative Thinking and Problem solving: Exhibit the skills of analysis, inference, interpretation and problem-solving by observing the situation closely and design the solutions.
P03	Social competence: Display the understanding, behavioural skills needed for successful social adaptation, work in groups, exhibit thoughts and ideas effectively in writing and orally.
P04	Research-related skills and Scientific temper: Develop the working knowledge and applications of instrumentation and laboratory techniques. Able to apply skills to design and conduct independent experiments, interpret, establish hypotheses inquisitiveness towards research.
P05	Trans-disciplinary knowledge: Integrate different disciplines to uplift the domains of cognitive abilities and transcend beyond discipline-specific approaches to address a common problem.
P06	Personal and professional competence: Performing dependently and also collaboratively as a part of a team to meet defined objectives and carry out work across interdisciplinary fields. Execute interpersonal relationships, self-motivation and adaptability skills and commit to professional ethics.
P07	Effective Citizenship and Ethics: Demonstrate empathetic social concern and equity centered national development, and ability to act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.
P08	Environment and Sustainability: Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development
P09	Self-directed and Life-long learning: Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes


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Name of the Programme : M.Sc. Microbiology

Name of the Class	Course Code	Course Title	Course Outcomes	
SEM I				
M.Sc. I	MBCT 111	Microbial Systematics	CO1	Students will be able to apply mathematical tools for estimation of the total number of species and for measuring indices of diversity.
			CO2	Students will be able to identify, classify fungi into 6 classes based on morphological characterization.
			CO3	Students will be able to conceptualize, understand and use molecular methods for identifying uncultivable bacteria
			CO4	Students will be able to execute the methods of extraction of total bacterial DNA
			CO5	Students will be able to understand Neo-Darwinism and its importance

				in prokaryote evolution
			CO6	Students will be able to learn the spontaneous mutation controverts, know the types and levels of mutations and molecular clocks.
M.Sc. I	MBCT 112	Quantitative Biology	CO1	Students will be able to determine Mean, mode, median, percentile and standard deviation.
			CO2	Students will understand the concepts of null hypothesis, alternate hypothesis, significance level, type I and type II errors.
			CO3	Students will learn to apply statistical tools for calculating degrees of freedom, two population means, t-tests and z test.
			CO4	Students will be able to learn non-parametric tests (Run test, Sign test, Wilcoxon's signed rank test, Mann-Whitney test).
			CO5	Students will be able to examine measures of skewness; measures of kurtosis and able to calculate regression and correlation.
			CO6	Students will learn to implement and interpret F-test, ANOVA, Survey design, Factorial design (Plackett Burman method, DOE).
M.Sc. I	MBCT 113	Biochemistry and Metabolism	CO1	Students will be able to describe protein chemistry, structural features of amino acids and classify amino acids
			CO2	Students will be able to demonstrate PCR and sequencing

				methods of DNA & RNA.
			CO3	Students will recite the organization of Cytoskeleton, Endoplasmic reticulum, Golgi complex and other organelles with their functions.
			CO4	Students will conceptualize principles of developmental biology, conserved nature of development, concepts of commitment and morphological gradient.
			CO5	Students will learn life cycle of Drosophila, Arabidopsis and Xenopus to understand the Molecular mechanisms.
			CO6	Students will be able to determine the mechanisms of protein trafficking in cell compartments.
M.Sc. I	MBCP 114	Biochemical Techniques Core Compulsory Practical Paper	CO1	Students will learn the laboratory safety and hazards from chemicals, handling of chemicals and disposal of chemicals and cultures.
			CO2	Students will be able to prepare buffers.
			CO3	Students will be able to plot and interpret different graphs using Microsoft excel.
			CO4	Students will isolate alkaliphiles, and thermophiles.
			CO5	Students will examine the stages of mitosis from the growing tips of onion rootcells.

			CO6	Students will be able to separate sugars and amino acids by paper and thin layer chromatography and estimate them.
M.Sc. I	MBET 115	Fungal Systematics and Extremophiles. Choice-based Optional Theory Paper (Elective)	CO1	Students will learn and recite the classes of fungi.
			CO2	Students will learn enrichment techniques to isolate extremophiles.
M.Sc. I	MBEP 115	Fungal Systematics and Extremophiles. Choice-based Optional Practical Paper (Elective)	CO1	Students will be able to isolate and identify yeast and molds
			CO2	Students will be able to isolate acidophiles and halophiles
SEM II				
M.Sc. I	MBCT121	Instrumentation and Molecular Biophysics	CO1	Students will understand the concepts of Instrumentation and Molecular Biophysics
			CO2	Students will be able to understand both fundamentals and applications of the instruments that are routinely used for the characterization of biomolecules.
			CO3	Students will understand the concept and applications of instruments
			CO4	Students will be able to understand the concepts of instrumentation including FTIR, NMR and X-Rays
			CO5	Students will be able to

				understand the techniques in detail of all the instruments used in researches.
			CO6	Students will be able to learn the concepts of biophysics and instrumentation
M.Sc. I	MBCT 122	Molecular Biology	CO1	Students will learn RNA processing & Molecular Techniques
			CO2	Students will understand the process of Eukaryotic RNA processing, Nuclear export of mRNA, types of regulatory, non coding RNA and PiRNA
			CO3	Students will be able to describe different tools for Genetic engineering
			CO4	Students will understand the concept of Genome projects, deciphering genetic code, construction of genomes
			CO5	Students will learn the Molecular diagnostics like protein arrays, microarrays, immunoassays and applications
			CO6	To make them familiar with various techniques used for molecular diagnostics.
M.Sc. I	MBCT 123	Enzymology, Bioenergetics and Metabolism	CO1	Students will learn about the enzyme reactions with respect to purification methods of purification chart, kinetics and coupled reactions.
			CO2	Students will be able to recite the Law of thermodynamics, free energy, coupled reactions, high energy compounds and numerical problems.
			CO3	Students will understand classification, structure of lipids

				with regulation in their metabolism
			CO4	Students will know the synthesis of sugars, regulation of sugar metabolism, TCA cycle, Glyoxylate cycle with their regulation mechanisms
			CO5	Students will learn the principles of enzyme reactions with respect to types, structure, and kinetics and coupled reactions.
			CO6	Students will be able to solve the numerical problems based on the concept of Enzymology.
M.Sc. I	MBCP 124	Molecular Biology, Enzymology and Instrumentation Techniques Core Compulsory Practical	CO1	Students will attain awareness about enzymology, molecular biology and instrumentation techniques
			CO2	Students will learn through experiments about concept of lac-operon; Glucose Repression; Diauxic growth.
			CO3	Students will be able to purify enzymes (Amylase/Invertase) by various methods and learn kinetics of enzymes.
			CO4	Students will be acquainted with Aflatoxin, lipase/cellulase/chitinase extraction and estimation.
			CO5	Students will study the method of molecular techniques and gene annotation using bioinformatics tools.
			CO6	Students will learn scientific communication modes like literature review.

				Experiment planning, experiment ation and presenting the thesis. Use of reference management tools and data mining tools.
M.Sc. I	MBET 127	Nitrogen Metabolism, respiration and Photosynthesis Theory Paper (Elective)	CO1	Students will learn about the biochemistry of biological nitrogen fixation and regulation
			CO2	Students will understand biosynthesis of amino acids, purines and pyrimidines
			CO3	Students will be able to describe the biochemistry of anaerobic respiration, methanogenesis and photosynthesis with various steps involved
M.Sc. I	MBEP 127	Nitrogen Metabolism, respiration and Photosynthesis Practical Paper (Elective Paper)	CO1	Students will be able to isolate micro organisms for production of IAA and Siderophore.
			CO2	Students will perform enrichment techniques for nitrogen fixing; lignin degrading; xylose degrading microbes as well as methanogens; cyanobacteria and fur ther isolate and characterize the isolated microorganisms.
			CO3	Students will be able to isolate and characterize the respective micro organisms from the enriched samples.
			CO4	Students will perform suitable method for Detection of chlorophyll-a activity of Cyanobacteria.
SEMESTER III				
M.Sc. II	MBCT 231	Immunology - Core Compulsory Theory Paper	CO1	Students will understand the concepts of Immunology
			CO2	This course will elucidate the concepts of signal transduction pathways to students
			CO3	They will be able to understand the different effector mechanisms of

				host immune response
			CO4	To acquaint students with the cell surface receptors present on various cells for signal transduction pathways.
			CO5	To aware students' about host immune response
			CO6	To enrich students' knowledge related to basic concepts of Immunology
M.Sc. II	MBCT -232	Molecular Biology: Core Compulsory Theory Paper	CO1	The concepts of Molecular Biology will be familiar to students
			CO2	Students will be able to understand the concept of Metabolomics.
			CO3	Detail knowledge about the concept and applications of transgenic plants and transgenic animals will be gained.
			CO4	To enrich students' knowledge related to Molecular Biology
			CO5	To inculcate the concepts of cell and Molecular Biology of cancer
			CO6	To make students well acquainted with the concepts of RNA interference and RNA splicing
M.Sc. II	MBCT 233	Clinical Microbiology	CO1	The concepts of medical microbiology and medically important micro-organisms will add on to students knowledge.
			CO2	Pupil will get to know about knowledge of morphology, cultural characteristics, biochemical tests, epidemiology, laboratory diagnosis etc of bacterial pathogens

			CO3	They will also understand the basics and applications of various chemotherapeutic agents and their mode of action
			CO4	The concepts of medical microbiology and medically important micro-organisms will add on to students' knowledge.
			CO5	To enhance students' knowledge related to Clinical Biology
			CO6	To aware and understand the details about bacterial, viral, fungal and protozoal pathogens related with infectious diseases in humans.
M.Sc. II	MBCP 234	Practical based on Immunology, Molecular Biology and Clinical Microbiology	CO1	Familiarity about techniques Immunology will be increased among students
			CO2	They will learn about Molecular Biology techniques
			CO3	Students will be acquainted with techniques in Clinical Microbiology
			CO4	To make students familiar to Techniques in Immunology
			CO5	To make them aware about Molecular Biology techniques
			CO6	To attain some expertise in techniques in Clinical Microbiology
M.Sc. II	MBET: 236	Bioremediation and Biomass Utilization Choice Based Optional Theory Paper (Elective)	CO1	Students will develop an interest in the field of bioremediation
			CO2	They understand the concepts of

				biomass utilization
			CO3	The ideology behind concepts and use of microbial degradation will be clear to them
			CO4	To introduce the concepts of bioremediation
			CO5	To get across students about the concepts of biomass utilization
			CO6	To set out the concepts of microbial degradation
M.Sc. II	MBEP: 236	Practicals based on Bioremediation and Biomass Utilization Choice Based Optional Practical Paper	CO1	Students will develop an interest in the field of bioremediation
			CO2	They understand the concepts of biomass utilization
			CO3	The ideology behind concepts and use of microbial degradation will be clear to them
			CO4	To introduce the concepts of bioremediation
			CO5	To get across students about the concepts of biomass utilization
			CO6	To set out the concepts of microbial degradation
SEMESTER IV				
M.Sc. II	MBCT 241	Pharmaceutical Microbiology Core Compulsory Theory Paper	CO1	In addition to drug development students will also understand the concepts of drug discovery
			CO2	They will be able to know pharmacokinetics and pharmacodynamics
			CO3	Besides this students will know the recent trends for MDR therapy also

			CO4	To enrich students' knowledge related to basic concepts in drug discovery and drug development.
			CO5	To inculcate the knowledge regarding the drug designing , pharmacokinetics and pharmacodynamics
			CO6	To aware students with the concepts of pharmaceuticals.
M.Sc. II	MBCT 242	Microbial Technology Core Compulsory Theory Paper	CO1	Students will learn about microbial technology and its applications
			CO2	They shall acquire knowledge about various process control methods in fermentation.
			CO3	Students will be acquainted with the applications. of microorganisms in different industries.
			CO4	To aware students about of microbial technology.
			CO5	To make them familiar with various techniques in fermentation.
			CO6	To teach them applications of microorganisms in various industries.
M.Sc. II	MBCP: 243	Dissertation	CO1	To enable students to choose a dissertation topic of research or application orientation
			CO2	To apply the theoretical knowledge into practical dissertation work.
			CO3	To inculcate the knowledge of Research designs, tools and

				techniques of gathering data.
			CO4	They will get an experience for gathering literature survey and apply it into practical dissertation work
			CO5	Students will be able to choose a dissertation topic of research or application orientation
			CO6	They shall also be educated for use of statistical analysis and graphical presentations
M.Sc. II	MBET 246	Industrial waste water treatment and Industrial production of vaccines	CO1	To aware students about the concepts of Industrial Waste Water Treatment
			CO2	Students will get to know the concepts of Industrial Waste Water Treatment
			CO3	They will also learn about sludge treatment
			CO4	The concept of Industrial Production of Vaccines will also be clear to them
			CO5	Students will be Acquainted with various techniques in fermentation.
			CO6	Students will learn the applications of microorganisms in various industries.
			CO1	To aware students about the concepts of Industrial Waste Water Treatment
M.Sc. II	MBEP 246	Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines	CO1	The concepts of Industrial Waste Water Treatment will be familiar to students
			CO2	Students get acquainted with the

				concepts of Industrial Production of Vaccines
			CO3	Students will be acquainted with the applications. of microorganisms in different waste water treatment.
			CO4	Students will be able to illustrate industrial production of vaccines
			CO5	To make them familiar with various techniques in vaccine preparation.
			CO6	To teach them applications of microorganisms in various waste treatments.
M.Sc. II	MBET 247	Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Theory Paper (Elective))	CO1	students equipped about the concepts of Quality Assurance reviewing and approval of procedures, reviewing records and performing audits
			CO2	students will understand about ethical conflicts in microbiological and biotechnological research
			CO3	The importance will be marked Biosafety Regulatory bodies (Role and functions)
			CO4	Their quince will be with Food Safety and Standards Authority of India (FSSAI) regulations test methods for water/butter/cheese/milk product for processed food industry and food industry
			CO5	Students will be educated about test methods for drinking water followed by the Food Safety and Standards Authority of India (FSSAI) regulations



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Pune District Education Association's

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Hadapsar,
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Programme & Course Outcome





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Self Study Report: 2024 (4th Cycle)

Department of Environmental Science



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune




Name of the Programme: M. Sc . Environmental science

PO NO.	OUTCOMES
PO1	Academic competence: Understand fundamental concepts, principles and processes underlying the field of Environmental Science, its interdisciplinary nature and create and disseminate knowledge to the students about environmental problems at local, regional and global scale.
PO2	Demonstrate an understanding of a wide range of Environmental techniques (e.g. basic water and soil analysis, microbiological methods, spectrophotometry, GIS based analysis, Ecological data analysis, Bio- assays, statistical data analysis and its applications, mathematical modelling
PO3	Personal and Professional Competence: Carry out laboratory-orientated numerical calculations and be capable in data visualization and interpretation. Related to Environmental Science, atmospheric science, Climatology, GIS and Remote sensing.
PO4	Analyze Environmental data (e.g. in Natural Resource Management, Habitat analysis and biological databases, watershed Management, Environmental pollution and its control.
PO5	Formulate ideas, write scientific reports, and demonstrate effective presentation, communication skill and standard practices of environmental protection
PO6	Research Competence: Apply environmental data analysis methodology in order to conduct research and demonstrate appropriate skill to seek innovative solutions to problems that emerge in various fields of Ecology and Environmental Science and interdisciplinary fields like Green Technology, Biotechnology etc
PO7	Integrate informatics and statistical skills to explore and authenticate biological data for experimental and research purpose.
PO8	Entrepreneurial and Social competence: Employ skills in specific areas related to Environmental Science such as industrial pollution, Green technology development, Ecological, health, Agriculture and ensure multilevel commitment to health and wellbeing of the society at large. Exhibit awareness of environmental and ethical issues: emphasizing on academic and research ethics, scientific misconduct, intellectual property rights and issues of plagiarism. Demonstrate capability for developing sustainable societies and understand national and international environmental policies and programmes and their implementation strategies.


Head

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PDEA's Annasaheb Magar Mahavidyalaya
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Name of the Programme: Environmental Science

Name of the Class	Course Code	Course Title	Course Outcomes
SEMESTER I			
M.Sc Part I	111	Environmental biology & biodiversity	CO1 Describe different types of theories of Ecology and its ecological processes. and Examine different biological processes in remediate measures and restoration.
			CO2 Discuss the importance of different biotic, abiotic components of the ecosystem. Explain ecology of population and community describe different interactions among the interspecific and intraspecific species.
			CO3 Introduce Plant and Animal behaviour and its mechanism.
			CO4 Describe different types of terrestrial and aquatic biome . Explain ecological functions of wetland.
			CO5 Review key challenges posed by developmental activities on natural processes and integrate modern day techniques to solve various problems at local, regional level to attain far-reaching goal of sustainability.
			CO6 Specify the importance of life sustaining processes on Earth and integrate them in planning and development for innovative solutions. Design experiments to understand types of processes and different

				concepts.
M.Sc Part I	112	Environmental physics & chemistry	CO1	Describe concepts, goals, principles, tools used in chemistry. Recall concept of ICPAES, Chromatography, Spectroscopy, X-ray diffraction, Flame photometry. Identify environmental issues associated with these contaminants with reference to their quality and quantity.
			CO2	Classify saturated and unsaturated hydrocarbons, Describe Stoichiometry, Gibb's energy, chemical equilibrium, COD, BOD, DO and Redox potential. Discuss elemental cycles and their environmental significance.
			CO3	Discuss concepts of fluids, waves and oscillations, optics and quantum physics.
			CO4	Compare different instrumentation techniques to estimate environmental parameters and identify the better methods for analysis for environmental contaminants. Differentiate point, nonpoint sources of pollutants and discuss consequences of criteria Pollutants.
			CO5	Explain Thermodynamics with laws and Describe concept of Fourier optics and Fresnel and Fraunhofer diffraction
			CO6	Develop skills to aware the community for importance of environmental physics and chemistry based on scientific knowledge and specify applications of different analytical and nuclear methods used in the different study areas.
M.Sc Part I	113	Earth, ocean and atmospheric sciences	CO1	Outline the concepts and key terms of Atmospheric sciences and environmental geology.
			CO2	Explain the term Genesis of Soil and enlist properties of soil and soil classification with respect to genesis;

				fertility; lateralization; land capability classification and degradation of soil
			CO3	Describe concept of Hydrology and Hydrogeology. Explain Hydrological Cycle and Vertical Distribution of Groundwater
			CO4	Describes the Relationship between ocean basin, physical structure of ocean floor and oceanic environment
			CO5	Determine the Earth resources with respect to Occurrence, exploitation, and Environmental impacts coal, Hydrocarbons and mineral resources
			CO6	Specify concepts and write a report on different environmental atmospheric processes.
M.Sc Part I	114	Environmental statistics	CO1	Describe concept of Statically inference and give Difference between simple random Sampling and Stratified random sampling
			CO2	Classify data in the form of a frequency distribution table. Explain measures of a central tendency –mean, mode and median. Compute measures of dispersion with the help of suitable tools.
			CO3	Give Summary of statistics for Multivariate and bivariate data – Mean, Standard Deviation, and covariance, Correlation Coefficient and Draw Scatter plot with interpretation.
			CO4	Identify discrete, continuous distributions for probability assessment. Analyze probabilities with the help of different Distribution methods.
			CO5	Evaluate Environmental datasets and calculate its central component.
			CO6	Construct different indices by using Statistical models and quality control

				techniques in environmental science.
M.Sc Part I	115	Practicals related to evsc- 111,112,11 3,114	CO1	Determine rate of photosynthesis in aquatic plants and Estimate chlorophyll content from given plant leaves. Explain wetland bird diversity, bacterial growth curve and analyze phytoplankton's and zooplanktons from fresh water sample and enzyme from soil sample
			CO2	Preparation of samples using for analysis of titration, flamer photometer, and Spectrophotometer/UV Spectrophotometer. And Estimate Halides in Water samples by potentiometry
			CO3	Apply the knowledge to study Physical Properties of Mineral and Rocks in hand Specimen and analysis of soil, ternary plots, slope, map aspects, and drainage
			CO4	Estimate dry and wet deposition fluxes of gases and Aerosol pollutants. along with Preparation of climatic maps and diagrams.
			CO5	Determine important geological and atmospheric processes used in environmental laboratories and conclude the results obtained by using different methods. Measure different parameters of geological and atmospheric processes based on toposheets and climographs.
			CO6	Calculate mean, mode, median Variance, Standard deviation and coefficient of variation for grouped and ungrouped data and analysis of variance on one way classification and two way classifications. Study Statistical model of air pollution to data
SEMESTER II				

M.Sc Part I	121	Water and soil pollution: management and Mitigation	CO1	Describe basic concept on Freshwater Pollution and Pollutants responsible for water pollution and its Effect on health, biosphere and Economy. Derive case studied on freshwater remediation using traditional and modern technology.
			CO2	Discuss the Ground water Sources, zones, remediation in situ and ex situ techniques and explain bioremediation strategies of groundwater using bioventing, biosparging, bio-slurping, permeable reactive barriers; groundwater monitoring using Piezometer, slug and pumping tests.
			CO3	State Environmental regulatory bodies preventing groundwater pollution with case studied based on groundwater remediation techniques.
			CO4	Describe Sources, types and consequences, Ballast water pollution,.Case studies based analysis of marine water pollution and prevention strategies
			CO5	Explain Types, Effects and sources and consequences. Mechanism of interaction of waste with soil with Transport processes Specify disposal of sewage and effluent on land for irrigation and ground water recharge..
			CO6	Illustrate methodology of wastewater disposal on land in India. Impacts of usage of land for solid waste disposal both municipal solid waste and industrial solid wastes
M.Sc Part I	122	Air, noise and radiation pollution management and mitigation	CO1	Define - Composition of air, Classification of air pollution, Sources, Effect of gaseous and particulate pollutants on animals, plant and human health, Economic effects of air pollutants, Vehicular Pollution , Industrial Pollution
			CO2	Explain the role of atmospheric stability, Dispersion of air pollutants. Chemical Principles and Troposphere and Stratospheric Ozone Chemistry
				Analyze Air monitoring instruments

			CO3	and techniques SOX, NOX, O3, C6H6, Pb, CO, Particulate Matters.
			CO4	Determine Basic Operating Principle of Air pollution control Technology and Examine Control of gaseous pollutants .Collaborate Policy and Institutional Framework Ambient Air Protection Policy.
			CO5	Articulate Air Pollution Episodes along with Case Studies and Introduce to noise and vibrations, physics of sound and hearing, Noise Pollution, sources and effects
			CO6	Classify of radio-active wastes and Control measures – treatment and disposal of various sources with AERB classification.
M.Sc Part I	123	Environmental legislation, ethics and Policy	CO1	Introduce to Law and Policy- basic concept of Law and Policy
			CO2	Implement International Conferences Indian legal system such as Stockholm conference, Rio conference, Rio+5, Rio+10.
			CO3	Role of constitution in environment protection, Fundamental rights and duties, Article 48A
			CO4	Explain Environmental Laws in India and rules and Regulations. Construct waste rules, and Give concept of Eco sensitive zone.
			CO5	Determine National Environmental Policy, Ethical dilemma, Issues of Sustainable Development
			CO6	Estimate International Environmental Laws and Policies.
M.Sc Part I	124	Water & waste water technology	CO1	Analyze quality of water using Environmental parameters by different methods
				Specify drinking water (physical, chemical & bacteriological) by Bureau

			CO2	of Indian Standards & World Health Organization. Packaged drinking water
			CO3	Uses of Advanced treatment methods for Selection of appropriate unit operations for the treatment and flow chart of Industrial water treatment plant
			CO4	Describe Principle and designing of Unit Operations in waste water treatment
			CO5	Explain Water borne diseases, Importance of public health perspectives, socioeconomic impacts, Types of waterborne diseases
			CO6	Specify treated wastewater for disposal into surface water, on land & in marine waters after treatment with Self-purification of water bodies.
M.Sc Part I	125	Practicals related to evsc- 121, 122, 123 & 124	CO1	Determine DO, BOD, and COD from given water sample and Estimate amount of Nitrites, Sulfates and Phosphates.
			CO2	Determine SOX,POX and PM in the given concentration of air and Heavy Metals from air sample
			CO3	Measurement of sounds by DB meter / SLM in silent, industrial, residential and commercial zones.
			CO4	Estimate Organic carbon, sodium adsorption ratio and TKN from given soil sample.
			CO5	Select the field survey of legislation legal Ethics and policies with interpretation
			CO6	Physico-chemical analysis of waste water to determine quality of sewage and effluent. Determine Jar test for coagulation.

SEMESTER III				
M.Sc Part II	231	EIA & Environmental audit	CO1	Describe concepts of the EIA with in framework of sustainable development.
			CO2	Discuss the History,scope,importance, opportunities in Environmental Impact Assessment (EIA) Explain the benefits and flaws of EIA.
			CO3	Outline Administrative requirements and policies as per government guidelines. Give the linkage between EIA and international conventions. methods for accurate prediction and interpretation of the future impacts due to ongoing developmental projects.
			CO4	Identify the best practices, guidelines followed in EIA processes. Explain methods for accurate prediction and interpretation of the future impacts due to ongoing developmental projects (Baseline data).
			CO5	Give details procedure for conducts for public hearing. Discuss the formats, techniques required to assess impacts and perform audits for protection of environment.
			CO6	Calculate details about environmental impact assessment studies along with case studies for different developmental activities Prepare a report on the industry specific requirements for Environmental management system and environmental audit.
M.Sc Part II	232	Remote sensing and GIS	CO1	Explain the basic concepts, History, principles and processes of Remote sensing and GIS. Differentiate between basics of Electromagnetic radiation and Spectrum.
			CO2	Give types of remote sensing. Articulate satellites in space and their applications.

			CO3	Demonstrate map projection methods to understand its importance and limitations.
			CO4	Differentiate between Raster data, Vector data in GIS to recognize its role in generating information about different features on the earth and Compare spatial data and Non-spatial data and its characteristics.
			CO5	Interpret satellite images visually and digitally judge the accuracy level of classified maps.
			CO6	Develop spatial thinking in GIS by using geo-processes and Functions. Collect GIS data to study recent advances.
M.Sc Part II	233	Restoration ecology and watershed Management	CO1	Explain the basic concepts of eco restoration along with its significance and guidelines. Discuss different types of theories of Restoration and its Application.
			CO2	Study of environment protection and conservation issues through watershed management practice. Give its functions.
			CO3	Articulate steps involved in restoration with suitable example. Examine different examples of restoration practices as well as watershed management projects and environmental issues associated with it.
			CO4	Analyze cost benefit analysis of restoration projects. Explain watershed management features and its designing and layout.
			CO5	Determine the study of water balance with respect to harvesting methods. Memorize the water harvesting projects in India.
			CO6	Investigate hydrological survey's of ground water , surface springs and vertical distribution of ground water
M.Sc	234	Core	CO1	Collect the Baseline data of studied any one project. Give detailed case study of any one project.

Part II		compulsory practical paper: related to Compulsory theory papers	CO2	Interpret aerial photo image, geometry, scale, and measurement of relief numerical.
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO3	Prepare map and map layout with the help of top sheet geo referencing and digitization. Give detailed classification supervised image and unsupervised image.
			CO4	Interpret satellite image registration and enhancement and its correction tools.
			CO5	Study restored sites through visit and present scientific report based on visit.
			CO6	Give watershed planning exercises at mili level, location specific with required interventions. Mapping of watershed with its estimation of area and slope
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO1	Introduce environmental monitoring; explain its basics of resources to be monitored.
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO2	Give Details about air quality parameters with broad significance of each parameter. Explain its monitoring tools and its working principle.
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO3	Explain monitoring techniques and tools or instruments used for analysis of ambient air as per OSHA guidelines.
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO4	Determine the need for noise mitigation . give national standards for noise. Explain basic techniques of odour monitoring.
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO5	Explain methods for monitoring and sampling of water and its analysis . Describe objectives of soil monitoring ,basic concepts of analysis ,
M.Sc Part II	236	Environmental resource monitoring (CBOP)	CO6	Explain basic concept of forest resource monitoring and its scope. Explain different methods of measurement of trees. Give guideline for handling and storage of samples and its safety practices
M.Sc			CO1	Monitoring of ambient air components such as PM 10 micron, PM-2.5 micro and less in size, oxides of sulfur and

Part II	237	Practical related to elective paper (CBPP)		nitrogen.
			CO2	Determine water quality monitoring –COD, BOD, DO,EC and Ph of given water samples.
			CO3	Estimate N,P,K ratio from give soil samples
M.Sc Part II	238	Inplant training and internship	CO1	Outline the concepts, basic scientific principles of different environmental parameters. Identify and tabulate the tasks to be performed as part of summer training in an organization.
			CO2	Explain techniques used in working for environmental management during training.
			CO3	Prepare a project report. Propose an effective treatment method for better management of the environmental issues.
SEMESTER IV				
M.Sc Part II	241	Solid and hazardous waste management	CO1	Discuss solid waste management ,give its Definition, Historical development, Source and type based classification, chemical and physical composition, Environmental and health impacts due to solid waste and its handling of it. Explain Factors affecting solid waste management: Climate, financial, cultural constraint, quality and quantity of waste.
			CO2	Assessment of existing situation & possible areas for improvement of municipal solid waste management in India
			CO3	Explain Hazardous waste management: Identification and sources, characteristics and categorization, Collection, segregation, packaging, labelling, transportation, processing (3R).
			CO4	Describe Radioactive waste management
				Describe Electronic waste

			CO5	management: A growing problem, sources, segregation, collection, recovery of valuable materials, treatment
			CO6	Give types of plastic, sources, the problem of plastic waste, degradation of plastics, recycling & alternatives to plastic, Discuss Maharashtra Plastic Ban notification 2018
M.Sc Part II	242	Renewable and non renewable energy	CO1	Differentiate between renewable and non-renewable energy resources, its importance and limitations.
			CO2	Describe the basic principles and technologies to harness various energy resources. the merits and demerits of energy Generation technologies.
			CO3	Develop energy generation process using lab scale models of biogas plant, wind mills, solar devices.
			CO4	Analyze advanced technologies available for energy harnessing by using different methods.
			CO5	Evaluate energy harvesting techniques based on its availability, importance and technological and ecological and economical aspects.
			CO6	Differentiate between geothermal and hydrothermal energy
M.Sc Part II	243	Practicals related to 241,242	CO1	Study of solid and hazardous waste segregation and recycling .
			CO2	Visit to landfill site/waste processing site
			CO3	Estimation of out heat of combustion of given fuel sample
			CO4	Study of carbonization processes (Charcoal making) by technique of wood pyrolysis
			CO5	Estimation of calorific value of given wood sample /solid waste
				Explain basic concepts in

M.Sc Part II	244	Environmental toxicology health and safety CBOP-1	CO1	Environmental Health, Toxicology and Safety.
			CO2	Describe the role and responsibilities of an occupational health and safety practitioner. Describe concepts of Biological warfare and protective measures.
			CO3	Determine Toxicity testing methods and interpret the toxicity of Industrial toxicants and hazardous materials.
			CO4	Clarify the policies and legislation on safety in industries and workplace environments .
			CO5	Evaluate the toxicity level of toxicants depending on the Interaction of toxicants in combination.
			CO6	Describe concept of Mutagens, Teratogens and Carcinogen and identify the source and effects of these materials.
M.Sc Part II	246	Practical paper based on CBPP-1	CO1	Study on effect of heavy metal toxicants on the germination of Ground nut.
			CO2	Determination of LC 50 of any toxicant.
			CO3	Give Safety Practices in scientific Laboratories.
M.Sc Part II	248	Environmental policy, climate change and Sustainability CBOP-II	CO1	Identify, list environmental, social, and economic impacts of anthropogenic activities and required sustainability framework for mitigation.
			CO2	Describe the scope, importance, and opportunities for climate change and sustainability studies.
				Calculate environmental

			CO3	impact different development Projects by using common methodologies.
			CO4	Analyze the impacts of climate change and compare with future goals of sustainability. Compare different policies and agreements regarding climate change and developmental goals.
			CO5	Evaluate the impacts of climate change and sustainability by appropriate tools and techniques.
			CO6	Compile the data and prepare reports by using different methods about climate change and sustainable practices.
M.Sc Part II	249	Practical paper based on CBPP-II	CO1	Evaluate the impacts of climate change and sustainability by appropriate tools and techniques.
			CO2	Compile the data and prepare reports by using different methods about climate change and sustainable practices.
M.Sc Part II	250	Dissertatio Final assessment	CO1	Define the need for selection of project work in relation to the current environmental topics as per social aspects. Recall techniques, basic terms related to research topics and research work.
			CO2	Classify the basic concepts in research to implement the dissertation. Associate the objectives as per topic of research in the environmental field.
			CO3	Apply the objectives of the work to solve the issues of the society.
			CO4	Analyze research-oriented approach to solve environmental issues and test it with the help of innovating solutions.
			CO5	Design an experimental setup and develop lab scale model to generate data and interpret it for solving environmental problems. Give protocol to work on the selected dissertation topic for systematic research work.

Er. S. S. Patil
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Pune District Education Association's

Annasaheb Magar Mahavidyalaya

Hadapsar,
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Programme & Course Outcome





Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Self Study Report: 2024 (4th Cycle)

Department of Computer Science



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
Hadapsar, Pune- 411028
Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme: B. Sc . Computer Science

PO NO.	OUTCOMES
PO1	Develop creative skills, critical thinking, analytical skills and research to address the real world problems using computational skills
PO2	Understand and apply mathematical foundation, computing and domain knowledge and develop computing models for defined problems
PO3	Have the ability to understand software project management and computing principles with computing knowledge to manage projects in multidisciplinary environments
PO4	Illustrate the concepts of systems fundamentals, including architectures and organization, operating systems, networking and communication
PO5	Understand and apply the concepts of Digital Electronics, Computer Architecture, IoT etc.
PO6	Recognize the need for and develop the ability to engage in continuous learning as a Computing professional
PO7	Ability to select modern computing tools, skills and techniques necessary for innovative software solutions
PO8	Communicate effectively with the computing community as well as society by being able to comprehend effective documentations and presentations
PO9	Gain Self Discipline and commit Professional Ethics in global economic environment
PO10	Individual & Team Work: Ability to work as a member or leader in diverse team's in multidisciplinary environment
PO11	Identify opportunities, entrepreneurship vision and use innovative ideas to create value and wealth for the betterment of the individual and society

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Name of the Programme : .B.Sc Computer science(C.S.)

Name of the Class	Course Code	Course Title	Course Outcomes	
SEM I				
F.Y.B.Sc(C.S.)	CS-111	Advanced 'C' Programming	CO1	Understanding of in built function of string and implementation of string using c programming.
			CO2	Understanding of pointer concepts and implementation of pointer using c programming.
			CO3	Explanation and implementation of files handling in C programming.
			CO4	Discuss command line arguments with simple programs and with file programs.
			CO5	Illustrate user defined data types including structures .
			CO6	Illustrate user defined data types including unions to solve the Problems.

F.Y.B.Sc(C.S.)	CS-112	DBMS	CO1	Defining the basic concepts of database management system.
			CO2	Represent simple database application scenarios in diagrammatic format using ER-model.
			CO3	Writing SQL queries for a given context in relational database.
			CO4	Applying the Constraint on database and constructing keys
			CO5	Conversion of unstructured data set into normalized form.
			CO6	Implement the database concepts for real world examples.
F.Y.B.Sc(C.S.)	CS-113	Practical course based on CS101 and CS102 (C and DBMS)	CO1	List the basic UNIX general purpose commands, data types and Operators in C-Language.
			CO2	Use the decision making statements like if, if-else, nested if and switch case in C program.
			CO3	Demonstrate while, do-while, for, nested loops of C-Program.
			CO4	Demonstrate C Program using switch

				case (menu driven).
			CO5	Apply standard library functions in menu driven program in C-Language.
			CO6	Solve C Program using one – dimension and two – dimension array.
F.Y.B.Sc(C.S.)	CS- CS121	Advanced ‘C’ Programming	CO1	Understanding of in built function of string and implementation of string using c programming.
			CO2	Understanding of pointer concepts and implementation of pointer using c programming.
			CO3	Explanation and implementation of files handling in C programming.
			CO4	Discuss command line arguments with simple programs and with file programs.
			CO5	Illustrate user defined data types including structures .
			CO6	Illustrate user defined data types including unions to solve the Problems.
F.Y.B.Sc(C.S.)	CS-122	Relational Database Management System	CO1	Designing and Creating relational database systems
			CO2	Understanding various

				advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger, views and embedded SQL.
			CO3	Applying and relate the concepts of transaction
			CO4	Using the concurrency control mechanism and recovery in the databases.
			CO5	Understanding recovery system and be familiar with introduction to web database, distributed databases.
F.Y.B.Sc(C.S.)	CS-123	Practical course based on CS121 and CS122 (Advanced C and RDBMS)	CO1	Illustrate C-program using array with function.
			CO2	Illustrate C-program using pointer, string and functions.
			CO3	Discuss and Implementation the concepts of file handling .
			CO4	Discuss and Implementation the concepts of command line arguments in C Programming.
			CO5	Illustrate C-program using structure .
			CO6	Illustrate C-program

				using Union.
SEM II				
S.Y.B.Sc(C.S.)	231	Data Structure AND ALGORITHMS-I	CO1	Discuss fundamental concepts of Data Structure, abstract data type, and algorithm analysis.
			CO2	Summarize different searching and sorting techniques using array.
			CO3	Summarize different types of Linked List (singly linked list, doubly linked list, linear and circular linked list).
			CO4	Describe linear data structure Stack and its application.
			CO5	Explain linear data structure Queue and its types (Linear Queue, Circular Queue, and Priority Queue).
			CO1	Discuss fundamental concepts of Data Structure, abstract data type, and algorithm analysis.
S.Y B.SC.(CS)	CS 232	CS 232 Software Engineering	CO1	Describe the software engineering processes such as gathering data and functional requirements in the software project.
			CO2	Apply feasibility study techniques for the

				software project.
			CO3	Discuss the existing system, and explain the proposed system
			CO4	Determine the entities, attributes and draw E-R diagram
S.Y B.SC.(CS)	CS 233	CS 233 Practical Course on CS 231 and CS 232	CO1	Describe the software engineering processes such as gathering data and functional requirements in the software project.
			CO2	Apply feasibility study techniques for the software project.
			CO3	Discuss the existing system, and explain the proposed system
			CO4	Determine the entities, attributes and draw E-R diagram
S.Y B.SC.(CS)	241	Data Structure And Algorithm II	CO1	To Learn about Binary Search Tree and Traversal.
			CO2	To Learn about Binary Search Tree Operations.
			CO3	Explain concepts and terminology of Trees, Graphs.
			CO4	Describe the concept of hash table (Hash function, Hash address, Bucket)
S.Y B.SC.(CS)	242	Computer Networks - I	CO1	Have a good understanding of the

				OSI and TCP/IP Reference Models and in particular have a good knowledge of Layer
			CO2	Understand the working of various protocols.
			CO3	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies
S.Y B.SC.(CS)	243	Practical course on CS 241 and CS 242	CO1	Implement binary search tree and traversals.
			CO2	Implement application of binary search tree(heap sort, Huffman encoding)
			CO3	Apply graph Implementation to calculate indegree outdegree
			CO4	Implement Hash table(chaining, Linear probing).
SEM III				
T.Y.BSc(Comp. Sci)	CS-351	Operating System-I	CO1	Discuss basic concepts of Operating system and their structures with its services.
			CO2	To understand and calculate the processes

				and thread scheduling by operating system.
			CO3	Defining the synchronization in process and thread by operating system.
			CO4	Interprets the issues and challenges of memory management with the help of various schemas.
T.Y.B.Sc(C.S.)	CS-352	Computer Networks-II	CO1	Student will able to define terms used in DNS, Multimedia, Cryptography and Network Security.
			CO2	Student will able to discuss concept of DNS, digitisation and compression of multimedia data.
			CO3	Student can differentiate between various scenarios of email architecture
			CO4	Student will able to compare streaming techniques used for audio video data.
			CO5	Student will be able to describe various ciphers used for secure transmission of data
			CO6	Student will be able to discuss security issues encountered during data communication.
			CO7	Student can comment on various protocols

				used in application layer.
T.Y.BSc (Comp. Sci)	CS-357	Operating System-I Laboratory	CO1	Implement the logic for process creation and process termination.
			CO2	To understand Operating system shell and simulate working on it.
			CO3	Analysing processes and thread algorithm with help of simulation.
			CO4	To understand and implement demand paging using memory page replacement algorithm by using various schemes.
T.Y.B.Sc(C.S.)	CS-353	Web Technologies - I	CO1	To Learn about basic web techniques.
			CO2	To Learn about functions and strings.
			CO3	To Learn about arrays, its types and different implementation methods of an array.
			CO4	To Learn about files and directories.
			CO5	Learn about databases connectivity using PHP and PostgreSQL.
			CO6	To work on Mini Project using database and PHP
T.Y.B.Sc(C.S.)	CS-354	Foundation Of Data Science	CO1	Define the basic

				concepts of data science.
			CO2	Obtain, clean/process, and transform data.
			CO3	Detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.
			CO4	Demonstrate proficiency with statistical analysis of data.
			CO5	Presenting results using data visualization techniques.
			CO6	Preparing data for use with a variety of statistical methods and models and recognize how the quality of the data and the means of data collection may affect conclusions.
T.Y.B.Sc(C.S.)	CS-358	Practical course based on CS 353 and 354	CO1	Demonstrate simple forms layout with HTML,CSS;
			CO2	Illustrate a form to implement functions and predefine functions;
			CO3	Demonstrate the array concepts and its predefine functions;

			CO4	Apply the predefine functions of File Handling and Database Connectivity
			CO5	Demonstrate database enabled web pages using PostgreSQL;
			CO6	Prepare data for use with a variety of statistical methods and recognize how the quality of the data may affect conclusions.
			CO7	Perform exploratory data analysis
TYBSC(CS)	CS-355	Object Oriented Programming using Java - I	CO1	Define simple java programs using data types, final variable and arrays.
			CO2	Explain classes using constructor and array of objects.
			CO3	Perform java programs using classes and objects.
			CO4	Illustrate the concept of inheritance and interfaces.
			CO5	Implements exception handling techniques in java programs
			CO6	Demonstrate GUI using Swing and AWT (Abstract Window Toolkit) methods;

TYBSC(CS)	CS-356	Theoretical Computer Science	CO1	Explain how to generate formal language & regular expressions
			CO2	Express concepts of finite automata
			CO3	Describe knowledge of regular languages
			CO4	Discuss context free languages & different types of grammar
			CO5	Explain concepts of pushdown automata
			CO6	Summarize concepts of Turing machine
TYBSC(CS)	CS-359	Practical Course based on CS 355	CO1	Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
			CO2	Read and make elementary modifications to Java programs that solve real-world problems.
			CO3	Validate input in a Java program.
			CO4	Define simple classes using IDE – Eclipse.
			CO5	Explain examples of classes using array of objects and packages.
			CO6	Implement inheritance and interfaces in java.
Sem-V				

T.Y. B.Sc.(C.S.)	CS- 3510	Python Programmi ng	C O1	Interpreting the Python syntax and semantics as well as being fluent in the use of control flow statements in python.
			CO 2	Understanding and Learning the handling of strings and functions.
			CO 3	Determining the methods to create and manipulate Python programs using the data structures such as lists, dictionaries, tuples and sets.
			CO 4	Learning the basic constructs of programming like data, operations, conditions, loops, functions etc.
			CO 5	Identifying the commonly used operations involving file systems and regular expressions.
			CO 6	Acquiring the Object-Oriented Programming concepts like encapsulation, inheritance and polymorphism in Python.
T.Y.B.Sc(C.S.)	CS- 3511	Block Chain technology.	CO 1	Describe the basic concepts and technology used for block chain.
			CO 2	Describe the primitives of the distributed computing and cryptography related to block chain.
			CO 3	Illustrate the concepts of Bitcoin, and their usage.
			CO 4	Implement Ethereum block chain Smart contracts.
			CO 5	Apply security features in blockchain technologies.
			CO 6	Discuss different Cryptocurrency and DApps.
				C

T.Y.BSc(C omp. Sci)	CS-361	Operating System-II	CO 1	Define deadlock and to understand the deadlock prevention, detection and avoidance in process management.
			CO 2	To manage and analyse the concept of file system with the use of its functions.
			CO 3	Synthesize the concepts of I/O management file system implementation and problems related to security and problems.
			CO 4	To discuss and define the Distributed operating system and its architecture with extended features in mobile OS.
T.Y B.SC.(CS)	CS 362	- SOFTWARE TESTING	CO 1	To understand various software testing methods and strategies.
			CO 2	To understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.
			CO 3	To design test cases and test plans, review reports of testing for qualitative software
			CO 4	To understand latest testing methods used in the software industries.
T.Y B.SC.(CS)	CS 367	- Practical course based on CS 361 and CS 362	CO 1	To implement Banker's algorithm for deadlocks in process management.
			CO 2	Implement the logic for simulation of file allocation method and free space management.
			CO 3	Implement the logic for disk space management and scheduling for

				processes
			CO 4	Simulate and determine the logic for distributed and mobile OS.
T.Y B.SC.(CS)	CS 363	- Web Technologies – II	CO 1	Discuss Cookies n session
			CO 2	Apply JavaScript and JQuery in web pages
			CO 3	Demonstrate dynamic web pages by using Ajax
			CO 4	Illustrate various concepts of web development in project
			CO 5	Demonstrate Web FrameWork
T.Y.B.Sc(C.S.)	CS-364	Data Analytics	CO 1	Acquire a fundamental understanding of the analytical techniques and software tools necessary to effectively generate useful information from structured and unstructured datasets of any size
			CO 2	Analyze data, choose relevant models and algorithms for respective applications
			CO 3	Understand different data mining techniques like classification, prediction, clustering and association rule mining
			CO 4	Apply appropriate models of analysis, assess the quality of input, and derive insight from results.
			CO 5	Pre-process and wrangle noisy text data via stemming, lemmatization, tokenization, removal of stop-words
			CO 6	Represent text documents using vectorized features like bag-

				of-words
T.Y.B.Sc(C.S.)	CS-368	Practical course based on CS 363 and 364	CO 1	Discuss Cookies n session
			CO 2	Apply JavaScript and JQuery in web pages;
			CO 3	Demonstrate dynamic web pages by using Ajax;
			CO 4	Illustrate various concepts of web development in project;
			CO 5	Demonstrate Web FrameWork
T.Y.B.Sc(C.S.)	CS-365	Object Oriented Programmin g using Java - II	CO 1	Explain programs using java collection API as well as java Standard Library
			CO 2	Discuss GUI Applications with JDBC (Java Database Connectivity);.
			CO 3	Define concept of Servlet Define concept of Servlet
			CO 4	Illustrate the concept of inheritance and interfaces.
			CO 5	Interpret simple Java Server Pages (JSP) Application
			CO 6	Demonstrate simple application for client and server communication;
T.Y.B.Sc(C.S.)	CS-366	Compiler Constructio n	CO 1	Explain phases of compiler & Lexical analyser
			CO 2	Illustrate types of parsers
			CO 3	Express use of YACC tool
			CO	Describe Syntax Directed

			4	Definitions & its applications
			CO 5	Discuss memory allocation in block structure languages, code optimization & code generation
T.Y.B.Sc(C.S.)	CS-369	Practical Course based on CS 365 and CS 366	CO 1	Execute queries on tables using JDBC (Java Database Connectivity).
			CO 2	Define and execute simple servlet program.
			CO 3	Illustrate the JSP (Java Server Pages) programs.
			CO 4	Demonstrate multithreading using Java.
			CO 5	Understand and Create dynamic web pages using Servlets and JSP.
			CO 6	Work with basics of framework to develop secure web applications.
T.Y B.SC.(CS)	CS 3610	SOFTWARE TESTING TOOLS	CO 1	To understand various software testing methods and strategies
			CO 2	To understand a variety of software metrics and identify defects and managing those defects for improvement in quality for given software.
			CO 3	To design test cases and test plans, review reports of testing for qualitative software.
			CO 4	To understand latest testing tools used in the software industries.



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Name of the PROGRAMME: M. Sc . Computer Science

PO NO.	OUTCOMES
PO1	The Programme seeks to instill in students a deep and comprehensive knowledge of core computer science disciplines, advanced computer science concepts, theories, and principles, including algorithms, data structures, programming languages, artificial intelligence, machine learning, cloud computing, advanced databases, full stack development, software project management, and design patterns.
PO2	Graduates should be equipped with the ability to analyze complex problems in computer science, design innovative solutions, and implement them effectively.
PO3	The program aims to develop students' research skills, enabling them to evaluate existing research, contribute to knowledge in the field, and apply critical thinking to solve computational problems.
PO4	The program aims to cultivate a passion for research, encouraging students to engage in original research projects that contribute to the advancement of computer science knowledge and address real-world problems.
PO5	Students are expected to gain proficiency in multiple programming languages and develop the ability to write efficient, reliable, and maintainable code.
PO6	Depending on the chosen track or concentration, students may develop expertise in areas.
PO7	Through hands-on projects, practical assignments, and exposure to state-of-the-art tools and technologies, we aim to develop the technical proficiency and problem-solving skills necessary for success in the professional world.
PO8	Graduates should be adept at presenting complex technical concepts clearly and effectively, both in written and oral forms, to various audiences.
PO9	Computer science professionals often work in multidisciplinary teams. Students should learn to collaborate effectively with team members, understand different perspectives, and contribute productively to achieve common goals.
PO10	The program places a strong emphasis on ethical considerations, responsible use of technology, and awareness of the societal impact of computing solutions. We aim to produce graduates who approach their work with integrity and a sense of social responsibility.
PO11	Acknowledging the dynamic nature of computer science, we aim to instill in our students a desire for continuous learning and professional development, empowering them to adapt and thrive in the face of technological advancements; prepared them to adapt to new technologies and methodologies throughout their careers.
PO12	Students will be encouraged to think creatively and innovatively, exploring new ideas and approaches to solve computational problems and advance the state of the art in the field.
PO13	The program include On Job Training, internships, research work, research article and papers writing or a thesis that provides students with practical experience, applying their knowledge to real-world challenges.

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Name of the Programme : .M.Sc Computer science(C.S.)

Name of the Class	Course Code	Course Title	Course Outcomes	
SEM-I				
F.Y. M.Sc.(C.S.)	CSUT111	Paradigm of Programming Language(PP L)	CO1	Understanding effective use of compilers, linkers interpreters and language oriented tools.
			CO2	Developing an ability to separate syntax from semantics.
			CO3	Understanding and Comparing techniques, key concepts in the common feature's implementation of programming languages like functional and object oriented languages.
			CO4	Analysing semantic, design and implementation issues related to function implementations, variable allocation and binding, scoping rules, control flow, subroutines, parameter passing as well as exception handling in various programming languages.

			CO5	To be familiar with design issues of functional and object-oriented languages.
			CO6	To be familiar with constructs of classes, interfaces, packages as well as procedures in various language.
			CO7	Developing an ability to write small and simple programs more quickly in various programming languages.
			CO8	Understanding the concepts and features of the Scala programming language.
			CO9	Developing ability to write programs in Scala Programming Language
M.Sc.(CS) - I	CSUT 112	Design and Analysis of Algorithm	CO1	Analyze worst-case running times of algorithms using asymptotic analysis.
			CO2	Apply important algorithmic design paradigms and methods of analysis.
			CO3	Describe the divide-and-conquer prototype and explain when an algorithmic design situation require.
			CO4	Apply dynamic programming approach to solve suitable problems.

			CO5	Understand the limitations of algorithm power and study how to cope with the limitations of algorithm power for various problems.
			CO6	Describe the greedy paradigm and explain when an algorithmic design situation involve.
			CO7	Discuss Backtracking and solve the problems using this method.
			CO8	Explain Branch and Bound Technique and solve the problems using this method.
			CO9	Understand classical problem and solutions.
M.Sc. Comp. Sci. part- I	CSUT 113	Database Technologies	CO1	Recall the basic concepts of Database
			CO2	Categorizing different Database learned
			CO3	Preparing NOSQL Databases
			CO4	Structuring different types of NOSQL Database and Classify the data modelling

			CO5	Experimenting of MongoDB
			CO6	Posting graph Database
			CO7	Building your Database
			CO8	Solving case study based on their application needs
M.Sc. Comp. Sci. part- I	CSDT114	Artificial Intelligence	CO1	Identify problems that are amenable to solution by AI methods and which AI methods may be suited to solving a given problem.
			CO2	Formalize a given problem in the language/framework of different AI methods (e.g., as a search problem, as a constraint satisfaction problem, as a planning problem, as a Markov decision process, etc).
			CO3	Implement basic AI algorithms (e.g., standard search algorithms or dynamic programming).
			CO4	Design and carry out an empirical evaluation of different algorithms on a problem formalization, and state the conclusions that the evaluation supports.
			CO5	Use various symbolic knowledge representations to specify domains and reasoning tasks of a situated software agent.
			CO6	Evaluation of Artificial concepts using Python Code
			CO7	Demonstrate proficiency in applying scientific method to

				models of machine learning.
			CO1	Identify problems that are amenable to solution by AI methods and which AI methods may be suited to solving a given problem.
M.Sc. Comp. Sci. part- I	CSDP114	Artificial Intelligence Practical	CO1	Implementing basic programs using python for introducing and using python environment
			CO2	Implementing List Operations using python
			CO3	Implementing Search Technology Algorithms
			CO4	Implementing AI Chatboat applications.
			CO5	Implementation of supervised Machine Learning algorithms
			CO6	Implementation of unsupervised Machine Learning algorithms
M.Sc. Comp. Sci. part- I	CSUP115	Practical on Paradigm of Programming Language(PPL)	CO1	Implementing the concepts like class, object, array, functions, List, Map and Set.
			CO2	Apply the knowledge of Scala to develop the applications
			CO3	Provides knowledge of code optimization.
			CO4	To understand concept of interoperability.
			CO5	Demonstrate MongoDB Collections.
			CO6	Illustrate graph database (NeO4j)

			CO7	Demonstrate column family database (Cassandra)
Sem II				
F.Y. M.Sc.(C.S.)	CSUT1 21	Advanced Operating Systems (AOS)	CO1	Understanding Advanced Operating Systems Concepts using Unix/Linux
			CO2	Understanding and designing OS components like System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems.
			CO2	Evaluating and comparing OS components using there applications and work.
			CO3	Analyzing the various device management as well as resource management techniques for systems.
			CO4	To develop and analyze simple concurrent programs using transactional memory and message passing, and to understand the trade-offs and implementation decisions
			CO5	Giving an overview of Windows Threads Management, an understanding of the functions of Operating Systems
			CO6	Knowing how to write software routines, modules or patches for the operating

				systems with the help of respective system calls to implement, debug or tailor device drivers and interrupt handlers.
			CO7	Understand the inner workings of UNIX-like operating systems.
			CO8	Learning how to write systems-style performance evaluations.
M.Sc. (Comp Sci) part -I	CSUT 122	Software Metrics and Project Management	CO1	Define the development phases of project life cycle.
			CO2	Gathering the project integration management and their knowledge areas throughout the project life cycle
			CO3	Displaying the knowledge of various tools and techniques used for elements of Project management like Scope, Time, Cost, Quality, Human Resources, Communication, Risk and Procurement
			CO4	Explaining of metrics in software project
			CO5	Detecting Software Reliability characteristics, tools and methods used for Software Reliability
			CO6	Reviewing the software process assessment models like Capability Maturity Model, TSP, PSP
			CO7	Building Mini Project
			CO8	Directing Software project

F.Y. M.Sc.(C.S.)	CSUP125	Practical on Advanced OS and MT (AOS)	CO1	Implementing advanced OS concepts in a C program
			CO2	Understanding internal structure as well as operations of OS along with various processes such as threading, inter process communication and synchronization with I/O operations.
			CO3	Learning to write systems-style performance evaluations.
			CO4	Learning to develop software for Linux/UNIX systems.
			CO5	Implement different mobile functions using android.
			CO6	Understand different android files and code.
			CO7	Understanding the database concept in mobile.
			CO8	Learning to make his own small app.
M.Sc.(CS)- I	CSDT124	Soft Computing	CO1	Illustrate the concept of Fuzzy sets, knowledge representation using fuzzy rules, Fuzzy Inference System, Fuzzy Logic and various operations on it.
			CO2	Discuss the fuzzy system simulation and classification.
			CO3	Solve the problems using

				fuzzy arithmetic.
			CO4	Describe Artificial Neural Network and applications of it.
			CO5	Explain Genetic Algorithms and differentiate Genetic algorithms from Traditional methods.
M.Sc.(CS)- I	CSDP124	Soft Computing Practical	CO1	Apply basics of Fuzzy logic and neural networks.
			CO2	Discuss the ideas of fuzzy sets, fuzzy logic and use of heuristics based on human experience.
			CO3	Relate with neural networks that can learn from available examples and generalize to form appropriate rules for inference systems.
			CO4	Describe with genetic algorithms and other random search procedures useful while seeking global optimum in self-learning situations.
			CO5	Develop some familiarity with current research problems and research methods in Soft Computing Techniques.
SEM III				
M.Sc.(CS) - II	CSUT231	Software Architecture and	CO1	Recognize the

		Design Patterns		characteristics of patterns that make it useful to solve real- world problems.
			CO2	Process available data using python libraries and predict outcomes using Machine Learning algorithms to solve given problem.
			CO3	Able to use specific frameworks as per applications need.
			CO4	Understand design java application using design pattern techniques.
			CO5	To write java programs using Design Pattern and Frameworks to create reusable and flexible software systems.
			CO6	Use of patterns and architectures for solving practical problems.
			CO7	Understand the architecture, creating it and moving from one to any, different structural patterns.
			CO8	Analyze the architecture and build the system from the components.
			CO9	Design creational and structural patterns.

			CO10	Learn about behavioural patterns.
			CO11	Do a case study in utilizing architectural structures.
S.Y. M.Sc.(C.S.)	CSUT232	Machine Learning	CO1	Understanding what is a learning machine and how it is different than big data, data science and artificial intelligence.
			CO2	Understanding the characteristics as well as applications of machine learning.
			CO3	Understanding various types of learning (Supervised , Unsupervised) and where to use which one.
			CO4	Ability to classify collected datasets as per the types of machine learning algorithm.
			CO5	Developing an ability to estimate machine learning model efficiency using suitable Metrics.
			CO6	Evaluating real world problems with the help of different machine learning techniques.
			CO7	Building an ability of processing data using


				python libraries as well as using machine learning algorithms to predict the outcome.
			CO8	Developing an ability of building machine learning model.
S.Y. M.Sc.(C.S.)	CSUT 233	Web Framework	CO1	Understand the basics of Javascript
			CO2	Understand NodeJS concept.
			CO3	To know about NodeJS different modules.
			CO4	Understand concept of NPM,Web server.
			CO5	Know about file system concepts & events.
			CO6	Learn about database & Express JS.
			CO7	Understand Django,its core files and tools.
			CO8	Understand different Django form classes,validations,authentication,piston and many more concepts.
M.Sc.(CS) – II	CSDT234 C and CSDP234 C	Project and Project related Assign ment	CO1	Describe the phases of Software development project life cycle.
			CO2	Apply the various project

				management tools and techniques.
			CO3	Implement software systems that meet specified design & performance Requirements.
			CO4	Use Team Management to effectively design & implement the project.
			CO5	Demonstrate effective project execution & Control techniques that results in successful project.
			CO6	Describe the greedy paradigm and explain when an algorithmic design situation involve.
M.Sc.(CS) – II	CSUT231 , CSUT232 and CSUT233	Software Architecture , ML , WebFrame	CO1	Be aware of code qualities needed to keep code flexible.
			CO2	Capable of applying these principles in the design of object oriented systems.
			CO3	Gaining the knowledge of regression,correlation.
			CO4	They also understand many statistical concepts like mean,mode etc
			CO5	Understand the concept of java script
			CO6	Capable of doing scripting with node js.
SEM IV				

M.Sc.(CS) - II	CSUIT24 1	Industrial Training /Institutional project CS-401 Industrial Training Project	CO1	Select comprehensive learning platform students can enhance their employ ability skills and become job ready along with real corporate exposure.
			CO2	Apply the theory knowledge to get hands-on experience in the field of computer science.
			CO3	Appreciate the ethical basis of professional practice in relevant industry.
			CO4	Describe with all the latest changes in technological world.
			CO5	Interpret options in career plans and goals.


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Programme & Course Outcome





Pune District Education Association's
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Self Study Report: 2024 (4th Cycle)

Department of Mathematics



Pune District Education Association's
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Name of the Programme : B.Sc. Mathematics

PO NO.	OUTCOMES
PO1	Find numerical differentiation, integration, real roots and Define a vector space, linear transformation also Determine Eigen values and Eigenvectors
PO2	Learn sequences, series and Illustrate convergence ,divergence of the limit function with respect to continuity, differentiability, and integrability
PO3	Explain the significance of Groups, Rings, Integral Domains subgroups and factor groups with the Division Algorithm and Unique Factorization in $F[x]$
PO4	Grasp the concepts and methods of Ordinary Differential Equations and Partial Differential Equations, Study Surfaces, Geometry of Planes, Line, Sphere
PO5	Understand the relationships between the primal and dual problems of LPP, to transportation, assignment problem ,CPM,PERT and Time-cost optimization
PO6	Introduce with the basic concepts and techniques of Machine Learning , Python and Apply Supervised Algorithms like Random Forest , K Nearest Neighbors
PO7	Know LaTeX syntax and Write a simple LaTeX input document based on the article class also Acquaint with typesetting basic Mathematics in LaTeX
PO8	Appreciate the concepts such as open balls, closed balls, completeness, continuity, compactness and connectedness also Correlate Elementary complex functions as Exponential, Logarithmic functions, Cauchy-Riemann equations, Cauchy integral formula

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Name of the Programme: B.SC. Mathematics

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
F.Y.B.Sc	MT-111	Algebra	CO1	Prove that every Partition is an equivalence relation and vice-versa
			CO2	Prove the statement $P(n)$ using the Principle of mathematical induction(Strong form)
			CO3	Solve examples of Divisibility on Z using Division Algorithm and Euclidean Algorithm
			CO4	Define Congruence, Residue Classes, Addition Modulo n and Multiplication Modulo n .
			CO5	Study De-Moivre's theorem with exponential form of complex number
			CO6	Find the n th roots of unity and solve examples on complex numbers.
F.Y.B.Sc	MT-112	Calculus -I	CO1	Describe Algebraic and Order properties of R with the Completeness property of R
			CO2	Understand types of sequences and subsequences with their limit
			CO3	Check bounded, monotone sequence and understand divergence criterion
			CO4	Find limit of functions with some extensions of limit concepts and draw graphs of functions
			CO5	Verify Boundedness theorem, Min-Max theorem,

				continuity by different criteria
			CO6	Discuss the Continuous function at a point and in the intervals with location of root theorem
F.Y.B.Sc	MT-113	Mathematics practical	CO1	Solve (in written) all practical based on the applications of articles in PAPER I : MT 111
			CO2	Develop theoretical, applied, computational skills
			CO3	Solve (in written) all practical based on the applications of articles in PAPER II : MT 112
			CO4	Apply and translate information in mathematical form to derive the conclusion
			CO5	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER I : MT 111
			CO6	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER II : MT 112
SEMESTER II				
F.Y.B.Sc	MT-121	Analytical Geometry	CO1	Solve examples on change of axes using translation and rotation
			CO2	Reduce conic into standard form with it's center
			CO3	Find equations of planes and understand concepts related planes
			CO4	Calculate distance of a point from the plane and distance between two parallel planes
			CO5	Find equations of lines in three dimension in different forms
			CO6	Describe equations of sphere in different forms with tangent planes
F.Y.B.Sc	MT-122	Calculus -II	CO1	Know the derivatives of a functions with interpretations
			CO2	Describe Mean Value Theorems and extreme values using first derivative test
			CO3	Evaluate limit by L-Hospital's rule ,use Leibnitz

				Theorem for successive differentiation
			CO4	Find series of functions using Taylor's and Maclaurin's Theorem
			CO5	Solve Ordinary Differential equations of first order and first degree by various methods
			CO6	Solve exact differential equations with integrating factors
F.Y.B.Sc	MT-123	Mathematics Practical -III	CO1	Solve (in written) all practical based on the applications of articles in PAPER I : MT 121
			CO2	Display and recognize basic geometrical figures and graphs with mathematical facts
			CO3	Solve (in written) all practical based on the applications of articles in PAPER II : MT 122
			CO4	Feel confident in proving mathematical ideas and solving problems
			CO5	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER I : MT 121
			CO6	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER II : MT 122
SEMESTER III				
S.Y.B.Sc	MT- 231	Calculus of Several Variables	CO1	Know functions of several variables, Sketch the level curves and solve examples of limit continuity
			CO2	Find partial derivatives, use chain rule, apply Euler's theorem for homogeneous functions
			CO3	Verify Clairaut's theorem, Laplace's equation and Wave equation
			CO4	Find the extreme values of functions of two variables, use Lagrange's Multiplier method
			CO5	Evaluate the double integral over rectangle, in polar form and the triple integral using spherical coordinates .
			CO6	Use change of variables in multiple integrals with help of Jacobian

S.Y.B.Sc	MT-232(A)	NUMERICAL METHODS AND ITS APPLICATIONS	CO1	Find different types of errors and Find solution of algebraic and transcendental equations by different numerical methods
			CO2	Find relation between finite difference operators and differences of polynomials
			CO3	State and prove Newton's and Lagrange's Interpolation formulae
			CO4	Find numerical differentiation using Newton's forward difference formula
			CO5	Apply numerical integration using Trapezoidal, Simpson's 1/3 rd and 3/8 th rule
			CO6	Find numerical solution of first order Ordinary Differential equations by different methods
S.Y.B.Sc	MT-233	Mathematical Practical	CO1	Solve (in written) all practical based on the applications of articles in PAPER I : MT 231
			CO2	Solve (in written) all practical based on the applications of articles in PAPER II : MT-232(A)
			CO3	Develop theoretical, applied and computational skills
			CO4	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER- I : MT -231
			CO5	Visualize three dimensional views of different mathematical objects
			CO6	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER II : MT 232(A)
SEMESTER IV				
S.Y.B.Sc	MT-241	Linear Algebra	CO1	Solve Homogeneous and non-homogeneous system by Gauss elimination and
			CO2	Define a Vector Space and a subspace and give examples of it
			CO3	Understand the concept of linear dependence, basis and dimension
			CO4	Find rank and nullity of a matrix and linear transformation

			CO5	Describe the linear transformation and its properties
			CO6	Find a matrix of linear transformation and determine linear isomorphism
S.Y.B.Sc	MT-242(B)	Dynamic Systems	CO1	Determine Eigen values and Eigenvectors
			CO2	Understand the Logistic Population Model
			CO3	Solve Planer Linear Systems
			CO4	Identify Phase Portraits for Planer systems
			CO5	Classify Planer Systems, the Trace-Determinant plane
			CO6	Find Exponential of a matrix
S.Y.B.Sc	MT-243	Mathematics Practical	CO1	Solve (in written) all practical based on the applications of articles in PAPER I : MT- 241
			CO2	Develop theoretical, applied and computational skills
			CO3	Solve (in written) all practical based on the applications of articles in PAPER II : MT-242(B)
			CO4	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER-I : MT -241
			CO5	Solve (using MAXIMA software) all practical based on the applications of articles in PAPER IIB : MT -242(B)
			CO6	Develop maturity and confidence in current and future courses
SEMESTER V				
T.Y.B.Sc	DSE-1(A) :MT-351	Metric Spaces	CO1	Understand the introductory concepts of metric spaces like open balls, closed balls, with definitions and examples
			CO2	Define Cauchy sequence ,completeness, Limit Points
			CO3	Learn to analyze mappings between spaces

			CO4	Attain background for advanced courses in real analysis, functional analysis, and topology
			CO5	Verify continuity and uniform continuity of metric spaces
			CO6	Appreciate the abstractness of the concepts such as open balls, closed balls, compactness, connectedness etc. beyond their geometrical imaginations
T.Y.B.Sc	DSE-1(B):M T-352	Real Analysis-I	CO1	Learn the basic facts in logic and set theory
			CO2	Differentiate into countable and uncountable sets
			CO3	Learn to define sequence in terms of functions from \mathbb{N} to a subset of \mathbb{R} and to understand several properties of the real line
			CO4	Learn to define sequence in terms of functions from \mathbb{N} to a subset of \mathbb{R} and to understand several properties of the real line
			CO5	Calculate their limit superior, limit inferior, and the limit of a bounded sequence
			CO6	Use the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real number
T.Y.B.Sc	DSE-2(A):M T-353	Group Theory	CO1	Recognize the mathematical objects that are groups
			CO2	Classify the objects as abelian, cyclic and permutation groups
			CO3	Analyze consequences of Lagrange's theorem
			CO4	Learn about structure preserving maps between groups and their consequences
			CO5	Explain the significance of the notion of cosets, normal subgroups

			CO6	Study the concept in real life of Homomorphism
T.Y.B.Sc	DSE-2(B):MT-354	Ordinary Differential Equations	CO1	Understand the genesis of ordinary differential equations
			CO2	Learn various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order
			CO3	Grasp the concept of a general solution of a linear differential equation of an arbitrary order and also learn a few methods to obtain the general solution of such equations
			CO4	Use methods of undetermined coefficient and method of reduction of order for solving differential equation
			CO5	Know the properties of power series, regular singular points
			CO6	Introduce the system of differential equations
T.Y.B.Sc	DSE-3(A):MT-355(A)	Operations Research	CO1	Analyze and solve linear programming models of real-life situations
			CO2	Find the graphical solution of LPP with only two variables
			CO3	Illustrate the concept of convex set and extreme points
			CO4	Understand the theory of simplex method in real life
			CO5	Know the relationships between the primal and dual problems and their solutions with applications to transportation, assignment problem
			CO6	Solve Assignment problem where such problems arise in manufacturing resource planning and financial sectors
T.Y.B.Sc	DSE-3(B):MT-356(A)	Machine Learning -I	CO1	Introduce with the basic concepts and techniques of Machine Learning and Python
			CO2	Familiar with introduction to NumPy Array

				and Matrices
			CO3	Familiar with discover and visualize data to gain insights
			CO4	Familiar with Fine-tuning the model - Grid Search, Randomized Search
			CO5	Develop the ability to write database applications in Python
			CO6	Handle the missing data
T.Y.B.Sc	SEC-I: MT- 3510	Program ming in Python	CO1	Know basics of Python as values, variables, operators ,math function
			CO2	Use and apply Strings, Lists, Tuples on various examples
			CO3	Use conditional , alternative statements ,Loop using while ,for statements
			CO4	Apply Python on Linear Algebra examples for matrices, systems, eigen values
			CO5	Apply Python on Numerical methods to find roots, integration
			CO6	Install numpy, matplotlib packages and use 2D and 3D graphs Introduce with the basic concepts and techniques of Machine Learning and Python
T.Y.B.Sc:	SEC- II: MT- 3511	LaTeX for Scientific Writing	CO1	Know LaTeX syntax and Write a simple LaTeX input document based on the article class
			CO2	Format Words, Lines, and Paragraphs
			CO3	Produce Dashes within texts and Use TEXT and Math Fonts
			CO4	Use Listing and tabbing texts
			CO5	Prepare Table through the tabularx Environment
			CO6	Adjust column width, Merge rows columns of Tables

T.Y.B.Sc:	DSE-1: MT: 357	Practical Course Lab – I (Metric Spaces and Real Analysis-I)(2021 Pattern)	CO1	Solve examples of Metric Spaces, Open and Closed Sets
			CO2	Illustrate examples of Convergences and Continuity
			CO3	Solve examples of Compactness and Connectedness
			CO4	Solve examples of Logic, Functions, Convergent and Divergent sequences of Real numbers
			CO5	Explain Monotone Sequences, limsup, liminf of Cauchy Sequences
			CO6	Predict Conditional/Absolute Convergence, Convergent and Divergent Series of Real numbers
T.Y.B.Sc:	DSE-2: MT: 358	Practical Course Lab – II (Group Theory and Ordinary Differential Equations)	CO1	Recognize Isomorphic Binary Structures and Groups, Subgroups and Cyclic Groups
			CO2	Solve examples of Groups of Permutations, Orbits and Cycles, Alternating Groups, Cosets and the Theorem of Lagrange
			CO3	Compute Direct Products and Homomorphisms, Factor Groups, Factor Group Computations and Simple Group
			CO4	Solve Linear differential equations with constant coefficients, Inverse differential operators
			CO5	Solve Non homogeneous linear equations
			CO6	Find Series solution of linear second order equations and Solve System of equations
T.Y.B.Sc:	DSE-3: MT: 359	Practical Course Lab – III (Operational Research and Machine Learning -I)	CO1	Do the Model with Linear Programming and Solve by Simplex Method
			CO2	Solve LPP using graphical method
			CO3	Solve Transportation Model and The Assignment Model
			CO4	Write simple programs using Python Data Types, Control statements
			CO5	Write simple programs using Python collection type - List Data handling with Panda ,Data handling with Panda , Data


				visualization with Matplotlib
			CO6	Work on scikit-learn and Do End to end model implementation
SEMESTER VI				
T.Y.B.Sc:	DSE-4A: MT-361	Complex Analysis	CO1	Understand the significance of differentiability of complex functions leading to the understanding of Cauchy-Riemann equations
			CO2	Correlate Elementary functions as Exponential and Logarithmic functions
			CO3	Evaluate the contour integrals and understand the role of Cauchy- Goursat theorem and the Cauchy integral formula
			CO4	Expand some simple functions using Taylor and Laurent series
			CO5	Classify the nature of singularities, Find residues and Apply Cauchy Residue theorem to evaluate integrals
			CO6	Examine zeroes of analytic functions and poles
T.Y.B.Sc:	DSE-4B: MT-362	Real Analysis -II	CO1	Explain some of the families and properties of Riemann integrable functions
			CO2	Link the fundamental theorem of Calculus
			CO3	Know the Applications of fundamental theorems of integration
			CO4	Distinguish beta and gamma functions and their properties
			CO5	Recognize the difference between point wise and uniform convergence of a sequence of functions
			CO6	Illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability, and integrability
T.Y.B.Sc:	DSE-5A:	Ring Theory	CO1	Correlate the fundamental concepts of Rings, Fields, subrings, integral domains

	MT-363		CO2	Learn in detail about Irreducible polynomials, Divisors of zero
			CO3	Explain the Division Algorithm in $F[x]$ and Unique Factorization in $F[x]$
			CO4	Appreciate the significance of Maximal Ideal, Prime Ideal
			CO5	Study Factorization, Gauss Lemma, Gaussian integers
			CO6	Express the concept of Euclidean norm, Euclidean domain , Unique Factorization Domain
T.Y.B.Sc:	DSE-5B: MT-364	Partial Differential Equations	CO1	Introduce Ordinary and Partial differential equations and Pfaffian Differential forms
			CO2	Solve simultaneous Differential equations of the first order and first degree in three variables
			CO3	Formulate, classify and transform partial differential equations into canonical form
			CO4	Solve linear partial differential equations using various methods and apply these methods in solving some physical problems
			CO5	Know the rules of complementary solutions and particular integrals
			CO6	Get solution of Laplace, Periodic, wave equation by separation variables method
T.Y.B.Sc:	DSE-6A: MT-365(A)	Optimization Techniques	CO1	Get an idea about Network Models and basic components
			CO2	Determine critical path by Critical Path Method(CPM), Project Evaluation and Review Techniques(PERT), Time-cost optimization Algorithm
			CO3	Predict Graphical solution of mixed strategy games
			CO4	Study Replacement and Maintenance Models
			CO5	Solve a sequencing Problem for various jobs and machines
			CO6	Explain Unconstrained, constrained problems

T.Y.B.Sc	DSE-6B: MT-366(A)	Machine Learning-II	CO1	Do the Classification of MNIST dataset
			CO2	Learn Cross Validation ,Confusion Matrix
			CO3	Perform Linear, Polynomial Regression
			CO4	Understand various Gradient Descent as Batch , Stochastic Gradient
			CO5	Estimate Probabilities for Logistic Regression
			CO6	Apply Supervised Algorithms like Random Forest , K Nearest Neighbors
T.Y.B.Sc	SEC-III: MT-3610	Programming in Python-II	CO1	Study Turtle Graphics and design and implement a program to solve a real world problem
			CO2	Visualize data with seaborn, Matplotlib, Plotly, MayaVI
			CO3	Study operations on Dictionary and Sorting Minimum and Maximum
			CO4	Apply Python to visualize Concepts of Computational Geometry
			CO5	Draw 2-D,3-D reflection ,rotation and Generate Bezier curve
			CO6	Study Linear Programming Problem in Python
T.Y.B.Sc	SEC-IV: MT-3611	Mathematics into LaTeX	CO1	Acquaint students with typesetting basic Mathematics in LaTeX
			CO2	Type mathematical formulas, use nested list, tabular and array environments
			CO3	Import figures and pictures that are stored in external files
			CO4	Write array of equations ,Left Aligning ,sub-numbering of set of equations
			CO5	Write Conditional Expressions, Vector and Matrix
			CO6	Apply User Defined Macros and Use in paper printing, novels
T.Y.B.Sc	MT: 367	Practical Course	CO1	Solve examples on Analytic Functions and Elementary Functions

		Lab –I (Complex Analysis and Real Analysis -II)	CO2	Evaluate Integrals , Anti-derivatives, and Integrals by Cauchy-Goursat's theorem
			CO3	Expand Series and Find Residues and Poles
			CO4	Define and Find Existence of Riemann Integral ,it's Properties and Applications
			CO5	Evaluate Improper Integrals and Check Pointwise Convergence of Sequences of Functions
			CO6	Solve examples on Uniform Convergence of Sequences of Functions and Describe Series of Functions with Convergence and Divergence
T.Y.B.Sc	MT: 368	Practical Course Lab -II (Ring Theory and Partial Differential Equations)	CO1	Identify and Solve examples of Rings and Fields, Rings of Polynomials Integral surfaces
			CO2	Determine Homomorphism , Factor Ring and Ideals in a Ring
			CO3	Use and Find Unique Factorization Domain , Euclidean Domain and Gaussian Integers
			CO4	Solve Simultaneous Differential Equations of the First Order and First Degree in Three Variables , Solution of Pfaffian Differential Equations
			CO5	Find Solution of First order Partial Differential Equations and Solve Linear Equations of First order and Describe Integral surfaces
			CO6	Find Solution of Second order Partial Differential Equations by Separation Variables Method, Canonical Forms
T.Y.B.Sc	MT: 369	Practical Course Lab - III (Optimization Techniques and Machine Learning-II)	CO1	Explain Network Models and Solve Game Theory
			CO2	Describe Applications of Network Models ,Game Theory , Replacement Theory
			CO3	Define Sequencing and Classical Optimization Theory
			CO4	Revise concepts of Python and scikit learn , Use MNIST classification with python and Apply

			Linear Regression Implementation
		CO5	Perform Logistic Regression Implementation and Deal with Data
		CO6	Use KNN Implementation, Decision Tree Implementation, Random Forest Implementation and Support Vector Machine Implementation


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**Name of the Programme: B.Sc. Mathematics
(Computer Science)**

Name of the Class	Course Code	Course Title	Course Outcomes	
F.Y. B.Sc. (C.S.)	MTC 111 SEM-I	Matrix Algebra	CO1	Students will be revise previous knowledge to retrieving the subject to get sufficient knowledge of fundamental principles
			CO2	Students will be able to interpret with matrices and identify certain parameters, properties of given matrices.
			CO3	Students will be able to determine types and operations on matrices.
			CO4	Students will be able to calculate operations on matrices, in the running times
			CO5	Students will be able to testing properties of matrices on the basis of basic exercises.
			CO6	Students can be able to collaborate with matrices and solutions of system of linear equations. Also develop an appreciation for the properties on the subject and be able to read and present results from the properties
	MTC 112 SEM-I	Discrete Mathematics	CO1	Students will be revise previous knowledge to retrieving the subject to get sufficient knowledge of fundamental principles
			CO2	Students will be able to interpret with all mathematical concepts and identify certain parameters, properties.
			CO3	Students will be able to determine logical properties and their inter relations
			CO4	Students will be able to calculate solutions of recurrence relations and interpret types of recurrence relation in the running times
			CO5	Students will be able to solve basic exercises

				of recurrence relations
			CO6	Students can be able to collaborate with some counting principles to develop an appreciation for the properties on the subject and be able to read and present results from the principles.
	MTC 113 SEM-I	Mathematics Practical	CO1	Student will be understand basic of Maxima Software.
			CO2	Students will be able to interpret with matrices and identify certain parameters, properties of given matrices using maxima software.
			CO3	Students will be able to calculate operations on matrices using Maxima software.
			CO4	Students will be able to determine logical properties and their inter relation using Maxima software.
			CO5	Students will be able to calculate solutions of recurrence relations and interpret types of recurrence relation using Maxima software
			CO6	Students will be able to solve Linearly dependent ,Independent using Maxima software
	MTC 121 SEM-II	Linear Algebra	CO1	Define a Vector Space and a subspace and give examples of it
			CO2	Understand the concept of linear dependence, basis and dimension
			CO3	Find rank and nullity of a matrix and linear transformation
			CO4	Describe the linear transformation and it's properties
			CO5	Find a matrix of linear transformation and determine linear isomorphism
			CO6	Describe the Affine transformation and it's properties
		Graph Theory	CO1	Students will be able to interpret with type of graph and Requirement of graph in Computer science.
			CO2	Students will be able to interpret with type of graph and Requirement of graph in Computer science.
			CO3	Understand the concept of

				operation on graph.
			CO4	Understand the concept of Eulerian -hamilton graph.
			CO5	Describe the Connected graph
			CO6	Understand the concept of Tree.
				Understand the concept directed graph.
	MTC 123 SEM-I	Mathematics Practical	CO1	Student will be understand basic of Related to Graph and Linear Algebra using Maxima Software.
			CO2	Students will be able to interpret with matrices and identify certain parameters, properties of given matrices using maxima software.
			CO3	Students will be able to calculate operations on matrices using Maxima software.
			CO4	Students will be able to draw connected and disconnected graph using Maxima software.
			CO5	Students will be able draw type of graph using Maxima software
			CO6	Students will be able to solve System of Various linear Equation using Maxima software
S.Y.B. Sc. (C.S.)	MTC 211 SEM-I	Group and Coding	CO1	Solve examples of Divisibility on Z using Division Algorithm and Euclidean Algorithm
			CO2	Define Congruence, Residue Classes, Addition Modulo n and Multiplication Modulo n .
			CO3	Explain the significance of the notion of cosets, normal subgroups
			CO4	Study the concept in real life of Homomorphism
			CO5	Explain the Concept of Coding and Decoding.
			CO6	Explain the Concept of

				Cryptography .
	MTC222 SEM-I	Numerical Techniques	CO1	Find different types of errors and Find solution of algebraic and transcendental equations by different numerical methods
			CO2	Find relation between finite difference operators and differences of polynomials
			CO3	State and prove Newton's and Lagrange's Interpolation formulae
			CO4	Find numerical differentiation using Newton's forward difference formula
			CO5	Apply numerical integration using Trapezoidal, Simpson's 1/3 rd and 3/8 th rule
			CO6	Find numerical solution of first order Ordinary Differential equations by different methods
	MTC 223 SEM-I	Mathematics Practica		Students will be able to interpret with Basic of Python .
				Students will be able to interpret with Strings ,List ,Tuples and solve various problem
				Students will be able to calculate Iteration and Conditional Statement CO4 Students will be solve Linear Algebra Using Python.
				Students will be able to slove numerical Method in Python
	MTC 231 SEM-II	Computational Geometry	CO1	Students will be able to interpret the concept of Two Dimensional transportation.
			CO2	Students will be able to interpret the concept of Three Dimensional transportation.
			CO3	Students will be able to interpret with Curve tracing
			CO4	Students will be able to interpret of any

				object of Projection .
			CO5	Students will be able to interpret with Space Curve.
	MTC 232 SEM-II	Operational Research		Analyze and solve linear programming models of real-life situations
				Find the graphical solution of LPP with only two variables
				Understand the theory of simplex method in real life
				Know the relationships between the primal and dual problems and their solutions with applications to transportation, assignment problem
				Solve Assignment problem where such problems arise in manufacturing resource planning and financial sectors
	MTC 223 SEM-II	Mathematics Practical		Students will be able to interpret with Basic of 2D,3D Using Python .
				Students will be able to interpret with Graph plotting of the function
				Students will be able to show point, distance, Extreme point, list using Python.
				Students will be able solve various properties of Polygon Using Python.
				Students will be able to Computational Geometry in Python
				Students will be able to Operational Research in Python
F.Y. B.CA. (Computer Science)	BCA 113 SEM-I	Applied Mathematics		Student will be able to learn basic terminology formal logic, proof, sets relations, functions & performs the operations associated with same
				Student will be use formal logic proof & logical reasoning to solve problems.
				Student will be able to relate and apply techniques for constructing mathematical proof & make use of appropriate set operations, propositional logic to solve problems.
				Student will be use function or relation models to interpret associated relationships

			Student will be able to Compute various statistical measures of central tendency using given data.
			Student will be able to study Correlation, Probability and sampling theory.
	BCA 117 SEM-I	Applied Mathematics Practical	Student will be able to get knowledge bout applying theoretical concepts of applied mathematics and statistics to solve problems.
			Student will be able to apply mathematical and statistical concepts to solve problems.
			Student will be able to use basic concepts of mathematics using R-Software.
			Student will be able to use R Software to perform statistical operations and datavisualisation.




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Self Study Report: 2024 (4th Cycle)

Department of Statistics




Pune District Education Association's
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Name of the Programme : B.Sc. Statistics

PO NO.	OUTCOMES
P01	Explain the importance of statistics and investigate the real world problems and learn to how to apply mathematical ideas and models to those problems
P02	Describe a data set including both qualitative and quantitative variables
P03	Apply different measures and laws of probability to given problem
P04	Perform statistical inference to the given data set and interpret the results
P05	Apply statistical software package for data analysis
P06	Apply different mathematical tools to study probability and mathematical statistics
P07	Communicate concepts of probability and statistics in technical and non-technical language
P08	Analyse data set, precisely define the key terms, and draw clear and reasonable conclusions


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Name of the Programme: B.Sc. Statistics

Name of the Class	Course Code	Course Title	Course Outcomes	
SEMESTER I				
F.Y.B.Sc.	ST - 111	Descriptive Statistics-I.	CO1	Recall the definitions and formulae of terms related to Descriptive statistics
			CO2	Describe the concepts by giving example
			CO3	Solve simple problems in Descriptive Statistics and Theory of attributes
			CO4	Solve tricky computational problems
			CO5	Compare and apply the concepts in real life problems
			CO6	Apply all the above statistical methods for data analysis
F.Y.B.Sc.	ST - 112	Discrete Probability.	CO1	Define probability, probability distributions, mathematical expectation for probability distributions
			CO2	Recall some standard discrete distributions
			CO3	Describe probability, probability distribution, mathematical expectation for probability distributions
			CO4	Describe some standard discrete distributions
			CO5	Calculate different probabilities, mathematical expectation for univariate, distributions
			CO6	Differentiate and apply appropriate distribution to find the probability
F.Y.B.Sc.	ST - 113	Statistics Practical Paper-I.	CO1	Recall formulae and computation of various sampling methods, measures of central tendency and dispersions, skewness, kurtosis for numerical computations in Statistics
			CO2	Construct appropriate diagrams and/or graphs for the given data
			CO3	Solve simple problems in Descriptive Statistics and Theory of attributes for


				given data set
			CO4	Solve tricky computational problems
			CO5	Solve all the above statistical methods for data analysis using MS-Excel
			CO6	Apply all the above statistical methods for data analysis
SEMESTER II				
F.Y.B.Sc.	ST – 121	Descriptive Statistics-II.	CO1	Recall the definitions and formulae of terms related to Descriptive statistics
			CO2	Describe the concepts by giving suitable example
			CO3	Solve simple problems in Descriptive Statistics, Correlation, Regression and Index numbers
			CO4	Solve tricky computational problems
			CO5	Apply the concepts in real life problems
			CO6	Apply all the above statistical methods for data analysis
F.Y.B.Sc.	ST – 122	Discrete Probability Distributions.	CO1	Define probability, probability distributions, mathematical expectation for probability distributions
			CO2	Recall marginal and conditional distributions, some standard discrete distributions
			CO3	Describe probability, probability distribution, mathematical expectation for probability distributions
			CO4	Describe marginal and conditional distributions, some standard discrete distributions
			CO5	Calculate different probabilities, mathematical expectation for bivariate and conditional distributions
			CO6	Apply appropriate distribution to find the probability
F.Y.B.Sc.	ST – 123	Statistics Practical Paper -II.	CO1	Recall formulae and computation of measures of central tendency and dispersions
			CO2	Construct appropriate diagrams and/or graphs for the given data
			CO3	Fit appropriate linear or non-linear regression models, Poisson distributions for given data set
			CO4	Compute index numbers, correlation, rank correlation values, model sampling from Poisson distribution
			CO5	Apply appropriate distribution to find the probability
			CO6	Apply all the above statistical methods for data analysis using MS-Excel

SEMESTER III				
S.Y.B.Sc.	ST – 231	Discrete Probability Distributions and Time Series.	CO1	Define some standard distributions, its mathematical expectation and Time series
			CO2	Recall truncated distributions
			CO3	Describe some standard distributions, its mathematical expectation and Time series
			CO4	Describe truncated distributions
			CO5	Calculate probability from different discrete distributions , trend values, seasonal indices
			CO6	Apply appropriate distribution to find the probability
S.Y.B.Sc.	ST – 232	Continuous Probability Distributions.	CO1	Recall the definitions, pdfs, cdfs of all continuous distributions
			CO2	Describe mean, mode, median, variance, moments, quartiles, MGFs, CGFs and additive property of all continuous distributions
			CO3	Solve simple problems and examples in all univariate and bivariate distributions
			CO4	Calculate probabilities of all univariate and bivariate distributions
			CO5	Simplify the transformation of random variables of all distributions
			CO6	Apply the concepts of subsequent distributions in real life problems
S.Y.B.Sc.	ST – 233	Statistics Practical.	CO1	Fit the appropriate probability distributions
			CO2	Apply appropriate probability distributions to find the probabilities of real life problems
			CO3	Find Trend values and Seasonal Indices
			CO4	Drawing model sample from normal and exponential distributions
			CO5	Apply Computer software to find trend values by Exponential smoothing
			CO6	Apply Computer software to find the best fit using R^2 of real life time series data
SEMESTER IV				
S.Y.B.Sc.	ST – 241	Tests of significance and Statistical Methods.	CO1	Define multiple correlation, regression , different terms related to test of hypothesis, vital events, vital statistics, M/M/1 model
			CO2	Describe multiple correlation, regression, vital events, vital statistics, M/M/1 model
			CO3	Describe different terms related to test of hypothesis
			CO4	Describe test for population mean and population proportion

			CO5	Calculate different vital statistics, different tests using Rand based on normal distribution and multiple correlation & regression, average waiting time in queue and in system
			CO6	Differentiate the proper test and take the decision about hypothesis
S.Y.B.Sc.	ST - 242	Sampling Distributions And Exact Tests.	CO1	Recall the definitions of Gamma, Chi-square, t and F distributions
			CO2	Describe theorems and various results of chi-square, t and F distributions
			CO3	Explain mean, mode, variance, moments, MGFs, CGFs, additive property and interrelations of all distributions
			CO4	Calculate probabilities of all distributions and simplify the transformation of random variables
			CO5	Solve problems in all distributions and exact tests
			CO6	Differentiate the proper test and take the decision about hypothesis
S.Y.B.Sc.	ST - 243	Statistics Practical	CO1	Find GRR and NRR
			CO2	Apply appropriate probability distributions to find the probabilities of real life problems using R software
			CO3	Apply appropriate test for the given real life data
			CO4	Apply R software to find different measures of statistics
			CO5	Apply R software to fit multiple regression plane
			CO6	Apply R software for testing of hypothesis


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Name of the Programme: - **Statistics (CS)**

Name of the Class	Course Code	Course Title	Course Outcomes
F.Y.B.Sc(C.S)	11421	Descriptive Statistics	CO1 Student will able to display data graphically and interpret graphs: stem plots, histograms, and box plots.
			CO2 To provide basic information about variables in data sets.
			CO3 Student will able to describe the overall purpose or goal from participation in an educational activity.
			CO4 Student will able to analyze Statistical data using MS-Excel.
			CO5 Students will able to gain the knowledge of Skewness and Kurtosis.
			CO6 Students will be able to understand the concept of discrete and continuous random variables.
			CO1 Students will frame problems using multiple mathematical and statistical representations of relevant structures and relationships and solve using standard techniques.

F.Y.B.Sc(C.S)	11422	Mathematical Statistics	CO2	Student will able to Translate real-world problems into probability models.
			CO3	Student will able to identify the type of statistical situation to which different distributions can be applied
			CO4	Identify the characteristics of different discrete and continuous distributions.
			CO5	Student will able to use discrete and continuous probability distributions, including requirements, mean and variance, and making decisions.
			CO6	Student will able to analyze Statistical data using MS-Excel.
			F.Y.B.Sc(C.S)	12421
CO2	Student will able to calculate the simple linear regression equation for a set of data.			
CO3	Students will able to apply techniques to detect and handle outliers in correlation analysis.			
CO4	Students will able to understand the situation where non- parametric correlations are more appropriate.			
CO5	Students will able to differentiate between simple linear and multiple regression.			
CO6	The specified knowledge, skills, abilities or attitudes that students are expected to attain by the end of a learning experience or program of study.			
			CO1	Students should able to differentiate between discrete and continuous probability distributions.

F.Y.B.Sc(C.S)	12422	Continuous probability distribution & Testing hypothesis	CO2	Students should able to calculate probabilities and cumulative probabilities using the PDF.
			CO3	Students should able to Study and apply key continuous probability distributions, such as the normal distribution, exponential distribution, and uniform distribution.
			CO4	Students should able to define hypothesis testing and it's components.
			CO5	Students should able to draw meaningful conclusions and make informed decisions based on the analysis
			CO6	Students should be able to choose appropriate test statistics and interpret the results.




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Self Study Report: 2024 (4th Cycle)

Department of Electronic



Pune District Education Association's
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Name of the Programme: B.Sc. Electronics


Name of the Class	Course Code	Course Title	Course Outcomes	
F.Y. B.Sc (Comp. Sci.)	ELC-111	Semiconductor devices & basic electronic system.	CO1	Understand, draw symbols & types of semiconductor devices & characteristics and formula of electronic device.
			CO2	Define semiconductor devices. Give the relation between parameters of electronic device.
			CO3	Solve problems on frequency, current & voltages.
			CO4	Understand working, principles of semiconductor devices and electronic device.
			CO5	Explain Characteristics, application & block diagram of semiconductor devices and electronic device.
			CO6	Design different circuit on the basis of knowledge of analog electronics
F.Y. B.Sc (Comp. Sci.)	ELC 112	Principles of digital electronics	CO1	Define, state theorems, and draw symbols, Boolean equations.
			CO2	Represent codes; understand different types of logic gates.
			CO3	Draw block diagram, parameters of logic families, number system conversion.
			CO4	Understand the general concept in digital logic design and their use in combinational circuit design and solve

				problems.
			CO5	Integrate & combine ideas of digital electronics to design circuit.
			CO6	On basis of knowledge of digital electronics create applications of digital circuit
S.Y. B.Sc (Comp. Sci.)	ELC 212	Digital Communication &; Networking	CO1	Define concepts, state theorems and formulae.
			CO2	Learn types in digital communication system. Learn classification related to digital communication system, list frequency range.
			CO3	Using formula&; statement solve problems. Students will be able to know concept of computer networking. Networking based model.
			CO4	Understand &; explain different techniques their need in digital communication with block diagram.
			CO5	Student can integrate &; combine ideas of digital communication techniques by using knowledge of digital communication.
			CO6	By using the knowledge of different digital communication techniques study and implement the effectiveness of different techniques.
S.Y. B.Sc (Comp. Sci.)	ELC 211	Microcontroller Architecture &; programming	CO1	Define and learn instruction addressing mode, registers ,full form ,state formulae
			CO2	How instructions can be used in program
			CO3	Architecture at block diagram level,pin diagram,study of different compiler as well as language.
			CO4	use and write 8051 program &; execution with use of software. Explain concepts with diagram as well as mathematical calculations required for writing program.
			CO5	Learn about I/O organization, different types of electronics devices, data transfer.
			CO6	To Create different applications on the basis of complete knowledge of 8051 microcontroller.


HEAD

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Self Study Report: 2024 (4th Cycle)

Department of B. Voc. Software Development



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Name of the Programme : B.Voc. Software Development

PO NO.	OUTCOMES
PO1	Use creativity, critical thinking, and analysis and research skills to solve theoretical and real-world problems in computer science.
PO2	Student from any background who completed 12 th can take admission to this course.
PO3	Students learn different programming languages, hardware networking skills also office automation skills which will be useful .
PO4	Illustrate the concepts of systems fundamentals, including architectures and organization, operating systems, networking and communication.
PO5	Gain the knowledge about software engineering fundamentals, including software analysis and design, evaluation and testing, and software engineering processes.
PO6	Gain self-discipline in everyday aspects of life and work.
PO7	Describe mathematics fundamentals, including discrete structures
PO8	Gain knowledge of different programming language which is useful for their future for getting good job in IT field.
PO9	After completing 3 years degree program students are able to take admission to any master degree course like MCS, MBA etc.

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**Name of the Programme: B Voc. (S.D)
(Computer Science)**

Name of the Class	Course Code	Course Title	Course Outcomes
F.Y. BVoc.		Mathematics(Logics &Algebra)	Students will be able to determine logical properties and their interrelation.
			Describe the Connected graph
			Solve examples of Divisibility on Z using Division Algorithm and Euclidean Algorithm
			Understand the concept directed graph.
			Understand the Concept of Complex Number.


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Self Study Report: 2024 (4th Cycle)

Department of B. Voc. Tourism and service industries



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Name of the Programme : B.Voc. Tourism and Service Industry

P.O.	OUTCOMES
PO1	Industry Knowledge: Graduates will demonstrate a comprehensive understanding of the tourism and service industry, including its history, trends, key players, and global impact.
PO2	Customer Service Skills: Students will develop exceptional interpersonal and communication skills, enabling them to provide outstanding customer service and satisfaction.
PO3	Cultural Awareness: Graduates will exhibit a deep appreciation for cultural diversity and possess the ability to engage with and respect individuals from various backgrounds.
PO4	Event Management: Graduates will have the knowledge and skills required to organize and manage various events within the tourism and service industry, ensuring seamless execution.
PO5	Hospitality Operations: Students will understand the nuances of running different types of hospitality establishments, such as hotels, resorts, restaurants, and cruise ships.
PO6	Marketing and Promotion: Graduates will be adept at developing effective marketing strategies to attract tourists and promote various tourism-related services.
PO7	Ethical and Legal Understanding: Students will demonstrate an awareness of the ethical and legal issues that may arise in the tourism and service sector, and be able to make informed decisions in line with regulations.
PO8	Research and Analysis: Graduates will be skilled in conducting research related to tourism trends, market demands, and consumer preferences to inform strategic decision-making.
PO9	Leadership Skills: Graduates will exhibit leadership qualities that enable them to guide teams and contribute to the growth and development of the tourism and service industry.
PO10	Problem Solving: Graduates will have the ability to identify and address challenges that arise in the industry, finding innovative solutions to ensure smooth operations.
PO11	Financial Management: Graduates will possess financial acumen to effectively manage budgets, pricing strategies, and revenue streams within the industry.
PO12	Sustainability: Students will be equipped to incorporate sustainable practices into their decision-making, contributing to the long-term viability of the tourism industry.

Head

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Co-ordinator
IQAC Committee
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-28.

PRINCIPAL
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune-411028.



Pune District Education Association's
Annasaheb Magar Mahavidyalaya
 Hadapsar, Pune- 411028
 Affiliated to Savitribai Phule Pune University, Pune



Name of the Programme : B.Voc (Tourism and Service Industry)

Name of the class	course code	course title	course outcomes	
semester - I				
F.Y.B.Voc	TSI 101	Tourism Principles and Practices	CO1	To define the concepts of tourism.
			CO2	To classify the various elements of Tourism Management
			CO3	To examine the various aspects and organizations related to Tourism
			CO4	Develop idea about principles and practices of Tourism
			CO5	To Highlighting the main components of Tourism Industry
			CO6	To identify career opportunities in Tourism
	TSI 102	Tourism Product of India	CO1	To understand the meaning and nature of tourism products and to familiarize the students about the major attractions in the country.
			CO2	To identify different types of tourism products in India
			CO3	To understand the cultural tourism resources in India
			CO4	To provide knowledge about the Products and Resources in Tourism Industry
			CO5	To understand the nature of different tourism products
			CO6	To familiarize the social and cultural set up in India and its contribution to tourism

Name of the class	course code	course title	course outcomes	
semester -1				
F.Y.B.Voc	TSI 103	Geography of India	CO1	To understand the physiography of India, relationship between neighbouring countries and Indian monsoon and wind.
			CO2	To recognize the Indian agriculture and Irrigation types.
			CO3	To understand the Special economy zone and Indian Industry
			CO4	To provide knowledge about the cultural setting of India.
			CO5	To understand the nature of different types of settlements in India.
			CO6	To familiarize the social and cultural set up in India like political aspects and contemporary issues.
	TSI 104	Communication and Soft Skills	CO1	Students will be able to Communicate in English Effectively
			CO2	Understands the concept, process and importance of communication
			CO3	Deliver prepared speeches to express ideas, thoughts and emotions.
			CO4	Communicate effectively by avoiding barriers in various formal and informal situations
			CO5	Communicate skilfully using non-verbal methods of communication
			CO6	Give presentations by using audio-visual aids.

Name of the class	course code	course title	course outcomes	
semester -1				
F.Y.B.Voc	TSI 105	Introduction to GIS and ICT practical paper I	CO1	Demonstrate a good understanding of origins and basic layout of computers along with its influence on society and tourism industry
			CO2	Understand different Map making techniques.
			CO3	Introduce the importance of GIS and it's uses in tourism industry
			CO4	Build a conceptual understanding of different types of GIS software
			CO5	Effectively Illustrate the hands-on knowledge of MS-word, MS-Excel, and MS PowerPoint
			CO6	Develop and in-depth understanding of how data is represented inside a computer and basic hardware components of a computer
	TSI 106	Tourism attraction in India with map work Practical Paper II	CO1	Defining the concept of map reading methods and preparation.
			CO2	Explain the need and importance of GPS.
			CO3	Learn the basic knowledge of preparing and presenting report writing, and skills.
			CO4	Apply skills for Training on Tourist place.
			CO5	Identify the need of S.O.I, Global Distribution system
			CO6	Develop idea about Internship, Destination Visits and case studies

Name of the class	course code	course title	course outcomes	
semester -II				
F.Y.B.Voc	TSI 107	Introductions to Hospitality Industry	CO1	Students will learn the importance human resource management in an organization
			CO2	To understand the model of hospitality Industry
			CO3	To Analyze the process in the hospitality industry
			CO4	Students will learn the basic of accommodation operations and the various departments in hotel and their importance.
			CO5	Gaining knowledge about front desk operations, reservations, billing, etc. in hotel and any related organizations.
			CO6	Students will learn the basic of restaurant management and the various operational tools required
	TSI 108	Geography of World	CO1	Gaining knowledge about Development of Tourism in World
			CO2	To familiarize with the geographical & historical tourism in India.
			CO3	To understand the Religious and Cultural Tourism in India
			CO4	To Deliberate the importance and aspects of Organization of Tour.
			CO5	To Learning the Objectives of tour.
			CO6	Students will learn the basic economic planning

Name of the class	course code	course title	course outcomes	
semester -II				
F.Y.B.Voc	TSI 109	Ethical, Legal and Regulatory Aspects of Tourism	CO1	Understand the concepts of laws and ethics in the realm of tourism for propagating sensible and responsible tourism practices by both the tourist and the providers.
			CO2	Discuss the importance of consumer rights and issues related to them in the tourism industry.
			CO3	Illustrate the principles of Ethics in Tourism.
			CO4	Identify the different Acts and its impact on tourism industry.
			CO5	Explain the concept of World cultural heritage and natural heritage.
			CO6	Relate the various Laws and regulations relevant for the tourism industry.
	TSI 110	Human Resource Planning & Development in Tourism	CO1	To understand the concept of HRM
			CO2	To comprehend job description, job specifications
			CO3	To Summarize the most effective action to take in investment to secure their life in HR department
			CO4	To examine the various activities of HRM department
			CO5	Learn various skills of HR personnel's
			CO6	To Analyze the role of HRM in the tourism industry.

Name of the class	course code	course title	course outcomes	
semester -II				
F.Y.B.Voc	TSI 111	Tour Planning - Practical III	CO1	Define the key concepts and issues concerning tourism planning, tourism public policy and tourism management
			CO2	Identify the several important tourism planning approaches and models.
			CO3	Classify key stakeholders involved in tourism planning and policy-making
			CO4	Comprehend government and industry roles and responsibilities in tourism planning and policy-making
			CO5	Recognize the role of tourist policies
			CO6	Understand the developing and monitoring tourism master plan
	TSI 112	Seminar course and Viva-Voce Practical Paper IV	CO1	Determine the ability to execute close and critical readings.
			CO2	To consider the motives and methods of seminar.
			CO3	Demonstrate the ability to distinguish opinions and beliefs from researched claims and evidence and recognize that kinds of evidence will vary from subject to subject
			CO4	The ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries
			CO5	Enhance the skills to evaluate, credit, and synthesize sources
			CO6	Improve the skills of facing challenges in interview panel

Name of the class	course code	course title	course outcomes	
semester -I				
S.Y.B.Voc	TSI 113	Tourism Economics	CO1	Understanding basic knowledge on scope, nature concepts, significance of Economics.
			CO2	To know the demand and its related concepts.
			CO3	Research and analyze price and output determination under different market.
			CO4	Understand the relationship between input and output in short and long period.
			CO5	Examine the different phases of business cycle and methods.
			CO6	Understand the role and responsibility of managerial economists
	TSI 114	Tourism Marketing	CO1	Express the basic concept of tourism marketing.
			CO2	Explain the marketing segmentation and marketing mix.
			CO3	Acquire knowledge about the tourism marketing and planning process.
			CO4	Understand the methods for developing pricing strategies.
			CO5	Evaluate the effectiveness of a marketing campaign for tourism.
			CO6	Elaborate modern trends in marketing.

Name of the class	course code	course title	course outcomes	
semester -I				
S.Y.B.Voc	TSI 115	Managerial Accounting and Finance in Tourism	CO1	To understand and Define the accounting rules and balance sheet
			CO2	To calculation PV Ratio BEP and Margin of safety
			CO3	To applying cash budget of tourism sectors
			CO4	Identify key of company ratio analysis
			CO5	Solving problems of Cash flow statement and fund flow statement
			CO6	Finding the advantages and disadvantages of financial accounting in tourism sector
	TSI 116	Adventure and Eco-Tourism	CO1	To understand the concept of Adventure and Eco-Tourism
			CO2	Explore the key risk factors, current legislation and ethical factors influencing participation in adventure tourism activities
			CO3	Analyze the learning and motivational factors associated with participation in adventure tourism activities
			CO4	Explain the growth and development of Adventure and Eco-Tourism
			CO5	Explore the different types of Adventure tourism like Arial, Water, Land with map work
			CO6	Recognize the need of Adventure and Eco-tourism

Name of the class	course code	course title	course outcomes	
semester -I				
S.Y.B.Voc	TSI 117	Air Fare and Ticketing Practical	CO1	To recognize the air transportation system.
			CO2	To understand Green witch mean time and International dateline.
			CO3	Classify about the IATA origination.
			CO4	Memorize the NATO phonetic alphabet.
			CO5	To explain the Travel Documents.
			CO6	Discusses about the Country, capital, different currencies in the world.
	TSI 118	Seminar Course and Viva – Voce Practical II	CO1	Students will demonstrate the ability to perform close and critical readings.
			CO2	Students will demonstrate the ability to consider critically the motives and methods of scholarship and the relationship between them.
			CO3	Students will demonstrate the ability to distinguish opinions and beliefs from researched claims and evidence and recognize that kinds of evidence will vary from subject to subject
			CO4	Students will demonstrate the ability to ask disciplinarily appropriate questions of the material and recognize when lines of inquiry fall outside of disciplinary boundaries
			CO5	Students will demonstrate the ability to evaluate, credit, and synthesize sources
			CO6	Enhance the skills of travel agency management

Name of the class	course code	course title	course outcomes	
semester -II				
S.Y.B.Voc	TSI 119	Contemporary Issues in Tourism	CO1	Describe the structure of the tourism and hospitality industries and the economic contributions of these sectors at national and international level
			CO2	Describe management strategies for service delivery
			CO3	Discuss key issues related to corporate social responsibility for tourism and hospitality
			CO4	Discuss the role of government in regulation and promotion of the tourism and hospitality industries
			CO5	Discuss the advantages and disadvantages of various tourism product distribution systems
			CO6	Evaluate case studies to identify critical success factors for tourism and hospitality businesses
	TSI 120	Tourism Analysis	CO1	Understanding foundational knowledge on Economic, socio-cultural, Environment Impact.
			CO2	Understanding the positive and negative impacts with reference to case study of an area.
			CO3	Getting an understating of sustainable tourism.
			CO4	Gain adequate knowledge about the role of Tourism satellite accounting.
			CO5	Build awareness importance of environment, and tourism
			CO6	Examining knowledge on Political-Impact on tourism with solution and assessment.

Name of the class	course code	course title	course outcomes	
semester -II				
S.Y.B.Voc	TSI 121	Tourist Product Design and Destination Development	CO1	Understand the Role of destination management in tourism
			CO2	Gaining knowledge about Work ethics in Organizations & companies
			CO3	Understand the tourism marketing related issues.
			CO4	Design, implement and evaluate marketing strategies for destinations
			CO5	Define the basic knowledge about destination
			CO6	Evaluate the destination promotion and publicity
	TSI 122	Agro Tourism	CO1	Understand and have the knowledge about the tourism resources of rural area in Agro tourism
			CO2	Appreciate the benefits and costs of rural tourism development in Agro tourism
			CO3	Recognize demand and supply for Agro tourism
			CO4	Comprehend ways to apply the marketing concept to Agro tourism
			CO5	Understand the planning and the management process for Agro tourism.
			CO6	To Explain the student to Economic and Environmental Aspects in agro tourism.

Name of the class	course code	course title	course outcomes	
semester -II				
S.Y.B.Voc	TSI 123	Project Report Practical Paper	CO1	Examine the StudyMaterial related to the subject.
			CO2	To learned the different sequential steps to report writing.
			CO3	Learning about preparation of the Map.
			CO4	Apply skills for collection of the data.
			CO5	Enhance the writing skills of the students.
			CO6	Explain the importance of the use of Bibliography.
	TSI 124	Field Trip & Viva-Voce Practical Paper IV	CO1	Growing effective planning skills for study tours.
			CO2	Apply principles of job allotment and delegation to assign roles and responsibilities.
			CO3	Apply problem-solving strategies to effectively address and resolve challenges.
			CO4	Create comprehensive tour itineraries that encompass the details of the study tour.
			CO5	Demonstrate effective communication skills through the tour report.
			CO6	Utilize research and information gathering techniques to provide accurate and up-to-date content for the tour report.

Name of the class	course code	course title	course outcomes	
semester -I				
T.Y.B.Voc	TSI-125	Tour and Travel Agency Management	CO1	Gaining in-depth knowledge of history of travel agency, nature, and form of travel
			CO2	Build an understanding of functions performed by the Travel agency and tour operator
			CO3	Comprehends the foundation and organization structures of travel agencies
			CO4	Build an understanding of a few important international conventions
			CO5	Understand and evaluate the legal aspects needs to understand for opening a travel agency
			CO6	Enhance the skills of travel agency management
	TSI-126	Event Management in Tourism	CO1	Preparing the steps in project management and strategic planning as they apply to events.
			CO2	Understand the concept of event management, event planning, categorizations and organizing events in various fields.
			CO3	Recognise the concept of different kind of event tourism like MICE tourism, International trade fair and marks,
			CO4	Acquire in-depth knowledge of techniques and strategies required for the successful planning, promotion, implementation, and evaluation of special events within the MICE context.
			CO5	Analyse and manage the risks associated with different type of events.

			CO6	Preparing the steps in project management and strategic planning as they apply to events.
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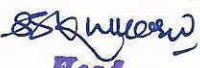
Name of the class	course code	course title	course outcomes	
semester -I				
T.Y.B.Voc	TSI-127	Travel, Trade and Transport	CO1	To understand the concept and model of various mode of transport system.
			CO2	To understand the air transportation system.
			CO3	To examine the various activities in the Airport.
			CO4	To learn about the structure and facilities of a Water transport.
			CO5	To examine the various activities in the surface transport to understand the Rail transportation system.
			CO6	To learn about the structure and facilities of an surface transport.
	TSI-128	Business policy and Corporate Social Responsibility	CO1	Relate the various tourism policies relevant for the tourism industry.
			CO2	Understand the concept of National tourism boards, National committee on tourism.
			CO3	Analyze the important role of private sector in tourism development.
			CO4	Elaborate the economic responsibilities.
			CO5	Examine the various Legal responsibilities as travel agents.
			CO6	Learn about Buddhist circuit

Name of the class	course code	course title	course outcomes	
semester -I				
T.Y.B.Voc	TSI-129	Dissertation – Practical-I	CO1	Learn about the concept of tourism like Hunting tourism, Niche tourism.
			CO2	Define the basic concept of dissertation writing.
			CO3	Classify the types of research and its importance.
			CO4	Apply the theoretical knowledge in to the group project.
			CO5	List out the need and importance of research work and tour report writing
			CO6	Evaluate need and importance of data collection, data analysis, data interpretation for the report writing etc...
	TSI-130	Presentation & Viva on Dissertation Practical Paper II	CO1	Know the various types of application of computers
			CO2	Identify the names and functions of the PowerPoint interface.
			CO3	Use design layouts and templates for presentations.
			CO4	Create slide presentations that include text, graphics, animation, and transitions and manipulate simple slide shows with outlines and notes.
			CO5	Create a PowerPoint presentation and add a graphic to a presentation.
			CO6	Assemble the skills of interview and viva presentation.

Name of the class	course code	course title	course outcomes	
semester -II				
T.Y.B.Voc	TSI-131	Tour Operations Management	CO1	Define origin, genesis, and development of travel companies.
			CO2	Explain about travel agency and tour operation business in a theoretical manner
			CO3	Apply cognitive skills for preparation of itineraries and tour plans
			CO4	List out various types of tour packaging and costing
			CO5	Assess the role and objectives travel trade organizations in connection with promotion
			CO6	Discuss the employment opportunities provided by travel agency business.
	TSI -132	Responsible Tourism and Destination Management	CO1	Students will be familiar with the essential conditions required for developing destination, type of infrastructures and facilities and government policies and rules applicable.
			CO2	The student learns the basic principles, concept and practices of sustainable tourism development and to identify tools to minimize impacts at the destinations.
			CO3	The students able to plan, design and construct itinerary, calculate cost and also select effective pricing strategies.
			CO4	To examine the role and relevance of tour operation.
			CO5	To aware the Guiding principles for economic, social and environmental responsibility.
			CO6	Recognize that tourism has limits & must be managed.

Name of the class	course code	course title	course outcomes	
semester -II				
T.Y.B.Voc	TSI-133	Entrepreneurship in Tourism	CO1	Understand the meaning of entrepreneurship in tourism
			CO2	Explain about socio-economic, cultural, political and natural characteristics of entrepreneur and entrepreneurial behaviour.
			CO3	To analyze the ownership structure and organizational framework
			CO4	Identify different travel business-venture creation and management.
			CO5	Recognize the skills and characteristics an entrepreneur needs in the travel and tourism industry.
			CO6	Comprehend the development of enterprises in the travel and tourism industry.
	TSI-134	Tourism Information and Management System	CO1	Understand the Relationships associated with resource use.
			CO2	Interpret tourism resource inventories.
			CO3	Identify and assess visitor flow and management.
			CO4	Distinguish and produce form of tourism information system.
			CO5	Apply relevant technology for management of tourism experiences.
			CO6	Modify the design, development and requirement of information system in tourism.

Name of the class	course code	course title	course outcomes	
semester -II				
T.Y.B.Voc	TSI-135	Internship for Tour Escort and Travel consultancy	CO1	List out the need and importance of Internship training.
			CO2	Prepare for the tour and coordinate with travel agent and tour operator along with escorting the tourists
			CO3	Maintain customer- centric service orientation and required standard of etiquette and hospitable conduct activities enabling them to become effective managers.
			CO4	Acquire and get hands on experience on the working of various departments in hotel, travel agency, event company and other related organizations.
			CO5	Develop idea about advanced practices in Tourism
			CO6	Develop career opportunities in Tourism
			TSI-136	Project report Practical Paper IV
CO2	Explain the value of use Bibliography in practical work			
CO3	Knowing about different type of cuisine			
CO4	Learn the pivotal role of shopping festivals, Entertainment & Night Life in tourism concept			
CO5	Demonstrate the understanding about the history of on tourism area			
CO6	Analyze the information regarding world map and country map			


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Programme & Course Outcome





Pune District Education Association's
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Self Study Report: 2024 (4th Cycle)

Department of B. Voc. Beauty and wellness



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Name of the Programme : B.Voc. Beauty & Wellness

P.O.	OUTCOMES
PO1	Student will improve their beauty-related communication skills.
PO2	Student will learn about the internal working of the body that contributes to beauty.
PO3	Student will learn about principal skin care treatments for personal grooming.
PO4	Student will be able to communicate effectively with clients, vendors and other key stakeholders.
PO5	Student will learn about key body systems that contribute to beauty.
PO6	Student will be able to carry out key personal grooming treatments.

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