

Detail Structure and Syllabus

for

B.Voc (Software Development)

(To be Implemented from Academic Year 2020-21)

1. Title of Program: Bachelor of Vocational in Software Development. (B.Voc.(SD))
2. Program Level: Degree Program with Vertical and Horizontal Mobility.
3. Syllabus to be Implemented from: Academic Year 2020-2021.
4. Preamble:

The University Grants Commission (UGC) has launched a scheme on skills development based higher education as part of college/university education, leading to Bachelor of Vocation (B.Voc.) Degree with multiple exits such as Diploma/Advanced Diploma under the NSQF. The B.Voc. programme is focused on universities and colleges providing undergraduate studies which would also incorporate specific job roles along with broad based general education.

The proposed Degree Programme in Software Development will be a mix of Skills, Professional Education related to Software Development and General Education. It is designed with the objective of equipping the students to cope with the emerging trends and challenges in the field of Information Technology.

The Program is designed to achieve following Objectives:

- i. Produce knowledgeable and skilled human resources which is employable in IT and ITES.
- ii. Impart knowledge required for planning, designing and building Complex Application
- iii. Software Systems as well as provide support to automated systems or application.
- iv. Produce entrepreneurs who can develop customized solutions for small and medium Enterprises.

5. Faculty of Program: Science and Technology.

6. Eligibility for Admission:

Student will be consider eligible to admit First Year B.Voc.(Software Development), who have passed 12th Examination conducted by any Central or State Board for Secondary and Higher Secondary Education OR its equivalent.

OR

Students who have already acquired NSQF certification level 4 in a particular trade.

7. Duration of Program: 03 Years with Vertical and Horizontal Mobility.

8. Intake Capacity: 50

9. Examination:

I. Pattern of Examination: Semester Pattern.

- i. Each course carrying 100 marks shall be evaluated with Continuous Evaluation (CE) and External Evaluation (EE) mechanism.
- ii. Continuous Evaluation shall be of 50 marks while External Evaluation shall be of 50 marks.

B.Voc.(Software Development)

iii. CE shall be based on internal tests (minimum 2 for 20 marks). In addition, for remaining 30 marks, teacher may assign various activities such as-home assignments, tutorials, seminars, presentations, group discussion etc, to the students and evaluate accordingly

II. Standard of Passing:

To pass in a course, a student has to secure minimum 40 marks provided that he should secure minimum 15 marks in Continuous Evaluation (CE) and External Evaluation (EE) both

III. ATKT Rules:

i. Minimum number of credits required to take admission to S.Y. B.Voc.(SD) will be 40.

ii. Minimum number of credits required to take admission to T.Y. B.Voc.(SD) will be 100, provided that students has completed all credits of First Year of B. Voc. (SD)

IV. Award of Class: As per SPPU's Regular B.Sc. Program.

V. External Students: No External Student admitted to B.Voc.(SD).

VI. Setting of Question Papers: As per SPPU rules and regulations.

VII. Verification / Revaluation: As per SPPU rules and regulations.

10. Program Structure:

- The Program is of a Three Year (Six semesters) Full Time Degree Program.
- The program shall be based on credit system comprising 180 credit points.
- For Theory Course, one credit is equivalent to one clock hour direct teaching in a week.

F.Y. B. Voc (Software Development)

SEMESTER-I

B. Voc.(Software Development)

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 111	TH	Basic 'C' Programming	3		3		50	50	100
BSD 112	TH	Web page designing using HTML,CSS, XML	3		3		50	50	100
BSD 113	TH	Computer Fundamentals and Office Automation	3		3		50	50	100
BSD 114	TH	Communication Skill-I	3		3		50	50	100
BSD 115	PR	Practical I ('C' Language)		3		4	50	50	100
BSD 116	PR	Practical II (HTML, CSS, XML)		3		4	50	50	100
BSD 117	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

SEMESTER-II

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 121	TH	Advanced 'C' Programming	3		3		50	50	100
BSD 122	TH	Scripting Language (Java Script)	3		3		50	50	100
BSD 123	TH	Database Management System	3		3		50	50	100
BSD 124	TH	Mathematics (Logics & Algorithm)	3		3		50	50	100
BSD 125	PR	Practical I(Advance 'C')		3		4	50	50	100
BSD 126	PR	Practical II(DBMS & JavaScript)		3		4	50	50	100
BSD 117	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

On Job Training should be carried out in any one subject per semester for the job roles such as:

1. Office Assistant
2. Web Designer
3. Technical Support
4. MIS Associate

S. Y. B. Voc (Software Development)**SEMESTER-III**

B. Voc.(Software Development)

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 231	TH	Basic PHP	3		3		50	50	100
BSD 232	TH	Data Structure	3		3		50	50	100
BSD 233	TH	Object oriented Software Engineering	3		3		50	50	100
BSD 234	TH	Dot Net(C#)	3		3		50	50	100
BSD 235	PR	Practical I(BSD 235)		3		4	50	50	100
BSD 236	PR	Practical II(BSD 236)		3		4	50	50	100
BSD 237	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

SEMESTER-IV

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 241	TH	Advanced PHP	3		3		50	50	100
BSD 242	TH	Software Testing	3		3		50	50	100
BSD 243	TH	Advanced JavaScript (JS Framework)	3		3		50	50	100
BSD 244	TH	Computer Networking	3		3		50	50	100
BSD 245	PR	Practical I (BSD 241 & BSD 242)		3		4	50	50	100
BSD 246	PR	Practical II(BSD 243)		3		4	50	50	100
BSD 247	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

On Job Training should be carried out in any one subject per semester for the job roles such as:

1. Software Tester
2. Web Designer
3. Technical Support
4. Network Support Engg.

T.Y. B. Voc (Software Development)**Semester – V**

B.Voc.(Software Development)

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 351	TH	Core java	3		3		50	50	100
BSD 352	TH	Artificial Intelligence	3		3		50	50	100
BSD 353	TH	Advanced Computer Networking	3		3		50	50	100
BSD 354	TH	Current Trends in IT-I (Python)	3		3		50	50	100
BSD 355	PR	Practical I(BSD 351)		3		4	50	50	100
BSD 356	PR	Practical II(BSD 354)		3		4	50	50	100
BSD 357	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

Semester – VI

Course No	Category	Title	Credits		Teaching Scheme (Hours/Week)		Evaluation Scheme and Marks		
			Theory	Pract.	Theory	Pract.	CE	EE	Total
BSD 361	TH	Advanced java	3		3		50	50	100
BSD 362	TH	Android Application Development	3		3		50	50	100
BSD 363	TH	Current Trends in IT - II (Digital Marketing)	3		3		50	50	100
BSD 364	TH	Introduction to Information Security	3		3		50	50	100
BSD 365	TH	Practical I (BSD 361)		3		4	50	50	100
BSD 366	PR	Practical II (BSD 362)		3		4	50	50	100
BSD 367	PR	On Job Training		12		16		100	100
TOTAL			12	18	12	24	300	400	700

On Job Training should be carried out in any one subject per semester for the job roles such as:

1. Software Developer
2. Web Developer
3. Digital Marketing Associate.
4. Mobile Application Developer

P.D.E.A.s
Annasaheb Magar Mahavidyalaya,
Hadapsar
Syllabus
for
F.Y.B.Voc.
(Software Development)
(2020-21)
Sem – I & II

Semester I

Course Code: BSD111**Course Title: Basics of 'C' Programming****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

- Objectives:**
- 1) To Learn Problem Solving Techniques.
 - 2) To Know the Basics of Programming
 - 3) To Learn Basic features of C Programming

Unit. No.	Topic	No. of Lectures
1	Problem Solving 1.1 Concept : problem solving 1.2 Algorithms 1.3 Characteristics of algorithm 1.4 Advantage of algorithm 1.5 Flowcharts 1.6 Advantages of flowchart.	2
2	Introduction to 'C' Language 2.1 History 2.2 Structure of 'C' Programming 2.3 Compiler 2.4 Interpreter 2.5 Function as building blocks.	8
3	Language Fundamentals 3.1 Character set 3.2 C Tokens 3.3 Keywords 3.4 Identifiers 3.5 Variables 3.6 Constants 3.7 Data Types 3.8 Comments	8
4	Operators 4.1 Types of operators 4.2 Precedence and Associativity 4.3 Expression 4.4 Statement and types of statements	5
5	Built-in function 5.1 Console based I/O and related built-in I/O function- printf(), scanf(), getch(), getchar(), putchar(). 5.2 Concept of header files	8

6	Control structures 6.1 Decision making structures:If, If-else, Nested If –else, Switch 6.2 Loop Control structures: While, Do-while, for 6.3 Other statements:break, continue, exit	8
7	Functions 7.1 Basic types of function 7.2 Declaration and definition 7.3 Function call 7.4 Parameter passing: Call by value, Call by reference 7.5 Scope of variables 7.6 Storage classes 7.7 Recursion	6
	Total No of lectures	45

Reference Books:-

1. C Programming by Denis Ritchie
2. Let us C : by Yashwant Kanetkar
3. Programming in ANSCII C , by Balgurusamy

Course Code: BSD112**Course Title: Web page designing using
HTML/CSS, XML****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

- Objectives :**
- 1) To develop and publish Web pages
 - 2) To establish, configure, and maintain web site.
 - 3) To Produce dynamic Web pages using XML.

Unit. No.	Topic	No. of Lectures
1	HTML Introduction to Web:Overview, Working of the Internet and WWW Role of Web Servers, Clients, Web Browsers and their use, Popular Web Browsers, E-Mail Servers and Protocols, E-mail Clients and Web Based Mail Access using Browser, Messenger Services and Clients.	05
2	Getting Started with HTML Introduction of HTML, Writing my first HTML Page, Basic tags used in HTML , Elements In HTML, Attributes In HTML, Background images, How to get a colour text and colour background, Working with fonts(Various fonts, size, colour),Marquee Tag, Headers, Formatting In HTML, Meta Tags and their use, Commenting a HTML Code, Images and incorporating images, Working with Lists,Working with Tables, Working with hyperlinks.	14
3	Advanced HTML Frames and frame management, iFrame , Working with Block elements, Form designing and Form Management, Using Multimedia inside HTML, Working with Layouts, Event Handling, Mime Media Types	10
4	CSS Introduction of CSS, CSS Syntax , CSS Selectors , Ways to Insert CSS , Background image handling , Background colour management using CSS , Text management using CSS, Font management using CSS , Managing Hyperlinks using CSS , Managing Lists using CSS ,	08

	Designing Tables using CSS , Working with BOX Model , Designing Borders, Designing Outline , Setting Page Margin using CSS	
5	XML XML Syntax , XML Namespaces and Infoset, Document Type Definitions (DTDs), XML Schemas, XML-Parser, Data Modeling, Document ,Object Model (DOM) , Displaying XML with XSLT	08
	Total No of lectures	45

Reference Books:-

1. Computer Programming For Beginners:Learn The Basics Of HTML5-Joseph Connor
2. The Complete Reference HTML & CSS-Fifth Edition-Thomas A.Powell

Course Code: BSD113**Course Title: Computer Fundamentals & Office Automation****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week****Objectives:-**

1. To Know basics of Computers.
2. To understand basic functions of operating system.
3. To learn basic trouble-shooting of operating system

Unit. No.	Topic	No. of Lectures
1	Introduction to Computer Computer Characteristics, Concept of Hardware & Software Evolution of computer and Generations Types of computer – Analog & Digital computers, Hybrid computers, General purpose & Special Purpose Computer, Limitations of Computer Applications of Computer in Various fields.	04
3	Input /Output Devices : Input device – Keyboard, Mouse, Scanner, MICR, OMR..Output devices – VDU, Printers – Dot Matrix, Daisy-wheel, Inkjet,Laser, Line printers and Plotters.	03
4	Operating system : Definition & functions, Concept of Multi Programming, Multitasking, Multithreading, Multiprocessing, Timesharing, Real time, Types of Operating System. MS-Windows : Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders. Control panel – display properties, adding and removing software and hardware, setting date and time, screensaver and appearance using windows accessories.	06
5	Documentation Using MS-Word: Introduction to word processing interface, Toolbars, Menus, Creating & Editing Document, Formatting Document, Finding and replacing text, Format painter, Header and footer, drop cap, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Previewing and printing document, Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template.	10

6	MS-Excel: Introduction to MS-Excel, Cell, cell address, Creating & Editing Worksheet, Formatting and Essential Operations, Moving and copying data in excel, Header and footer, Formulas and Functions, Charts, Cell referencing, Page setup, Macros, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Validation, what if analysis with Goal Seek, Conditional formatting.	12
7	Presentation using MS-PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect	10
	Total No of lectures	45

Reference Books:-

1. Computer Fundamentals”, by P K Sinha
2. Fundamentals of Computers”, by Rajaraman V and Adabala N
3. Computers Today ,by S. Basandra,Galgotia Pub.

Course Code: BSD114**Course Title: Communication Skills****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week****Objectives:-**

1. To enhance spoken, written and presentation skills.
2. Communicate effectively and accurately in English.
3. Use spoken language for various purposes

Unit. No.	Topic	No. of Lectures
1	Introduction to Communication What is communication - define and explain. Types of communication. Elements of Communication The Communication Cycle Barriers of communication Need of Communication in Business Differences between Technical and General Communication	06
2	Communication Types Types of Communication; Verbal Communication & Non verbal Communication, Formal & Informal Communication Significance of Non-verbal Communication Importance & Advantages of verbal communication Advantages of written communication	04
3	Oral Communication Meaning, nature and scope Principles of effective oral communication Language and Communication Techniques of effective speech Media of oral communication: <ul style="list-style-type: none"> • Face-to-face conversation • Teleconferences • Meetings • Public address system - Grapevine • Group Discussion • Oral report 	06
4	Listening Skills The Process of Listening Difference between Listening & Hearing	04

	Classification of Listening Barriers in Listening How to improve listening	
5	Written Communication Importance of Witten Communication Media of written communication Merits and demerits of written communication Overview of Technical Writing and Report Writing Features of Good Report Types of Report Properties/features and process of Technical Writing Basic Principles of Technical Writing The Role of Technical Writer Business Letters: Importance, Types & Format Writing Business Letters & Proposals	14
6	e-Media of Communication Fax communication Voice mail e-mails Tele conferencing Communication through social media	05
7	Employability Skills Job application letter Covering latter & Curriculum Vitae Interview Skills Presentation Skill	06
	Total No of lectures	45

Reference Books:-

1. English for Effective Communication. Oxford University Press, 2013.
2. Marks, Jonathan. English Pronunciation in Use. New Delhi: CUP, 2007.
3. Lynch, Tony. Study Listening. New Delhi: CUP, 2008
4. Business Organization & Management – C.B. Gupta.
5. Entrepreneurial Development – S.S. Khanna.

Course Code: BSD115**Course Title: Practical I (BSD - 111)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 04 Hrs/ Week**

Unit. No.	Topic	No. of Lectures
1	To demonstrate use of data types, simple operators (expressions)	01
2	To demonstrate decision making statements (if and if-else, nested structures)	02
3	To demonstrate decision making statements (switch case)	01
4	To demonstrate use of simple loops(For, While, Do-While)	02
5	To demonstrate use of nested loops	02
6	To demonstrate menu driven programs and use of standard library functions.	01
7	To demonstrate writing C programs using user defined functions.	02
8	To demonstrate recursive functions.	01
	Total	12

Course Code: BSD116**Course Title: Practical II (BSD - 112)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

Unit. No.	Topic	No. of Lectures
1	Creating Simple HTML Pages.	1
2	HTML programming using lists and hyperlinks.	1
3	HTML programming using tables	1
4	HTML programming using frames ,iframes	1
5	Advanced feature of HTML (Inline CSS and Internal CSS)	1
6	Advanced features of HTML (External CSS)	1
7	Creation of forms, small case study to create HTML pages using all the above learnt techniques.	1
8	Creation of Forms layout designing by using div element with CSS property	2
9	Introduction to XML and XML tags	1
10	Creating Simple XML Pages.	2
11	Total	12

Semester II

Course Code: BSD121**Course Title: Advanced 'C' Programming****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

- Objectives:**
- 1) To Study the Advanced skills of C Programming.
 - 2) To provide students with understanding of code organization and functional hierarchical decomposition with using complex data types.

Unit. No.	Topic	No. of Lectures
1	Arrays 1.1 Definition 1.2 Declaration and initialization of one dimensional array 1.3 Accessing array elements, Displaying array elements 1.4 Arrays and function 1.5 Two-Dimensional array 1.6 Memory representation of array 1.7 Multidimensional array	08
2	Pointers 2.1 definition and declaration 2.2 Initialization 2.3 indirection operator 2.4 address of operator 2.5 pointer arithmetic 2.6 dynamic memory allocation 2.7 arrays and pointers	10
3	Strings 3.1 Definition 3.2 declaration and initialization of strings 3.3 standard library functions : strlen(), strcpy(), strcat(), strcmp().	08
4	Structure 4.1 Definition and declaration 4.2 Variables initialization 4.3 Accessing fields and structure operations 4.4 Nested structures 4.5 Union 4.6 Differentiate between Union and structure.	06
5	C Preprocessor 5.1 Definition of Preprocessor 5.2 Macro substitution directives	02

	5.3 File inclusion directives 5.4 Conditional compilation	
6	Bitwise operators 6.1 Bitwise operators 6.2 Shift operators 6.3 Masks 6.4 Bit field	03
7	File Handling. 7.1 Definition of Files 7.2 Opening modes of files 7.3 Standard function: fopen(), fclose(), feof(), fseek(), rewind() 7.4 Using text files: fgetc(), fputc(), fprintf(), fscanf().	08
	Total No of lectures	45

Reference Books:-

1. C Programming by Denis Ritchie
2. Let us C : by Yashwant Kanetkar
3. Programming in ANSCII C , by Balgurusamy
4. Pointers in C by Yashwant Kanetkar

Course Code: BSD122**Course Title: Scripting Language
(Java Script)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week****Objectives :**

- 1) To use of scripting languages in web development
- 2) To use JavaScript with HTML

Unit. No.	Topic	No. of Lectures
1	Introduction to Java Script: Introducing Programming, how to Add JavaScript to a Page, First JavaScript Program.	04
2	Getting Started with Java Script: JavaScript Syntax, Enabling JavaScript in Browsers, Placing JavaScript, Variables, Operators, IF ...ELSE, Switch Case, Loops.	10
3	Functions: Functions, Events and event handling, Cookies, Page Redirection, Dialog Box, Void Keyword, Printing webpage using JavaScript.	10
4	Scope and Arrays: Creating an Array, Accessing Items in an array, Adding items to an Array, Deleting items to an Array examples.	08
5	Advanced Java script: Working with Objects, Working with Numbers, Working With Boolean, Working With Strings, Arrays And Array Management, Working with Date, Doing Mathematical operations, Working With Regular Expressions, Document Object Model, Errors and Error Handling, Client Side Validation, Animations in Webpages, Multimedia in Webpages, Image Map.	10
6	Errors and Debugging:	03
	Total No of lectures	45

Reference Books:

1. JavaScript: The Definitive Guide by David Flanagan, O'Reilly Publication.
2. JavaScript & jQuery by David Sawyer McFarland, O'Reilly Publication.

Course Code: BSD123**Course Title: Database Management System****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week****Objectives :-**

- To understand the fundamental concepts of database.
- To understand user requirements and frame it in data model.
- To understand creations, manipulation and querying of data in databases.

Prerequisites: Basic Knowledge of file system, storing data in file system and Operations on sets

Unit No.	Topic	No. of lectures
1	Introduction to File Organization and DBMS 1.1. Introduction to file organization and DBMS 1.2. File system Vs DBMS 1.3. Levels of abstraction & data independence 1.4. Structure of DBMS (Roles of DBMS Users) 1.5. Users of DBMS Advantages of DBMS	05
2	Conceptual Design And Data Models 2.1. Overview of DB design process 2.2. Introduction to data models (E-R model, Relational model, Network model, Hierarchical model) 2.3. Conceptual design using ER data model (entities, attributes, entity sets, relations, relationship sets) 2.4. Constraints (Key constraints, Integrity constraints, referential integrity, unique constraint, Null/Not Null constraint, Domain, Check constraint, Mapping constraints) 2.5. Extended features – Specialization, Aggregation, Generalization 2.6. Pictorial representation of ER(symbols) 2.7. Structure of Relational Databases (concepts of a table) 2.8. DBMS Versus RDBMS 2.9. Case Studies on ER model	10
3	Relational Algebra 3.1. Preliminaries 3.2. Relational algebra operators with examples (selection, projection, set operations, renaming, joins, division)	08

4	SQL 4.1. Introduction to query languages 4.2. DDL Commands 4.3. DML Commands 4.4. Basic structure 4.5. Set operations 4.6. Aggregate functions 4.7. Nested Subqueries 4.8. SQL mechanisms for joining relations (inner joins, outer joins and their types) 4.9. Examples on SQL (case studies)	10
5	Relational-Database Design 5.1 Introduction to Relational-Database Design (undesirable properties of a RDB design) 5.2 Functional Dependency(Basic concepts, F+, Closure of an Attribute set, Armstrong's axioms) 5.3 Concept of Decomposition 5.4 Desirable Properties of Decomposition (Lossless join, Lossy join, Dependency Preservation) 5.5 Keys Concept with Examples : Candidate Keys and Super Keys, Algorithm to find the super keys / primary key for a relation 5.6 Concept of normalization, Normal Forms (1NF, 2NF and 3NF), Examples	12
Total No. of lectures		45

Reference Books:

1. Database System Concepts - Henry F. Korth, Abraham Silberschatz, S. Sudarshan, ISBN: 9780071289597, Tata McGrawHill Education
2. Database Management Systems - RaghuRamakrishnan,ISBN:9780071254342,McGraw-Hill higher Education
3. Database Management Systems - Raghu Ramakrishnan and Johannes Gehrke, McGraw-Hill Science/Engineering/Math; 3 edition, ISBN: 9780072465631
4. Database Systems - Shamkant B. Navathe, Ramez Elmasri, ISBN:9780132144988, PEARSON HIGHER EDUCATION

Course Code: BSD124**Course Title: Mathematics****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week****Objectives :**

- 1) To use of scripting languages in web development
- 2) To use JavaScript with HTML

Unit. No.	Topic	No. of Lectures
1	Topics in Number Theory. 1.1 Subgroups of the Integers. 1.2 Greatest Common Divisors. 1.3 The Euclidean Algorithm. 1.4 Prime Numbers. 1.5 The Fundamental Theorem of Arithmetic. 1.6 The Infinitude of Primes. 1.7 Fermat Theorem. 1.8 Congruence.	12
2	Complex Number. 2.1 Overview (Definition, Cartesian form and definition via ordered pairs, Complex plane, History in brief, Notation) 2.2 Equality and Elementary operations. (Conjugate, Addition, subtraction, Multiplication, division, Reciprocal) 2.3 Polar form. (Absolute value and argument, Multiplication and division in polar form) 2.4 Complex Mapping.	10
3	Miscellaneous Topics. 3.1 Harmonic Analysis. (periodic function, Logarithmic Function, Implicit Function, Algebraic Function, Trigonometric Function, Exponential Function) 3.2 Fourier Series. 3.3 Linear Programming Problem.	08
4	Set Relation and functions 2.1 Ordered pairs, Cartesian product of Sets. 2.2 Relations, types of relations, equivalence relations. Partial orderings. 2.3 Equivalence Class, properties and partition of a set. 2.4 Transitive closure and Warshall's Algorithm. 2.5 Digraphs of relations, matrix representation and composition of	10

	<p>relations.</p> <p>2.6 Definition of function as relation, types of functions (one-one, onto and bijective)</p> <p>2.7 Graphical representation of functions and its convergence.</p>	
5	<p>Graphs</p> <p>4.1 Definition, Elementary terminologies and results, Graphs as Models.</p> <p>4.2 Special types of graphs.</p> <p>4.3 Isomorphism.</p> <p>4.4 Adjacency and Incidence Matrix of a Graph.</p> <p>4.5 Subgraphs, induced subgraphs, Vertex deletion, Edge deletion.</p> <p>4.6 Complement of a graph and self-complementary graphs.</p> <p>4.7 Union, Intersection and Product of graphs.</p> <p>4.8 Fusion of vertices.</p> <p>4.9 Walk, Trail, Path, Cycle : Definitions and elementary properties.</p> <p>4.10 Connected Graphs : definition and properties.</p> <p>4.11 Distance between two vertices, eccentricity, center, radius and diameter of a graph.</p> <p>4.12 Isthmus, Cutvertex : Definition and properties.</p> <p>4.13 Cutset, edge-connectivity, vertex connectivity.</p> <p>4.14 Weighted Graph and Dijkstra's Algorithm.</p> <p>4.15 Definition, Examples Elementary Terminologies and properties.</p> <p>4.16 Special Types of Digraphs.</p> <p>4.17 Connectedness of digraphs.</p> <p style="padding-left: 40px;">shortest path algorithm directed acyclic graph</p> <p>4.18 Network and Flows : definition and examples.</p> <p>4.19 Topological sort</p>	12
6	<p>Unit 5 Complex Mapping</p> <p>5.1 Fractals, grammars, language and automata</p> <p>5.2 Introduction to Matlab</p> <p>5.3 Matrices, linear algebra, graphical operations</p> <p>5.4 Graph propagation algorithm, Depth first ,breadth first search,</p>	06
	Total No of lectures	45

Reference Books:

1. Text book of Discrete Mathematics, Prepared by B.O.S. in Mathematics,
2. Text book of Algebra and Calculus, Prepared by B.O.S. in Mathematics,

Course Code: BSD125**Course Title: Practical I (BSD - 121)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

Unit. No.	Topic	No. of Lectures
1	To demonstrate use of arrays (1-d arrays) and functions.	1
2	To demonstrate use of multidimensional array (2-d arrays) and functions.	1
3	To demonstrate use of simple pointers	1
4	To demonstrate advanced use of pointers	1
5	To demonstrate concept of strings, array of strings	1
6	To demonstrate string operations using pointers.	1
7	To demonstrate use of bitwise operators.	1
8	To demonstrate structures (using array and functions)	1
9	To demonstrate nested structures and Unions	1
10	To demonstrate command line arguments and pre-processor directives.	1
11	To demonstrate file handling (text files)	1
12	Review Assignment	1
	Total	12

Course Code: BSD126**Course Title: Practical II(BSD 122
& BSD 123)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Theory 03 Hrs/ Week**

Unit. No.	Topic	No. of Lectures
1	To create simple tables, with only the primary key constraint (as a table level constraint & as a field level constraint) (include all data types)	2
2	To create more than one table, with referential integrity constraint, PK constraint.	2
3	To create one or more tables with Check, unique and not null constraint	2
4	To drop a table from the database and to alter the schema of a table in the Database	2
5	To insert/ update/ delete records using tables created in previous Assignments. (use simple forms of insert/ update/ delete statements)	2
6	To query the tables using simple form of select statement	2
7	To query tables using nested queries (use of 'Except', exists, not exists)	2
8	To query tables, using nested queries.	1
	Total No. of Sessions	15*3 = 45



P.D.E.A.s

Annasaheb Magar Mahavidyalaya,

Syllabus

for

S.Y.B.Voc.

(Software Development)

(Implemented from 2021-2022)

Sem – III & IV

Semester III

Course Code: BSD231

Course Title: Basic PHP

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Unit No	Topic	No. of Lectures
1	Introduction to web techniques 1.1 HTTP basics, Introduction to Web server and Webbrowser 1.2 Introduction to PHP 1.3 What does PHP do? 1.4 Lexical structure 1.5 Language basics	08
2	Function and String 2.1 Defining and calling a function 2.2 Default parameters 2.3 Variable parameters, Missing parameters 2.4 Variable function, Anonymous function 2.5 Types of strings in PHP 2.6 Printing functions 2.7 Encoding and escaping 2.8 Comparing strings 2.9 Manipulating and searching strings 2.10 Regular expressions	10
3	Arrays 3.1 Indexed Vs Associative arrays 3.2 Identifying elements of an array 3.3 Storing data in arrays 3.4 Multidimensional arrays 3.4Extracting multiple values 3.5 Converting between arrays and variables 3.6 Traversing arrays 3.7 Sorting 3.8 Action on entire arrays 3.9 Using arrays	09
4	Files and directories 5.1 Working with files and directories 5.2 Opening and Closing, Getting information about file,	09

	Read/write to file, Splitting name and path from file, Rename and delete files 5.3 Reading and writing characters in file 5.4 Reading entire file 5.5 Random access to file data 5.6 Getting information on file 5.7 Ownership and permissions	
5	Databases (PHP-PostgreSQL) 6.1 Using PHP to access a database 6.2 Relational databases and SQL 6.3 PEAR DB basics 6.4 Advanced database techniques 6.5 Sample application (Mini project)	09
Total No. of lectures		45

References:

1. Programming PHP By Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
2. Beginning PHP 5 , Wrox publication
3. PHP web services, Wrox publication
4. AJAX Black Book, Kogent solution
5. Mastering PHP , BPB Publication
6. PHP cookbook, O'Reilly publication
7. PHP for Beginners, SPD publication
8. Programming the World Wide Web , Robert W Sebesta(3rd Edition)
9. Check out Joomla!presss Pearson (Addison-Wesley Professional).
10. www.php.net.in
11. www.W3schools.com
12. www.wrox.com
13. <https://api.drupal.org>

Course Code: BSD232

Course Title: Data Structure

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives:-

1. To learn the systematic way of solving problem
2. To understand the different methods of organizing large amount of data
3. To efficiently implement the different data structures
4. To efficiently implement solutions for specific problems

Prerequisites: Knowledge of C Programming Language

Unit No.	Topic	No. of lectures
1	Introduction to data structures 1.1 Concept Data type, Data object, ADT 1.2 Need of Data Structure 1.3 Types of Data Structure	02
2	Algorithm analysis 2.1 Algorithm – definition, characteristics 2.2 Space complexity, time complexity 2.3 Asymptotic notation (Big O, Omega Ω)	02
3	Linear data structures 3.1 Introduction to Arrays - array representation 3.2 Sorting algorithms with efficiency – Bubble sort, Insertion sort, Merge sort 3.3 Searching techniques –Linear Search, Binary search	07
4	Linked List 4.1 Introduction to Linked List 4.2 Implementation of Linked List – Static & Dynamic representation 4.3 Types of Linked List 4.4 Operations on Linked List – create, display, insert, delete, reverse, search, concatenate 4.5 Applications of Linked List – polynomial manipulation	10

5	Stacks 5.1 Introduction 5.2 Representation- Static & Dynamic 5.3 Operations 5.4 Application - infix to postfix, infix to prefix, postfix evaluation, 5.5 Simulating recursion using stack	05
6	Queues 6.1 Introduction 6.2 Representation - Static & Dynamic 6.3 Operations 6.4 Circular queue	05
7	Tree 7.1 Introduction 7.2 Tree terminologies and all definitions 7.3 Binary tree – 7.3.1 Types 7.3.2 Types of Traversal– Preorder, Inorder ,Postorder 7.3.3 Representation – Static &Dynamic	10
8	Graph 8.1 Introduction 8.2 Graph terminologies 8.3 Representation – Adjacency matrix, Adjacency list 8.4 Traversal– DFS, BFS	04
Total No. of lectures		45

Reference Books:

1. Fundamentals of Data Structures - By Horowitz Sahani (Galgotia)
2. Introduction to Data Structures using C - By Ashok Kamthane
3. Data Structures using C - Bandopadhyay & Dey (Pearson)
4. Data Structures using C - By Srivastava BPB Publication

Course Code: BSD233

Course Title: Object Oriented Software Engineering

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives :

1. To Understand concept of system design using UML.
2. To understand system development through object oriented techniques.

Unit. No.	Topic	No. of Lectures
1	Object Oriented Concepts and Principles 1.1 Object Orientation – Introduction , Object , Classes and Instance , Polymorphism, Inheritance 1.2 Object Oriented System Development- Introduction, Function/Data Methods (With Visibility), Object Oriented Analysis, Object Oriented Construction 1.3 Model : Introduction of Modeling, Identifying the Elements of an Object Model, Object Oriented Modeling 1.4 Identifying Classes and Objects 1.5 Specifying the Attributes With Visibility 1.6 Defining Operations 1.7 Finalizing the Object Definition	4
2	Introduction to UML 2.1 Overview of UML 2.2 Conceptual Model of UML 2.3 Architecture 2.4 Advantages of UML	2
3	Basic Structural Modeling 3.1 Classes 3.2 Relationship 3.3 Common Mechanism 3.4 Class Diagram (Minimum TWO examples should be covered)	6
4	Advanced Structural Modeling 4.1 Advanced Classes . 4.2 Advanced Relationship 4.3 Interface. 4.4 Types and Roles 4.5 Packages 4.6 Object Diagram (Minimum TWO examples should be covered).	7

5	Basic Behavioral Modeling 5.1 Interactions. 5.2 Use Cases and Use Case Diagram with stereo types (Minimum TWO examples should be covered). 5.3 Interaction Diagram (Minimum two examples should be covered) 5.4 Sequence Diagram (Minimum two examples should be covered) 5.6 Activity Diagram (Minimum two examples should be covered) 5.7 State Chart Diagram (Minimum two examples should be covered)	12
6	Object Oriented Analysis [6] 6.1 Iterative Development 6.2 Understanding requirements 6.3 The Rational Unified Process and Unified Process Phases Inception Elaboration Construction Transition 6.4 Use Case Model From Inception to Elaboration	6
7	Object Oriented Design 7.1 The Booch Method, The Coad and Yourdon Method and Jacobson Method and Rumbaugh Method 7.2 The Generic Components of the OO Design Model 7.3 The System Design Process Partitioning the Analysis Model, Concurrency and Sub System Allocation, Task Management Component, The Data Management Component, The Resource Management Component, Inter Sub System Communication 7.4 Object Design Process	4
8	8. Architectural modeling 8.1 Component 8.2 Components Diagram (Minimum two examples should be covered) 8.3 Deployment Diagram (Minimum two examples should be covered) 8.4 Collaboration Diagram (Minimum two examples should be covered)	4
Total No. of lectures		45

Reference Books:-

1. Grady Booch, James Rumbaugh, The Unified Modeling Language User/Reference Guide, Pearson Education INC
2. Ivar Jacobson, Object Oriented Software Engineering, Pearson Education INC
3. Craig Larman, Applying UML and Patterns Pearson Education INC
4. Bennett, Simon, Object Oriented Analysis and Design McGraw Hill

Course Code: BSD234

Course Title . Relational Database Management System

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives:-

- 1) To learn Relational Database management System
- 2) To learn fundamental concepts of RDBMS (PL/PgSQLprocedures,functions,cursors and triggers)
- 3) Understanding the basic issues of transaction processing and concurrency control
- 4) To learn database integrity, data security and its importance.
- 5) To learn how to do crash recovery on failures.
- 6) Other databases Introduction

Prerequisites:

Basic Knowledge of Database management System

Knowledge of SQL Queries

Basics of relational design

Basics of ER model

Unit No.	Topic	No. of lectures
1	Relational Database Design UsingPLSQL 1.1 Introduction to PLSQL. 1.2 PL/PgSQL: Datatypes. 1.3 Language structure. 1.4 Controlling the program flow, conditional statements, loops. 1.5 Stored Procedures. 1.6 Stored Functions. 1.7Errors Handling and Exceptions. 1.8 Cursors. 1.9 Triggers.	12
2	Transaction Concepts and concurrency control 2.1 Transaction 2.1.1Definition 2.1.2Properties 2.1.3States. 2.2 Implementing atomicity and durability. 2.3 Concurrent Execution 2.3.1 Definition 2.3.2 Concurrency control techniques. 2.4 Schedules 2.4.1 Definition	10

	<p>2.4.2Types of schedules 2.4.3Serializability 2.4.4 Precedence graph for Serializability. 2.5 Ensuring Serializability by locks 2.5.1Various Lock modes 2.5.2 2PL and its variations. 2.6Timestamp method for concurrency 2.6.1Thomas Write Rule. 2.7 Locks with multiple granularity 2.7.1 Phantom Problem. 2.8 Deadlock and deadlock handling 2.8.1 Definition 2.8.2 Deadlock Avoidance(wait-die, wound-wait) 2.8.3 Deadlock Detection and Recovery (Wait for graph).</p>	
3	<p>Database Integrity and Security Concepts 3.1 Domain constraints 3.2 Referential Integrity 3.3 Introduction to database security concepts 3.4 Discretionary access control(DAC) 3.5 Mandatory access control(MAC) 3.6 Use of views in security enforcement. 3.7 Encryption technique for security. 3.8 Statistical database security.</p>	09
4	<p>Crash Recovery 4.1 Failure classification 4.2 Recovery concepts 4.3 Log base recovery techniques 4.3.1Deferred update 4.3.2 Immediate update 4.4 Checkpoints 4.4.1 Relationship between database manager and buffer cache. 4.4.2 Aries recovery algorithm. 4.5 Recovery with concurrent transactions 4.5.1 Rollback 4.5.2Checkpoints 4.5.3Commit 4.6 Recovery from catastrophic failure</p>	09

5	Other Databases 5.1 Introduction to Parallel and distributed Databases 5.2 Introduction to Object Based Databases 5.3 XML Databases 5.4 NoSQL Database 5.5 Multimedia Databases • 5.6 Big Data Databases	05
Total No. of lectures		45

Reference Books

- 1) Database System Concepts, By Silberschatz A., Korth H., Sudarshan S., 6th Edition, McGraw Hill Education
- 2) Database Management Systems, Raghu Ramakrishnan, Mcgraw-Hill Education
- 3) Fundamentals of Database Systems, By: Elmasri and Navathe, 4th Edition Practical PostgreSQL O'REILLY
- 4) An Introduction to Database Systems", C J Date, Addison-Wesley
- 5) Database Systems : Concepts, Design and Application", S.K.Singh, Pearson, Education
- 6) NoSQL Distilled A Brief Guide to the Emerging World of Polyglot Persistence : by Pramod J. Sadalage, Martin Fowler, Addison-Wesley, Pearson Education, Inc.
- 7) MongoDB: The Definitive Guide , Kristina Chodorow, Michael Dirolf, O'Reilly Publications

Course Code: BSD235

Course Title: Practical I (Data Structure)

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Practical- 04 Hrs/ Week

Sr. No.	Assignments	No of Sessions
1	Non-Recursive Sorting Techniques 1. Bubble Sort 2. Insertion Sort	2
2	Recursive Sorting Techniques Merge Sort	1
3	Searching Techniques 1. Linear search 2. Binary Search	1
4	Linked List 1. Singly Linked List 2. Singly Circular Linked List 3. Doubly Linked List 4. Doubly Circular Linked List	2
5	Stack 1. Static Stack Implementation 2. Dynamic Stack Implementation	1
6	Queue 1. Static Queue Implementation 2. Dynamic Queue Implementation	2
7	Binary Search tree (Dynamic)	1
8	Graph 1. Adjacency Matrix Representation 2. Adjacency List Representation	2
Total No of Sessions		12

Course Code: BSD236**Course Title: Practical II(RDBMS)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45****Teaching Scheme: Practical- 04 Hrs/ Week**

Sr. No.	Title of the Experiment	No of Sessions
1	Simple queries	2
2	Nested Queries, using aggregate functions	2
3	Stored Functions	2
4	Cursors	2
5	Handling errors and Exceptions	2
6	Triggers.	2
Total No. of Sessions		12

Semester IV

Unit No.	Topic	No. of lectures
1	Web Techniques 1.1 Variables 1.2 Server information 1.3 Processing forms 1.4 Setting response headers 1.5 Maintaining state 1.6 SSL	8
2	Handling email with php 2.1 Email background 2.2 Internet mail protocol 2.3 Structure of an email message 2.4 Sending email with php 2.5 Email attachments. 2.6 Email id validation and verification 2.7 PHP error handling	9
3	PHP framework 3.1 Introduction to PHP framework. 3.2 Features, Applications. 3.3 One example like JOOMLA,DRUPAL	12
4	XML 4.1 What is XML? 4.2 XML document Structure 4.3 PHP and XML 4.4 XML parser 4.5 The document object model 4.6 The simple XML extension 4.7 Changing a value with simple XML	08

5	AJAX 6.1 Introduction of AJAX 6.2 AJAX web application model 6.3 AJAX –PHP framework 6.4 Performing AJAX validation 6.5 Handling XML data using php and AJAX 6.6 Connecting database using php and AJAX	08
Total No. of lectures		45

Reference Books :

1. Programming PHP By Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
2. Beginning PHP 5 , Wrox publication
3. PHP web services, Wrox publication
4. AJAX Black Book, Kogent solution
5. Mastering PHP , BPB Publication
6. PHP cookbook, O'Reilly publication
7. PHP for Beginners, SPD publication
8. Programming the World Wide Web , Robert W Sebesta(3rd Edition)
9. www.php.net.in
10. www.W3schools.com
11. www.wrox.com
12. <https://api.drupal.org>

Course Code: BSD242

Course Title: Software Testing

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives:-

1. To know the concept of software testing.
2. To Finding defects which may get created by the programmer while developing the software.
3. To develop programming logic.
4. To increase the confidence in and providing information about the level of quality.

Unit No.	Topic	No. of lectures
1	Software Testing Introduction, Nature of errors, Testing principles & Testing fundamentals, Debugging	6
2	Approaches to Testing - I White Box Testing, Black Box Testing, Gray Box Testing, Unit Testing Integration- Top-down Bottom up Big Bang Sandwich	10
3	Testing for Specialized Environments Testing GUI's, Testing of Client/Server Architectures, Testing Documentation and Help Facilities, Testing for Real Time Systems	10
4	Software Testing Strategies & Software metrics Validation Testing, System Testing, verification, Performance Testing, Regression Testing, Agile testing, Acceptance testing, Smoke Testing, Load Testing, Introduction, Basic Metrics, Complexity Metrics	13
5	Specialized Testing & Testing Tools (Introduction) Test Case Design, Junit, Apache Jmeter, Winrunner Loadrunner, Rational Robot	6
Total No. of lectures		45

Reference Books:

1. Software Engineering – A Practitioners Approach, Roger S. Pressman, Tata McGraw Hill
2. Software Engineering for Students- A Programming Approach, Douglas Bell, Pearson

Course Code: BSD243

Course Title: Advanced JavaScript

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives:-

Unit No.	Topic	No. of lectures
1	Object 1.1 Objects, Object references 1.2 Garbage collection 1.3 Object methods, "this" 1.4 Constructor operator "new" 1.5 Optional chaining '?.' 1.6 Symbol type 1.7 Object to primitive conversion	8
2	Class 2.1 Definition 2.2 Basic Syntax 2.3 Static properties and methods 2.4 Private, Public and Protected properties and methods 2.5 Constructors and Types	10
3	Inheritance 3.1 Definition 3.2 Advantages and Disadvantages 3.3 Types of Inheritance 3.4 Extending built-in classes 3.5 Class checking: "instanceof" 3.6 Mixins	10
4	JavaScript MVC Architecture 4.1 Introduction JavaScript MVC Architecture 4.2 Models ,Views and Controllers 4.3 JavaScript MVC Frameworks	8

5	Modules, Generators and advanced iteration 5.1 Modules, introduction 5.2 Export and Import 5.3 Dynamic imports 5.4 Generators 5.5 Async iteration and generators	9
Total No. of lectures		45

Reference :

1. <https://javascript.info/>
2. <https://www.edureka.co/blog/javascript-mvc/>

Course Code: BSD244

Course Title: Computer Networking

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Theory 03 Hrs/ Week

Objectives: This course will prepare students in Basic networking concepts.

1. Understand different types of networks, various topologies and application of networks.
2. Understand types of addresses, data communication.
3. Understand the concept of networking models, protocols, functionality of each layer.
4. Learn basic networking hardware and tools.

Unit. No.	Topic	No. of Lectures
1	<p>Basics of Computer Networks</p> <p>1.1 Computer Network</p> <p style="padding-left: 20px;">1.1.1 Definition</p> <p style="padding-left: 20px;">1.1.2 Goals</p> <p style="padding-left: 20px;">1.1.3 Applications</p> <p style="padding-left: 20px;">1.1.4 Structure</p> <p style="padding-left: 20px;">1.1.5 Components</p> <p>1.2 Topology</p> <p style="padding-left: 20px;">1.2.1 Types of Topology</p> <p>1.3 Types of Networks</p> <p style="padding-left: 20px;">1.3.1 (LAN, MAN, WAN, Internet)</p> <p style="padding-left: 20px;">1.3.2 Broadcast & Point-To-Point Networks</p> <p>1.4 Communications Types</p> <p style="padding-left: 20px;">1.4.1 (Synchronous, Asynchronous)</p> <p>1.5 Modes of Communication:</p> <p style="padding-left: 20px;">1.5.1 (Simplex</p> <p style="padding-left: 20px;">1.5.2 Half Duplex</p> <p style="padding-left: 20px;">1.5.3 Full Duplex)</p> <p>1.6 Server Based LANs & Peer-to-Peer LANs (Comparison of both)</p> <p>1.7 Protocols and Standards</p>	10

2	<p>Network Models</p> <p>2.1 Design issues of the layer</p> <p>2.2 Protocol Hierarchy</p> <p>2.3 ISO-OSI Reference Model:</p> <p style="padding-left: 20px;">2.3.1 Functions of each layer)</p> <p>2.4 Terminology</p> <p style="padding-left: 20px;">2.4.1 SAP</p> <p style="padding-left: 20px;">2.4.2 Connection Oriented & connectionless services</p> <p style="padding-left: 20px;">2.4.3 Peer Entities</p> <p>2.5 Internet Model(TCP/IP)</p> <p style="padding-left: 20px;">2.5.1 Layers,</p> <p style="padding-left: 20px;">2.5.2 Ports, Protocol Stack</p> <p>2.6 Comparison of ISO-OSI & TCP/IP Model</p>	8
3	<p>Transmission Media</p> <p>3.1 Classes of Transmission Media</p> <p style="padding-left: 20px;">3.1.1 Guided Media(Wired):</p> <p style="padding-left: 40px;">3.1.1.1 Coaxial Cable, Physical Structure, Standards, BNC Connector, Applications</p> <p style="padding-left: 40px;">3.1.1.2 Twisted Pair Physical Structure, UTP Vs STP, Connectors, Applications.</p> <p style="padding-left: 40px;">3.1.1.3 Fiber Optics Cable: Physical Structure, Propagation Modes (SingleMode & Multimode), Fiber Sizes, Connectors, Applications, Advantages & disadvantages</p> <p style="padding-left: 20px;">3.1.2 Unguided Media (Wireless)</p> <p>3.2 Wireless Transmission</p> <p style="padding-left: 20px;">3.2.1 Radio Waves</p> <p style="padding-left: 20px;">3.2.2 Infra-Red,</p> <p style="padding-left: 20px;">3.2.3 Micro-Wave</p> <p>3.3 Bluetooth</p> <p style="padding-left: 20px;">3.3.1 Architecture(Piconet, Scatternet, Bluetooth Layers)</p>	8

	3.3.2 Applications	
4	The Data Link Layer 2.9 Design Issues 4.1.1 Services provided to the Network Layer 2.10 Framing 4.2.1 Concept, Methods - Character Count, lag bytes with Byte Stuffing, Starting and ending Flags with Bit Stuffing 4.2.2 Physical Layer Coding Violations 4.2.3 Error Control 4.2.4 Flow Control 4.3 Data Link Layer Protocols 4.3.1 Noiseless channel -A Simplex, Stop And-Wait protocol 4.3.2 Noisy channel –stop & wait, ARR, Pipelining, Go –back –N ARR and ARQ, selective repeat ARR(No examples & no algorithms) 4.4 Sliding Window Protocols 4.4.1 Piggybacking-Need, Advantages/Disadvantages, 4.4.2 1 bit sliding window protocols,	10
5	The Medium Access Sublayer 5.1 Random Access Protocols ALOHA 5.1.1 Pure and Slotted 5.2 CSMA – 1-persistent, p-persistent and non-persistent CSMA/CD,CSMA/CA 5.3 Controlled Access Reservation, Polling and Token Passing 5.4 Channelization FDMA, TDMA and CDMA-Analogy, Idea, Chips, Data Representation, Encoding and Decoding,	9
Total No. of lectures		45

Reference Books:

- 1) Computer Networks by Andrew Tanenbaum, Pearson Education.[4th Edition]
- 2) Data Communication and Networking by Behrouz Forouzan, TATA McGraw Hill. [4th Edition]
- 3) Networking All In One Dummies Wiley Publication.[5th Edition]

Course Code: BSD245

Course Title: Practical I

(Software Testing and Advanced PHP)

Total Credits: 03

Total Marks: 100

Total Contact Hours: 45

Teaching Scheme: Practical- 04 Hrs / Week

Sr. No.	Assignments	No. of Sessions
1	Take any application and study its system specification, system requirement and report various bugs. (2 cases)	1
2	Create a test plan document for any known application.	1
3	Write test cases for any known application. (2 cases)	1
4	Study of testing tools. (eg. WinRunner)	1
5	Study of web testing tool. (eg. Selenium)	1
6	Study of bug tracking tool. (eg. Bugzilla, bugbit)	1
Advanced PHP		
1	Email handling	1
2	Introduction To PHP frameworks(Drupal, Joomla etc. any one)	2
3	XML Handling	2
4	AJAX handling	1
Total No of Sessions		12

Course Code: BSD246**Course Title: Practical II (Advanced JavaScript)****Total Credits: 03****Total Marks: 100****Total Contact Hours: 45`****Teaching Scheme: Practical- 04 Hrs / Week**

Sr. No.	Assignments	No of Sessions
1	Program based on class and objects.	2
2	Program based on Constructor.	2
3	Program based on Inheritance.	4
Total No of Sessions		12

P.D.E.A.s
Annasaheb Magar Mahavidyalaya,
Hadapsar

Syllabus

for

T.Y.B.Voc.

(Software Development)

(2020-21)

Sem – V & VI

P.D.E.A.s
Annasaheb Magar Mahavidyaya, Hadapsar.

T. Y. B. Voc (Software Development)

SEMESTER-V

Course No	Category	Title	Credits	Lectures / Week	Evaluation		
					CE	UE	Total
BSD 351	SC	Core java	4	4	30	70	100
BSD 352	SC	Basic PHP	4	4	30	70	100
BSD 353	GC	System programming	4	4	30	70	100
BSD 354	GC	Current Trends in IT-I	4	4	30	70	100
BSD 355	SC	Introduction to Information Security	4	4	30	70	100
BSD 356	SC	Practical I	4	4	30	70	100
BSD 357	SC	Practical II	4	4	30	70	100
TOTAL			28	28	210	490	700

SEMESTER-VI

Course No	Category	Title	Credits	Lectures / Week	Evaluation		
					CE	UE	Total
BSD 361	SC	Advance java	4	4	30	70	100
BSD 362	SC	Advance PHP	4	4	30	70	100
BSD 363	GC	Operating System	4	4	30	70	100
BSD 364	GC	Current Trends in IT – II	4	4	30	70	100
BSD 365	GC	Introduction to Information Security	4	4	30	70	100
BSD 366	SC	Practical I	4	4	30	70	100
BSD 367	SC	Practical II	4	4	30	70	100
BSD 368	SC	Project	4	4	30	70	100
TOTAL			32	32	240	560	800

Course Code: BSD351

Course Title: Core Java Programming

Total Credits: 04

Total Marks: 100

Total Contact Hours: 48

Teaching Scheme: Theory 04 Hrs/ Week

Objectives:

- 1) To learn Object Oriented Programming language
- 2) To handle abnormal termination of a program using exception handling
- 3) To create flat files.
- 4) Implement core Java programs to solve simple problems.

Unit. No.	Topic	No. of Lecture s
1	An Introduction to Java 1.1 A Short History of Java 1.2 Features or buzzwords of Java 1.3 Comparison of Java and C++ 1.4 Java Environment 1.5 Simple java program 1.6 Java Tools – jdb, javap, javadoc 1.7 Java IDE – Eclipse/NetBeans (Note: Only for Lab Demonstration)	4
2	2. An Overview of Java 2.1 Types of Comments 2.2 Data Types 2.3 Final Variable 2.4 Declaring 1D, 2D array 2.5 Accepting input using Command line argument 2.6 Accepting input from console (Using BufferedReader class)	8
3	3. Objects and Classes 3.1 Defining Your Own Classes 3.2 Access Specifiers (public, protected, private, default) 3.3 Array of Objects 3.4 Constructor, Overloading Constructors and use of ‘this’ Keyword 3.5 static block, static Fields and methods 3.6 Predefined class – Object class methods (equals(), toString(), hashCode(), getClass()) 3.7 Inner class	8

	<p>3.8 Creating, Accessing and using Packages</p> <p>3.9 Creating jar file and manifest file</p> <p>3.10 Wrapper Classes</p> <p>3.11 Garbage Collection (finalize() Method)</p> <p>3.12 Date and time processing</p>	
4	<p>4. Inheritance and Interface</p> <p>4.1 Inheritance Basics (extends Keyword) and Types of Inheritance</p> <p>4.2 Superclass, Subclass and use of Super Keyword</p> <p>4.3 Method Overriding and runtime polymorphism</p> <p>4.4 Use of final keyword related to method and class</p> <p>4.5 Use of abstract class and abstract methods</p> <p>4.6 Defining and Implementing Interfaces</p> <p>4.7 Runtime polymorphism using interface</p> <p>4.8 Object Cloning</p>	7
5	<p>5. Exception Handling</p> <p>5.1 Dealing Errors</p> <p>5.2 Exception class, Checked and Unchecked exception</p> <p>5.3 Catching exception and exception handling</p> <p>5.4 Creating user defined exception</p> <p>5.5 Assertions</p>	4
6	<p>6. Strings, Streams and Files</p> <p>6.1 String class and StringBuffer Class</p> <p>6.2 Formatting string data using format() method</p> <p>6.2 Using the File class</p> <p>6.3 Stream classes Byte Stream classes Character Stream Classes</p> <p>6.4 Creation of files</p> <p>6.5 Reading/Writing characters and bytes</p> <p>6.6 Handling primitive data types</p> <p>6.7 Random Access files</p>	7
7	<p>7. User Interface Components with AWT and Swing</p> <p>7.1 What is AWT ? What is Swing? Difference between AWT and Swing.</p> <p>7.2 The MVC Architecture and Swing</p> <p>7.3 Layout Manager and Layouts, The JComponent class</p> <p>7.4 Components – JButton, JLabel, JText, JTextArea, JCheckBox and</p>	10

	<p>JRadioButton, JList, JComboBox, JMenu and JPopupMenu Class, JMenuItem and JCheckBoxMenuItem, JRadioButtonMenuItem , JScrollBar</p> <p>7.5 Dialogs (Message, confirmation, input), JFileChooser, JColorChooser</p> <p>7.6 Event Handling: Event sources, Listeners</p> <p>7.7 Mouse and Keyboard Event Handling</p> <p>7.8 Adapters</p> <p>7.9 Anonymous inner class</p>	
8	<p>8. Applet</p> <p>8.1 Applet Life Cycle</p> <p>8.2 appletviewer tool</p> <p>8.3 Applet HTML Tags</p> <p>8.4 Passing parameters to Applet</p> <p>8.5 repaint() and update() method</p>	4

Reference Books:-

- 1) Complete reference Java by Herbert Schildt(5th edition)
- 2) Java 2 programming black books, Steven Horlzner
- 3) Programming with Java , A primer ,Forth edition , By E. Balagurusamy
- 4) Core Java Volume-I-Fundamentals, Eighth Edition, Cay S. Horstmann, Gary Cornell, Prentice Hall, Sun Microsystems Press

Course Code: BSD352
Total Contact Hours: 48
Total Credits: 04

Course Title: Basic PHP
Total Marks: 100
Teaching Scheme: Theory- 04 Hrs/ Week

Unit	Topic	No. of Lectures
1	Introduction to web techniques 1.1 HTTP basics, Introduction to Web server and Web browser 1.2 Introduction to PHP 1.3 What does PHP do? 1.4 Lexical structure 1.5 Language basics	08
2	Function and String 2.1 Defining and calling a function 2.2 Default parameters 2.3 Variable parameters, Missing parameters 2.4 Variable function, Anonymous function 2.5 Types of strings in PHP 2.6 Printing functions 2.7 Encoding and escaping 2.8 Comparing strings 2.9 Manipulating and searching strings 2.10 Regular expressions	10
3	Arrays 3.1 Indexed Vs Associative arrays 3.2 Identifying elements of an array 3.3 Storing data in arrays 3.4 Multidimensional arrays 3.4 Extracting multiple values 3.5 Converting between arrays and variables 3.6 Traversing arrays 3.7 Sorting 3.8 Action on entire arrays 3.9 Using arrays	06
5	Files and directories 5.1 Working with files and directories 5.2 Opening and Closing, Getting information about file,	06

	Read/write to file, Splitting name and path from file, Rename and delete files 5.3 Reading and writing characters in file 5.4 Reading entire file 5.5 Random access to file data 5.6 Getting information on file 5.7 Ownership and permissions	
6	Databases (PHP-PostgreSQL) 6.1 Using PHP to access a database 6.2 Relational databases and SQL 6.3 PEAR DB basics 6.4 Advanced database techniques 6.5 Sample application (Mini project)	10

References:

1. Programming PHP By Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
2. Beginning PHP 5 , Wrox publication
3. PHP web services, Wrox publication
4. AJAX Black Book, Kogent solution
5. Mastering PHP , BPB Publication
6. PHP cookbook, O'Reilly publication
7. PHP for Beginners, SPD publication
8. Programming the World Wide Web , Robert W Sebesta(3rd Edition)
9. Check out Joomla!press
Pearson (Addison-Wesley Professional).
10. www.php.net.in
11. www.W3schools.com
12. www.wrox.com
13. <https://api.drupal.org>

Course Code: BSD353
Contact Hours: 48
Total Credits: 04

Course Title: System Programming Total
Total Marks: 100
Teaching Scheme: Theory- 04 Hrs/ Week

Objectives:

- 1) To understand the design structure of a simple editor.
- 2) To understand the design structure of Assembler and macro processor for a hypothetical simulated computer.
- 3) To understand the working of linker, loader and debugger.

Unit. No.	Topic	No. of Lectures
1	Introduction 1.1. Types of program – System program and Application program. 1.2. Difference between system programming and application programming. 1.3. Elements of Programming environment - Editor, Preprocessor, Assembler, Compiler, Interpreter, Linker and Loader, Debugger, Device drivers, Operating System. 1.4. Simulation of simple computer smac0 (hypothetical computer) - Memory, Registers, Condition Codes, Instruction format, Instruction Set, smac0 programs.	6
2	Editors 2.1 Definition, need/purpose of editor. 2.2 Types of editor- Examples ed, sed, VIM & emacs 2.3 Structure of editor	3
3	Assembler 3.1 Definition 3.2 Features of assembly language, advantages 3.3 Statement format, types of statements – Imperative, Declarative, Assembler Directive 3.4 Constants and Literals 3.5 Advanced assembler directives (LORG, ORIGIN, EQU), 3.6 Design of assembler – Analysis Phase and Synthesis Phase. 3.7 Overview of assembling process 3.8 Pass Structure of Assembler – One pass, Two pass assembler 3.9 Problems of 1-pass assembler - forward reference, efficiency, Table of Incomplete Instructions. 3.10 Design of 2-pass Assembler – Pass-I and Pass-II 3.11 Data structure of 2-pass assembler. 3.12. Intermediate Code – Need, Forms-variant I and Variant II	14

4	Macros and Macro Processors 4.1 Definition 4.2 Macro definition and call 4.3 Macro expansion – positional and keyword parameters 4.4 Design of Data structures to be used for Macro definition and use 4.5 Nested macro calls 4.6 Advanced macro facilities – alteration of flow of control during expansion, expansion time variable, conditional expansion, expansion time loops. (with examples) 4.7 Design of macro preprocessor – Design overview, data structure, processing of macro definition and macro expansion (Except algorithms)	14
5	Compiler Design Options 5.1 Interpreter - Definition, Use of interpreter, Comparison with compiler 5.2 Overview of interpretation 5.3 Pure and Impure interpreter 5.4 P-code compiler	3
6	Linker and Loader 6.1 Introduction 6.2 Concept of bindings, static and dynamic binding 6.3 Translated, linked and load time addresses 6.4 Relocation and linking concept – program relocation, performing relocation, public and external references, linking, binary program, object module. 6.4 Relocatability - nonrelocatable, relocatable, and self-relocating programs (no algorithms) 6.5 Linking for Overlays	6
7	Debuggers 7.1 Debugging functions and capabilities 7.2 Types of debuggers: Visual & Console	2

Reference Books:-

1. Systems Programming and Operating Systems by D.M.Dhamdhare (Second Revised Edition). [Chapters: 2, 3, 4, 5, 7]
2. System Software - An introduction to Systems Programming - Leland L. Beck (Pearson Education) [Chapter: 1]
3. Linkers and Loaders – John R. Levine, Elsevier Morgan Kaufmann [chapter 6]

Course Code: BSD354

**Course Title: Current Trends in IT
(Programmin with Python)**

Total Contact Hours: 48

Total Marks: 100

Total Credits: 04

Teaching Scheme: Theory- 04 Hrs/ Week

COURSE OBJECTIVES

The course is designed to provide Basic knowledge of Python. Python is general purpos high level programming language being used in Desktop application development, web designing & web application, data analytics, data mining.

Upon the successful completion of this course, the student will be able to:

- 1) Install and run the Python interpreter
- 2) Create and execute Python programs
- 3) Understand the concepts of file I/O
- 4) Be able to read data from a text file using Python

Sr. No.	Topic	No. of Lectures
1	Introduction to Python <ul style="list-style-type: none">• What is Python and history of Python?• Unique features of Python• First Python Program• Python Identifiers, Keywords and Indentation• Comments and document interlude in Python• Command line arguments• Getting User Input	4
2	Python Data Types <ul style="list-style-type: none">• Declaring and using Numeric data types: int, float, complex• Using string data type and string operations• Defining list and list slicing	6
3	Python Program Flow Control <ul style="list-style-type: none">• Conditional blocks using if, else and elif• Simple for loops in python• For loop using ranges, string, list and dictionaries• Use of while loops in python• Loop manipulation using pass, continue, break and else	6
4	Data Structures <ul style="list-style-type: none">• Lists• The del statement	8

	<ul style="list-style-type: none"> • Tuples and Sequences • Sets • Dictionaries 	
5	Python Functions, Modules And Packages <ul style="list-style-type: none"> • Organizing python codes using functions • Python Modules : Importing module(math, sys & time) Random Modules • Packages 	8
6	Errors and Exceptions <ul style="list-style-type: none"> • Syntax Errors • Exceptions • Handling Exceptions • Raising Exceptions • User-defined Exceptions • Defining Clean-up Actions • Predefined Clean-up Actions 	6
7	Object Oriented programming in Python <ul style="list-style-type: none"> • Concept of class, object and instances • Constructor, class attributes and destructors • Inheritance • Polymorphism, overloading & overriding 	10

Referances :

1. 'Head-First Python' - by Paul Barry
2. Core Python Programming - By Dr. R. Nageswara Rao
3. Python for Everybody: Exploring Data in Python - by Charles Severance

Course Code: BSD355
Total Contact Hours: 48
Total Credits: 04

Course Title: Business Informatics
Total Marks: 100
Teaching Scheme: Theory- 04 Hrs/ Week

Unit	Topic	No.of lectures
Ch.1	Introduction to business intelligence: Definition & history of BI, OLTP vs OLAP, major tools & techniques of BI	04
Ch.2	Data warehousing: Def & concepts, DW architecture, Data Mart, EDW, Realtime DW, ETL process	08
Ch.3	Business Performance management: KPI, balanced score card, dashboard, scorecard	10
Ch.4	Data mining for BI: DM process, methods	08
Ch.5	Text & web mining: Text mining applications, web contents, process and tools, usage mining	08
Ch .6	BI implementation: Implementation of BI, life cycle of BI, on-demand BI, emerging topics in BI, Issues of legality, RFID and BI	10

References :

BI managerial approach by Pearson publication, second edition.

Course Code: BSD356
Total Credits: 04
Total Contact Hours: 48

Course Title: Practical I (Core Java)
Total Marks: 100
Teaching Scheme: Practical 04 Hrs/ Week

Sr. No.	Assignments	No. of Sessions
	Core Java	
1	Simple Java Programs	2
2	Arrays and Packages	2
3	String operations	2
4	Inheritance And Interfaces	2
5	Exception Handling	2
6	I/O and File Handling	2
7	GUI Designing, Event Handling and Applets	2
8	Database Programming	2
Total no of Sessions		16

Course Code: BSD357

Course Title: Practical II - (Basic PHP & Python)

Total Credits: 04

Total Marks: 100

Total Contact Hours: 48

Teaching Scheme: Practical 04 Hrs/ Week

Sr. No.	Assignments	No. of Sessions
	Basic PHP	
1	To study functions & strings	2
2	To study Arrays	2
3	To study Files and Directories	2
4	Object Oriented Programming	2
5	PHP-DATABASE(PostgreSQL)	2
	Programming with Python	
5	Python input & output, Data type & string operation's	2
6	Data structure in Python	2
7	Class, Methods & constructors in Python	2
8	Inheritance & Polymorphism	2
Total No of Sessions		20

T.Y.B.Voc.
(Software Development).
Sem - VI

Course Code: BSD361
Total Credits: 04
Total Contact Hours: 48

Course Title: Advanced Java
Total Marks: 100
Teaching Scheme: Theory 04 Hrs/ Week

Objectives:

- 1) To learn database programming using Java
- 2) To study web development concept using Servlet and JSP
- 3) To develop a game application using multithreading
- 4) To learn socket programming concept

Unit.No.	Topic	No. of Lectures
1	1. Collection 1.1 Introduction to the Collection framework 1.2 List – ArrayList, LinkedList and Vector, Stack, Queue 1.3 Set - HashSet, TreeSet, and LinkedHashSet 1.4 Map – HashMap, LinkedHashMap, Hashtable and TreeMap 1.5 Interfaces such as Comparator, Iterator, ListIterator, Enumeration	6
2	2. Database Programming 2.1 The design of jdbc, jdbc configuration 2.2 Types of drivers 2.3 Executing sql statements, query execution 2.4 Scrollable and updatable result sets 2.5 Metadata – DatabaseMetadata, ResultSetMetadata 2.6 Transactions – commit(), rollback(), SavePoint (Database : PostgreSQL)	10
3	3. Servlet 3.1 Introduction to Servlet and Hierarchy of Servlet 3.2 Life cycle of servlet 3.3 Tomcat configuration (Note: Only for Lab Demonstration) 3.4 Handling get and post request (HTTP) 3.5 Handling a data from HTML to servlet 3.6 Retriving a data from database to servlet 3.7 Session tracking – User Authorization, URL rewriting, Hidden form fields, Cookies and HttpSession	12
4	4. JSP 4.1 Simple first JSP program 4.2 Life cycle of JSP 4.3 Implicit Objects 4.4 Scripting elements – Declarations, Expressions, Scriptlets, Comments 4.4 JSP Directives – Page Directive, include directive 4.5 Mixing Scriptlets and HTML	10

	4.6 Example of forwarding contents from database to servlet, servlet to JSP and displaying it using JSP scriptlet tag	
5	5. Multithreading 5.1 What are threads? 5.2 Life cycle of thread 5.3 Running and starting thread using Thread class 5.4 Thread priorities 5.5 Running multiple threads 5.6 The Runnable interface 5.7 Synchronization and interthread communication	6
6	6. Networking 6.1 Networking basics – Protocol, Addressing, DNS, URL, Socket, Port 6.2 The java.net package – InetAddress, URL, URLConnection class 6.3 SocketServer and Socket class 6.4 Creating a Socket to a remote host on a port (creating TCP client and server) 6.5 Simple Socket Program Example	4

Reference Books:-

- 1) Complete reference Java by Herbert Schildt(5th edition)
- 2) Java 2 programming black books, Steven Horlzner
- 3) Programming with Java , A primer ,Forth edition , By E. Balagurusamy
- 4) Core Java Volume-I-Fundamentals, Eighth Edition, Cay S. Horstmann, Gary Cornell, Prentice Hall, Sun Microsystems Press
- 5) Core Java Volume-II-Advanced Features, Eighth Edition, Cay S. Horstmann, Gary Cornell, Prentice Hall, Sun Microsystems Press

Course Code: BSD362
Total Contact Hours: 48
Total Credits: 04

Course Title: Advanced PHP
Total Marks: 100
Teaching Scheme: Theory- 04 Hrs/ Week

Unit	Topic	No. of lectures
1	Web Techniques 1.1 Variables 1.2 Server information 1.3 Processing forms 1.4 Setting response headers 1.5 Maintaining state 1.6 SSL	10
2	Handling email with php 2.1 Email background 2.2 Internet mail protocol 2.3 Structure of an email message 2.4 Sending email with php 2.5 Email attachments. 2.6 Email id validation and verification 2.7 PHP error handling	10
3	PHP framework 3.1 Introduction to PHP framework. 3.2 Features, Applications. 3.3 One example like JOOMLA,DRUPAL	12
4	XML 4.1 What is XML? 4.2 XML document Structure 4.3 PHP and XML 4.4 XML parser 4.5 The document object model 4.6 The simple XML extension 4.7 Changing a value with simple XML	08
5	AJAX 6.1 Introduction of AJAX 6.2 AJAX web application model 6.3 AJAX –PHP framework 6.4 Performing AJAX validation 6.5 Handling XML data using php and AJAX 6.6 Connecting database using php and AJAX	08

References:

1. Programming PHP By Rasmus Lerdorf and Kevin Tatroe, O'Reilly publication
2. Beginning PHP 5 , Wrox publication
3. PHP web services, Wrox publication
4. AJAX Black Book, Kogent solution
5. Mastering PHP , BPB Publication
6. PHP cookbook, O'Reilly publication
7. PHP for Beginners, SPD publication
8. Programming the World Wide Web , Robert W Sebesta(3rd Edition)
9. www.php.net.in
10. www.W3schools.com
11. www.wrox.com
12. <https://api.drupal.org>

Course Code: BSD363

Course Title: Operating System

Total Contact Hours: 48

Total Marks: 100

Total Credits: 04

Teaching Scheme: Theory- 04 Hrs/ Week

Objectives:

- 1) To understand design issues related to process management and various related algorithms
- 2) To understand design issues related to memory management and various related algorithms
- 3) To understand design issues related to File management and various related algorithms

Unit. No.	Topic	No. of Lectures
1	Introduction 1.1 Operating System - Definition, Services 1.2 Operating System Structure – Simple structure, Layered approach, Micro kernels, Modules 1.3 Operating-System Interface – Command interpreter, GUI 1.4 Virtual Machines – Introduction, Benefits 1.5 System Boot	4
2	Process Management 2.1 Process Concept – The process, Process states, Process control block. 2.2 Process Scheduling – Scheduling queues, Schedulers, context switch 2.3 Operations on Process – Process creation, Process termination 2.4 Interprocess Communication – Shared memory system, Message passing systems.	6
3	Multithreaded Programming 3.1 Overview 3.2 Multithreading Models	2
4	Process Scheduling 4.1 Basic Concept – CPU-I/O burst cycle, CPU scheduler, Preemptive scheduling, Dispatcher 4.2 Scheduling Criteria 4.3 Scheduling Algorithms – FCFS, SJF, Priority scheduling, Round-robin scheduling	8
5	Process Synchronization 5.1 Background 5.2 Critical Section Problem 5.3 Semaphores: Usage, Implementation	5

	5.4 Classic Problems of Synchronization – The bounded buffer problem, The reader writer problem, The dining philosopher problem	
6	Deadlocks 6.1 System model 6.2 Deadlock Characterization – Necessary conditions, Resource allocation graph 6.3 Deadlock Prevention 6.4 Deadlock Avoidance - Safe state, Resource allocation graph algorithm, Banker’s Algorithm 6.5 Deadlock Detection 6.6 Recovery from Deadlock – Process termination, Resource preemption	8
7	Memory Management 7.1. Background –Address binding, Logical versus physical address space, 7.2 Swapping – Concept of swapping 7.3 Fragmentation 7.4 Paging – Concept of Paging 7.5 Segmentation – Basic concept 7.6 Virtual Memory Management – Demand paging, Performance of demand paging, Page replacement – FIFO, LRU	8
8	File System 8.1 File concept 8.2 Access Methods – Sequential, Direct, Other access methods 8.3 Storage structure 8.4 Allocation Methods – Contiguous allocation, Linked allocation, Indexed allocation 8.5 Free Space Management – Bit vector, Linked list, Grouping, Counting, Space maps	7

Reference Books:-

1. Operating System Concepts - Siberchatz, Galvin, Gagne (8th Edition).
2. Operating Systems: Principles and Design – Pabitra Pal Choudhary (PHI Learning Private Limited)

Course Code: BSD364

Course Title: Current Trends in IT
(Introduction to E-Commerce & Digital Marketing)

Total Contact Hours: 48

Total Marks: 100

Total Credits: 04

Teaching Scheme: Theory- 04 Hrs/ Week

Sr. No.	Topic	No. of Lectures
1	Introduction To E-Commerce Meaning and concept of E-Commerce History of E-Commerce Traditional Commerce and E-Commerce Different types of E-Commerce – B2B, B2C, C2C, B2E, G2C Need and Role of E-Commerce Advantage and Disadvantage of E Commerce	6
2	E-COMMERCE Strategies Consumer Oriented Strategies for marketing, Sales & promotion, E-CRM, Order delivery Cycle Business Oriented Strategies for purchasing & support activities (SCM), Strategies for Web Auction	4
3	Digital Marketing Fundamentals What is digital marketing? Importance of Digital marketing, What is Digital Marketing Digital Marketing Vs Traditional Marketing Inbound and Outbound Marketing Print Media Vs Digital Media	4
4	Digital Marketing Plan Content management SWOT analysis : Strengths, Weaknesses, Opportunities, and Threats Target group analysis	4
5	Search Engine Optimization (SEO) Importance of Internet and Search Engines Role of Keywords in SEO. On-Page Optimization (Onsite): Basics of Website Designing / Development Onsite Optimization Basics Menu Optimization	8

	<p>SEO Content Writing Keywords Research and Analysis (eg. SWOT analysis of website)</p> <p>Off Page Optimization: Introduction; Local marketing of websites depending on locations; Promoting Subsequent pages of the website.</p>	
6	<p>Social Media Optimization (SMO) Introduction to social Media Marketing Facebook Marketing Word Press blog creation Twitter marketing LinkedIn Marketing Affiliate Marketing Social Media Analytical Tools</p>	10
7	<p>Email & SMS Marketing Importance of email marketing email Marketing platforms Creating e-mailers Tracking emailers Open rates and CTR of emailers Drive leads from emailers What is opt-in lists SMS marketing: Use, Benefits, limitations, Bulk messaging</p>	6
8	<p>Google Adwords: Google Adwords Basics Google Ad Types Pricing Models PPC, CPM & CPA Cost Formula Ad Page Rank Billing and Payments Adwords User Interface</p>	6

Referances :

- 1) Digital Marketing for Dummies By Ryan Deiss and Russ Hennesberry
- 2) Advertising Management: Rajeev Batra, John G. Myers, David A. Aaker
- 3) Belch: Advertising & Promotions (TMH)
- 4) The Social Media Bible: Tactics, Tools, & Strategies for Business Success by Lon Safko
- 5) Web Analytics 2.0 – AvinashKaushik

Course Code: BSD365

Course Title: Introduction to Information Security

Total Contact Hours: 48

Total Marks: 100

Total Credits: 04

Teaching Scheme: Theory- 04 Hrs/ Week

Course Objective:

- To understand the basics of Information Security
- To know the legal, ethical and professional issues in Information Security
- To know the aspects of risk management
- To become aware of Laws and standards in this area.
- To become aware of technological aspects of Information Security

Sr. No.	Topic	No of Lectures
1	Introduction To Security <ul style="list-style-type: none">• The need for Security• Security Approaches• Principles of Security• Types of Attacks• Computer Forensics• Steganography• E-commerce Security	6
2	Security Threats and Vulnerabilities <ul style="list-style-type: none">• Overview of Security threats• Weak / Strong Passwords and Password Cracking• Insecure Network connections• Cyber crime & Cyber terrorism	6
3	Cryptography / Encryption <ul style="list-style-type: none">• Introduction to Cryptography / Encryption• Digital Signatures• Public Key infrastructure• Applications of Cryptography• Tools and techniques of Cryptography	8
5	Information and Network Security <ul style="list-style-type: none">• Access Control and Intrusion Detection<ol style="list-style-type: none">1. Overview of Identification and Authorization2. Overview of IDS• Server Management and Firewalls<ol style="list-style-type: none">1. User Management2. Overview of Firewalls3. Types of Firewalls	8

6	System and Application Security <ul style="list-style-type: none"> • Architectures and Models <ol style="list-style-type: none"> 1. Designing Secure Operating Systems 2. Controls to enforce security services 3. Information Security Models • System Security <ol style="list-style-type: none"> 1. Desktop Security 2. Email security: PGP and SMIME 3. Web Security: web authentication, SSL and SET 4. Database Security 	8
7	OS Security <ol style="list-style-type: none"> 1. OS Security Vulnerabilities, updates and patches 2. OS integrity checks 3. Virus & its types 4. Anti-virus software 5. Configuring the OS for security 	4

References:

1. Micki Krause, Harold F. Tipton, Handbook of Information Security Management, Vol 1-3 CRCPress LLC, 2004.
2. Stuart McClure, Joel Scrambray, George Kurtz, Hacking Exposed, Tata McGraw-Hill, 2003
3. Cryptography and Network Security Second Edition – Atul Kahate

Course Code: BSD366

Course Title: Practical I (Advanced Java)

Total Credits: 04

Total Marks: 100

Total Contact Hours: 48

Teaching Scheme: Practical 04 Hrs/ Week

Sr. No.	Assignments	No. of Sessions
1	Collections	2
2	Database Programming	4
3	Servlets Programming	4
4	Java Server Pages	2
5	Multithreading	2
6	Network Programming	2
Total No of Sessions		16

Course Code: BSD367

Course Title: Practical II - (Adv. PHP & Digital Marketing)

Total Credits: 04

Total Marks: 100

Total Contact Hours: 48

Teaching Scheme: Practical 04 Hrs/ Week

Sr. No.	Assignments	No. of Sessions
	Advanced PHP	
1	Email handling	2
2	Introduction To PHP frameworks(Drupal, Joomla etc. any one)	2
3	XML Handling	2
4	AJAX handling	2
	Digital Marketing	
5	Designing Wordpress Website (Using CMS)	2
6	Creating Facebook Page	2
7	Email marketing	2
8	Google Adwords – Ad Campaigns, Text ads & Ad Groups	2
Total No of Sessions		16

Course Code: BSD368

Course Title: Project

Total Credits: 04

Total Marks: 100

Total Contact Hours: 48

Teaching Scheme: Practical 04 Hrs/ Week

- Project will be evaluated by project guide.
- Continuous assessment will be done weekly in the respective batch.
- Evaluation will be on the basis of weekly progress of project work, progress report, oral, results and documentation and demonstration.
- You should fill your status of the project work on the progress report and get the Signature of project guide regularly.
- Progress report should sharply focus how much time you have spent on specific task. (The format of progress report is given as follow.)
- You should keep all signed progress report.
- Project will not be accepted if progress report is not submitted and all responsibility remains with student.
- Students should prepare design document using SE/UML techniques depends on your project.

Evaluation for internal 30 Marks

- UML Diagrams 10 M
- Technology And Design Based First Demo 10 M
- Second Demo 10M

Evaluation for external 700 Marks

- Demo 30 M
- Report 20 M
- Viva 20 M

P.D.E.A.s
Annasaheb Magar Mahavidyalaya,
Hadapsar, Pune - 28

Syllabus

for

F.Y.B.Voc.

(Tourism & Service Industries)

(2020-21)

Sem –I & II

Module TSI 101: Tourism Principles and Practices

No. of Credits: 04

Marks

Contact Hours/ Week: 04

Marks

Assignments: 30

Semester Exam: 70

Course Objective:

It is planned to develop and communicate basic framework and conceptual heritage of the discipline of Tourism, Methods, practices and techniques of analysis, motivation and processes of decision-making. To realize its potentials, as against the achieved in the Indian context. To understand the various elements of Tourism Management. To evaluate the role of various organizations of tourism. To identify the methods to improve tourism.

THEMES AND TOPICS

Unit I:

Tourism: Concepts:

Definitions and Historical development of tourism. Distinction between Tourist-Traveler-Visitor-Excursionist. Types and Forms of Tourism; importance of tourism, Tourism system: Nature, characteristic. Components of tourism and its characteristics.

Unit II:

Domestic and International tourism: Domestic tourism: features, pattern of growth, profile. International tourism: Generating and Destination regions. Pattern of growth and Profile.

Unit III:

Tourism Demand and Supply: Introduction to Tourism Demand; Determinants of tourism demands; Motivation and tourism demand; Measuring the tourism demand. Tourism Statistics (National and International). Emerging Trends and new thrust areas of Indian tourism.

Unit IV:

Tourism Impacts: Impacts: Positive and Negative Impacts of Tourism; Socio Cultural, Economic, Environmental and Political

Unit V:

Status of Tourism in India The Tourism Industry: Nature and characteristics, components of Tourism Industry. Attractions, Transport, Accommodation, Shopping, Entertainment, Hospitality, Airlines, Travel agencies, Tourism declared as an Industry in India, consequences of Industry status.

Unit VI:

International Tourism Institutions and organizations, and their role in promoting international movement-UNWTO , WTTC, TAAI, IATO, IATA, ITC.

Text Books:

1. Bhatia. Tourism Development (New Delhi, Sterling)
2. Seth: Tourism Management (New Delhi, Sterling)
3. Kaul: Dynamics of Tourism (New Delhi, Sterling)

Module TSI 102: Tourism Product of India

No. of Credits: 04
Contact Hours/ Week: 04
Marks

Assignments: 30 Marks
Semester Exam: 70

Course Objective:

The main purpose of this paper is the incredible products of India and attract huge revenue in terms of foreign currency and the packages that can be put together to offer to the tourists. Express the rich heritage of India.

Unit I:

Tourism Products: Definition, Concept and classification. Heritage – Meaning, types, of Heritage, Cultural Heritage of India - Stages of evolution, continuity. Tourism, Heritage Management Organizations- UNESCO, ASI, ICOMOS, INTACH.

Unit II:

Architectural and religious Heritage of India: glimpses on the prominent architecture style flourished in different period. Different style of architecture in India - Hindu, Buddhist, Jain, Sikh, Islamic and Christian. heritage sites of India Historic monuments of tourist significance: forts, palaces, museums, art galleries Selected case studies of World Heritage Sites in India

Unit III :

Pilgrimage Destinations: Hindu- Charo Dham Yatra, Jyotirlinga Yatra, Devi Yatra Vindhyachal (U.P.) Kamakhya (Assam), Vaishnavadevi, Kashi, Prayag, Gaya, Ayodhya, Mathura– Vrindavana, Allahabad, Ujjain, Hardwar, Nasik, Gangasagar. Buddhist: Lumbini, Bodhgaya, Sarnath, Kushinagar, Sharavasti, Sankisa, Vaishali, Rajgriha, Kapilvastu, Nalanda, Sanchi, Ajanta. Jain: Kashi, Pavapuri, Shatrunjaya, Girnar, Mt. Abu, Sharavanbelgola, Palitana Muslim: Ajmer Sharif, Nizamuddin (Delhi), Fatehpur Sikri, and some important Mazars. Sikh: Patna, Nanded, Guru-ka-Tal (Agra), Amritsar.

Unit IV:

Natural Resources: Wildlife Sanctuaries, National Parks and Natural Reserves in India (Jim Corbett Tiger Reserve, Bharatpur Bird Sanctuary, Valley of Flowers, Kanha, Kaziranga, Sasan Gir, Dachigam, Ranthambhore and Keoladeo Ghana) Hill Stations: Study of Hill Station attractions and their environs with case studies of Mussoorie, Nainital, Munnar and Ooty. Beaches and Islands: Beaches in Goa, Kerala, Orissa. Andman Nicobar & Lakshdvip islands.

Unit V:

Important Museum, Art Galleries and Libraries. Performing art of India: classical dances, folk dances and folk culture. Fairs and Festivals: Social, religious and commercial fairs of touristic significance.

Unit VI:

Handicrafts and textiles : important handicraft objects and centers, craft melas, souvenir industry. Indian cuisine (gastronomy), regional variations.

Text Books:

1. Basham A. L: The Wonder that Was India.
2. Basham A. L.: Cultural History of India

Module TSI 103: Geography of India**No. of Credits: 04****Assignments: 30 Marks****Contact Hours / Week: 04****Semester Exam: 70 Marks****TOPICS****Unit I:**

Physical Setting: Space relationship of India with neighboring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.

Unit II:

Resources: Land, surface and ground water, energy, minerals, biotic and marine resources; Forest and wild life resources and their conservation; Energy crisis.

Unit III:

Agriculture: Infrastructure: irrigation, seeds, fertilizers, power; Institutional factors: land holdings, land tenure and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro and social forestry; Green revolution and its socioeconomic and ecological implications; Significance of dry farming; Livestock resources and white revolution; aqua - culture; sericulture, apiculture and poultry; agricultural regionalization; agro-climatic zones; agro- ecological regions.

Unit IV:

Industry: Evolution of industries; Location factors of cotton, jute, textile, iron and steel, aluminum, fertilizer, paper, chemical and pharmaceutical, automobile, cottage and agro-based industries; Industrial houses and complexes including public sector undertakings; Industrial regionalization; New industrial policies; Multinationals and liberalization; Special Economic Zones; Tourism including eco -tourism.

Unit V:

Transport, Communication and Trade: Road, railway, waterway, airway and pipeline networks and their complementary roles in regional development; Growing importance of ports on national and foreign trade; Trade balance; Trade Policy; Export processing zones; Developments

in communication and information technology and their impacts on economy and society; Indian space program

Unit VI:

Cultural Setting: Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas and their problems; cultural regions; Growth, distribution and density of population; Demographic attributes: sex-ratio, age structure, literacy rate, work-force, dependency ratio, longevity; migration (inter-regional, intra-regional and international) and associated problems; Population problems and policies; Health indicators.

Unit VII:

Settlements: Types, patterns and morphology of rural settlements; Urban development's; Morphology of Indian cities; Functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; Slums and associated problems; town planning; Problems of urbanization and remedies.

Unit VIII:

Regional Development and Planning: Experience of regional planning in India; Five Year Plans; Integrated rural development programmes; Panchayati Raj and decentralized planning; Command area development; Watershed management; Planning for backward area, desert, drought prone, hill, tribal area development; multi-level planning; Regional planning and development of island territories.

Unit IX:

Political Aspects: Geographical basis of Indian federalism; State reorganisation; Emergence of new states; Regional consciousness and inter-state issues; international boundary of India and related issues; Cross border terrorism; India's role in world affairs; Geopolitics of South Asia and Indian Ocean realm.

Unit X:

Contemporary Issues: Ecological issues: Environmental hazards: landslides, earthquakes, Tsunamis, floods and droughts, epidemics; Issues relating to environmental pollution; Changes in patterns of land use; Principles of environmental impact assessment and environmental management; Population explosion and food security; Environmental degradation; Deforestation, desertification and soil erosion; Problems of agrarian and industrial unrest; Regional disparities in economic development; Concept of sustainable growth and development; Environmental awareness; Linkage of rivers; Globalisation and Indian economy.

Module TSI 104: Communication and Soft Skills

No. of Credits: 04

Marks

Contact Hours / Week: 04

Marks

Assignments: 30

Semester Exam: 70

Course Objective:

To develop oral and written communication skills so as to enable the participants to present their ideas logically and effectively

THEMES AND TOPICS

Unit I:

Meaning, Definition, Nature and Scope of Communication, Importance of Communication, Process of Communication, Barriers to Effective Communication, Overcoming the Barriers. Non Verbal Communication, Body Language, focus on English skills – Vocabulary, Grammar, Phonetics with special reference to tourism industry.

Unit II :

Employment Communication: Resume Styles, Resume Writing, Elements of an Effective Resume, Writing Application Letters; Other Employment Messages Job Interview – Purpose, Types, Interview Skills – Before, During and After the Interview, Interview Dressing, mock interviews – Following up an Application, Accepting an Interview Invitation, Following up an Interview, Accepting Employment, Resigning from a Job.

Unit III :

Introduction to Personality Development: Elements of a Good Personality; Importance of Soft Skills; Introduction to Corporate Culture; Professionalism in Service Industry, Group discussions – structure and types, Mock GD using video samples.

Unit IV :

Presentation skills and techniques: Personal grooming and business etiquettes, corporate etiquette, social etiquette and telephone etiquette, role play and body language, impression management.

Unit V :

Business Reports: Types and Characteristics; Components of a formal Report; Business Proposals – Types, Contents, Elements

Unit VI :

Cross Cultural Communication: Understanding Cultural and Business Protocol differences across countries – UK, USA, China, Japan, France, and Germany.

Text Books:

1. Matila Treece: Successful communication: Allyun and Bacon Pubharkat.

2. Jon Lisa Interatid skills in Tourist Travel Industry Longman Group Ltd.
3. Robert T. Reilly – Effective communication in tourist travel Industry Dilnas Publication.
4. Boves. Thill Business Communication Today Mcycans Hills Publication.
5. Dark Studying International Communication Sage Publication

Module: TSI 105 Introduction to GIS and ICT practical paper I

No. of Credits: 04

Contact Hours / Week: 04

Assignments: 30 Marks

Semester Exam: 70Marks

Unit I:

Definition and Meaning of GIS, History of GIS, How GIS works and Importance of GIS in maps, Component of GIS, Applications of GIS

Unit II:

GIS Data Models, Spatial data model, Non Spatial data model, Types of Data, Raster data, Vector Data

Unit III:

GIS Data Collection and Error Handling, Projection System, Analysis of geographical data

Unit IV:

Basic Computer tools, Microsoft word, Microsoft office, Power point presentation, online Booking,
Air ticket, Bus and Railways ticket booking

Module: TSI 106 Tourism attraction in India with map work Practical Paper II

No. of Credits: 08

Contact Hours / Week: 06

Assignments: 60 Marks

Semester Exam: 140 Marks

Unit I:

Maps:

Introduction of the Maps, Definition, Map preparation, Classification of the Maps

Map Reading

Unit II:

Field Study:

Introduction and Meaning of field Study, Training on Tourist place,

Survey and field study, Report writing of Field Study

Unit III:

PPT Presentation, Seminar, Guest lectures, Review of literature, GPS meaning and uses of GPS in tourism

Unit IV:

S.O.I, Tourism attraction in India with map work

GDS: Global Distribution System.

Project, Internship, Destination Visits and Case Studies

SEMESTER II

Module: TSI 107 Introductions to Hospitality Industry

No. of Credits: 04

Contact Hours / Week: 04

Assignments: 30 Marks

Semester Exam: 70 Marks

Unit I:

Introduction

Introduction to hospitality Management

Hotel- Definition Classification and Star categorization of hotel Meal Plan, Types of Room

Unit II:

Departments/Functional units in Hotel and Organizational Structure

Front Office- Organization structure and its functions

Types of hotel reservation System

Unit III:

Back Offices

Purchasing, Accounting, Human Resource Management, Maintenance

Food and Beverage Production- Organization structure and its functions

Food and Service Production- Organization structure and its functions

Unit IV

Major Hotel Chains in India, Heritage Hotels, FHRAI and HRACC

Suggested Readings:

1. Introduction to tourism and hospitality management- Sourabh Dixit
2. Hotel Management- Yogendra K Sharma
3. Introduction to tourism and hospitality Industry- Sudhir Andrewi
4. Hotel housekeeping training Manual – Sudhir Andrew
5. Hotel front office training Manual- Sudhir Andrew

Module: TSI 108 Geography of World

No. of Credits: 04
Hours / Week: 04

Assignments: 30 Marks
Semester Exam: 70 Marks

Unit 1: Development of Tourism in World

- 1.1 Tourism in ancient and medieval periods
- 1.2 Tourism in modern period
- 1.3 Role of tourism in national economy
- 1.4 Tourism policies of India and Maharashtra

Unit 2: Geographical & Historical Tourism in India

- 2.1 Hill stations
- 2.2 Sea beaches
- 2.3 Sanctuaries and National Parks
- 2.4 Water Bodies – Lakes, Waterfalls, Snow fields
- 2.5 Forts, Capital places and other Historical places.

Unit 3: Religious and Cultural Tourism in India

- 3.1 Religious tourist centers in North India
- 3.2 Religious tourist centers in South India
Cultural tourist centers in North India

Unit 4: Organization of Tour Aspect Organization of tour

- 4.1 Importance of tour 4.2 Objectives of tour
- 4.3 Economic Planning
- 4.4 Frame work of tour
- 4.5 Choice of tourism centers
- 4.6 Duration of tour

Module TSI 109: Ethical, Legal & Regulatory aspects of Tourism

No. of Credits: 04

Contact Hours / Week: 04

Assignments: 30 Marks

Semester Exam: 70 Marks

Unit-1

- A. Indian Contract Act; 1972
- B. Partnership Act; 1932
- C. Companies Act; 1956
- D. Agencies

Unit-2

- A. Consumer Protection Act & tourism
- B. MRTP Act, Applicable tourism as consumers
- C. FEMA - 1999
- D. Foreigner's Act

Unit- 3

- A. Passport Act
- B. Tourism bill of rights
- C. Travel insurance, passport, visa & health

Unit-4

- A. Custom & currency regulations
- B. World cultural & natural heritage, 1972 UNESCO
- C. Ethics in tourism, Bermuda Agreement

Suggested Books :

1. The Business of Travel agency Operation & administration – D.L.Foster
2. The Indian Travel agents – Malik, Harish & Chandra

Module TSI 110: Human Resource Planning & Development in tourism

No. of Credits: 04
Contact Hours / Week: 04
Marks

Assignments: 30 Marks
Semester Exam: 70

Unit -1

HRM – Meaning, Importance, Functions, Challenges and opportunities.
Need for HRM in tourism Industry, Objective of human resource planning , Need for human resource planning in tourism.

Unit – 2

Recruitment --Meaning, Sources, methods ,Selection -- selection methods
Placement , induction and performance appraisal – meaning and relevance in tourism industry
Training and development – meaning and its requirements, wage and salary-concept, Incentive.

Unit – 3

Job Evaluation - Concept, scope and limitation,
Job Analysis and job description :- definition, uses of job analysis and job description, job description, job specifications and job analysis linkages

Unit – 4

Human Resource Development (HRD) –An Overview , What is HRD , Why HRD , HRD process and outcome’ , An overview of HRD practices : Trends HRD in Service Industry : Importance and role of HRD in Service Sector ,HRD in Tourism Sector

Suggested Books -

- 1.Human Resource Management --- Gary Dessler
- 2.Human Resource Management--- P.Subba Rao
- 3.Human Resource Management --- Millockovich

Module TSI 111: Tour Planning - Practical III

No. of Credits: 08
Contact Hours / Week: 08
Marks

Assignments: 60 Marks
Semester Exam: 140

Unit I-

Itinerary Meaning, Importance and types of Itinerary-Resources and Steps for Itinerary Planning and Development. - Do's and Don'ts of Itinerary preparation- Tour Formulation and Designing Process. Procedure for effective itinerary designing and development

Unit II

Designing of Tourist Itinerary, Project work on preparation of a tourist itinerary/ tourist broacher/ information leaflet with the help of computer incorporating the important destinations of Assam, North-east India and India.

Unit III –

Tour Packaging and Costing Introduction-Types of Package Tour, Components of a Standard Package Tour, Tour Formulation- Factors affecting, Tour design and Selection process, Significance of Package Tours. Tour Cost-Components of tour cost, Factors affecting the tour cost- Costing a Tour Package.

Unit IV –

One /two days Maharashtra tour plan, 4 days Indian places tour plan and 8 days abroad tour plan (Hard copy)

Unit V - Presentation

Module TSI 112: Seminar Course and Viva – Voce Practical Paper IV

No. of Credits: 08
Contact Hours / Week: 08

Internal & Assignments: 40 Marks
Semester Exam: 160 Marks

At the end of the first semester all the students will have to undergo a field study tour (FST) during the winter vacation and submit their report as a paper carrying 100 marks (4 credits) in the second semester. The students will have to give presentation based on their reports before a duly constituted board of faculty members.

P.D.E.A.s
Annasaheb Magar Mahavidyalaya,
Hadapsar
Syllabus
for
S.Y.B.Voc.
(Tourism & Service Industries)
(2020-21)
Sem –III& IV

P.D.E.A.s
Annasaheb Magar Mahavidyalaya, Hadapsar.

S. Y. B. Voc (Tourism & Service industries)

SEMESTER-III

Course No	Category	Title	Credits	Lecture/Week	Evolution		
					CE	UE	Total
TSI113	GC	Tourism Economics	4	4	30	70	100
TSI 114	GC	Tourism Marketing	4	4	30	70	100
TSI 115	GC	Managerial Accounting & Finance in Tourism	4	4	30	70	100
TSI 116	SC	Adventure and Eco-Tourism	4	4	30	70	100
TSI 117	SC	Air Fare and Ticketing Practical	4	4	30	70	100
TSI 118	SC	Seminar Course and Viva	8	8	60	140	200
TOTAL			28	28	210	490	700

SEMESTER-IV

Course No	Category	Title	Credits	Lecture/Week	Evolution		
					CE	UE	Total
TSI119	GC	Contemporary Issues in Tourism	4	4	30	70	100
TSI 120	GC	Tourism Impact Analysis	4	4	30	70	100
TSI 121	GC	Tourist Product Design and Destination Development	4	4	30	70	100
TSI 122	SC	Agro Tourism	4	4	30	70	100
TSI 123	SC	Project Report Practical Paper	8	8	60	140	200
TSI 124	SC	Field Trip and Viva-Voce Practical Paper- IV	8	8	60	140	200
TOTAL			32	32	240	560	800

MODULE TSI 113: TOURISM ECONOMICS**NO.OF.CREDIT: 04****INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM: 70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	1) Tax benefits to the state 2) Economics significance 3) Distribution of tourism expenditure 4) Employment potential and multiplies effect 5) Different definitions of economics	20
UNIT 2	1) Plus and minus of tourism 2) Development of infrastructure 3) Regional development 4) Brief concept of production and cost	15
UNIT 3	1) Concept of micro economics –factors, elasticity, curves 2) Concept of equilibrium –determination of equilibrium price and quantity -effect of changes in demand and supply 3) Function of bank, credit creation, functions of money, some concept of BOP	15
UNIT 4	1) Different costs of a tour 2) International trade – absolute advantage theory and comparative, advantage theory	10

Reference Books:

1) Tourism development principles and practices -A.K. Bhatia

Module TSI 114: Tourism Marketing

NO.OF.CREDIT: 04

INTERNAL: 30 MARKS

CONTACT HOURS/WEEKS: 04

SEMESTER EXAM: 70 MARKS

Unit No	Topic	No of Lectures
UNIT 1	INTRODUCTION 1. Definition and scope of tourism marketing 2. Characteristics & services (marketing) 3. Marketing & tourism 4. Segmentation in tourism industry 5. Tourist markets	12
UNIT 2	PLANNING 1. Tourism marketing – special features 2. Tourism marketing mix 3. Planning process in marketing 4. Market research 5. Development of marketing strategies	12
UNIT 3	Tourism product 1. Product formulation 2. Mass production and the markets 3. Destination as a product 4. Product life cycle	12
UNIT 4	Tourism Markets 1. Marketing process and its functions 2. Marketing concept 3. Distribution 4. Important travel market segments 5. Marketing on Internet	12
UNIT 5	Designing 1. Brochures 2. Tourism guides 3. Monuments special 4. Maps and plans 5. New letters	12

Reference books:-

1. Principle of marketing – Adrainpalnes
2. Marketing for hospitality and tourism – Philip Kotler
3. Tourism development (principle and practices) – A. K Bhatia
4. Successful tourism vole 2- Pramnathseth

Module TSI 115: Managerial Accounting and Finance in Tourism

NO.OF.CREDIT: 04

INTERNAL: 30 MARKS

CONTACT HOURS/WEEKS: 04

SEMESTEREXAM:70MARKS

Unit No	Topic	No of Lectures
UNIT 1	Financial Accounting a) Basic accounting Terminologies, accounting concepts and conventions b) Classifications of accounts, rules for debit and credit, journal entries, ledger posting, subsidiary books c) Preparation of trial balance, preparation of final A/C, trading A/C, Profit and loss A/c balance sheet with usual adjustment	12
UNIT 2	Marginal costing a) Concept of marginal cost, fixed cost, contribution P/V ratio, breakeven point, margin of safety b) Practical problem	8
UNIT 3	Cash Budget a) Types of budget –cash budget -meaning and main functions of cash budget, form of cash budget, preparation of cash budget by receipts and payment method b) Practical problem	10
UNIT 4	Ratio Analysis a) Concept of ration, objectives, advantages and limitation of ration analysis b) Practical Problem –current ration, acid test ratio, stock turnover ratio debtors turnovers ratio gross profit ration, net profit ration, operating ration	20
UNIT 5	Cash flow statement and fund flow statement a) Concept of fund, meaning of fund flow statement, importance , advantages and limitations of funds flow statement b) Meaning of cash flow statement, objectives uses, limitations of cash flow statement c) Difference between funds flow statement and cash flow	10

Module TSI 116: Adventure and Eco-tourism

No. of Credits: 04

Assignments: 30 Marks

Contact Hours/ Week: 04

Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	1. Definition of adventure tourism 2. Scope of adventure tourism 3. Characteristics of adventure tourism	15
UNIT 2	1. Types of adventure tourism 2. Aerial 3. water 4. land 5. Map work	15
UNIT 3	1. Designing the adventure product 2. Positioning the adventure product 3. Future trends and scope of adventure tourism	08
UNIT 4	1. Definition of eco tourism. 2. Scope of eco tourism. 3. Importance of eco tourism.	08
UNIT 5	1. Potential resources for eco tourism. 2. Designing the product. 3. Map work.	08
UNIT 6	1. Potential buyers for the product. 2. Future trends and scope of eco tourism.	06

Reference Books:

1. Eco tourism and Environment.-K Nagarjan
2. Incredible India-Amitabh Kant
3. Eco Tourism Programme- D A Fennell

Module TSI 117: Air fare and Ticketing Practical

No. of Credits: 04

Contact Hours/ Week: 04

Assignments: 30 Marks

Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	Geographical Feature 1. IATA world geography 2. Time difference: - A)Green witch mean time B) International dateline 3. Important cities of the world 4. Codes :- a) Airline b) Airport 5. NATO phonetic alphabet 6. Country, capital, different currencies	20
UNIT 2	Documentations 1. Tourism organization (IATA , PATA) 2. Travel Documents 3. Travel formalities within India.	14
UNIT 3	Familiar action 1. Air tariff, OAG , TIM, Journeys :- OW & RT (one way and return trip) 2. Currency regulations, NUC converse action factors 3. Force construction, Mileage principle, EMS (extra mileage surcharges) 4. EMA (extra mileage allowance), HTP (higher Intermediate point) CTM, BMC (Sums to be praised and accordingly tickets to be issued)	16
UNIT 4	1. Special fare calculation, Add – oh , Round trip 2. Computerized reservation system (CRS) – Galileo Amadeus (Training either on line or off line)	10

Reference Books

1. Travel information action manual – IATA
2. OAG/ ABC – IATA
3. Travel agency management – Mahinder Chand
4. Airport Business – R. Doganis

Module TSI 118: Seminar Course and Viva

No. of Credits: 04

Contact Hours/ Week: 04

Assignments: 60 Marks

Semester Exam: 140 Marks

At the end of the Third semester all the students will have to undergo a field study tour (FST) during the winter vacation and submit their report as a paper carrying 200 marks (8 credits) in the Third semester. The students will have to give presentation based on their reports before a duly constituted board of faculty members.

Module TSI 119: Contemporary Issues in tourism

No. of Credits: 04

Assignments: 30 Marks

Contact Hours/ Week: 04

Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	Technological advancement <ol style="list-style-type: none"> 1. Internet of things (IOT) 2. Recognition technology 3. Virtual reality 4. Casemented reality 5. Robotics 6. Artificial intelligence 	20
UNIT 2	Environmental awareness <ol style="list-style-type: none"> 1. Financial contributions (A. Direct financial contribution B. Contribution to government recruitment) 2. Improved environmental management and planning 3. Environment awareness raising 4. Protection and preservation 5. Alternative employment 	14
UNIT 3	Increased Security <ol style="list-style-type: none"> 1) Safety and security issues in tourism 2) Changing role, perception and concept of safety and security in the age of mass tourism 3) Mass Tourism <ol style="list-style-type: none"> a. Mass tourism 1950-1970 b. Mass tourism 1970-1990 c. Global tourism 1990 onwards 	12
UNIT 4	SWOT Analysis <ol style="list-style-type: none"> 1. Strength and Weakness 2. Opportunities 3. Threats 	12
UNIT 5	Impact of tourism issues <ol style="list-style-type: none"> 1. Impact on business 2. Impact on product 3. Impact on employment level 	12

Reference Books:

- 1) Technological development for cultural heritage and e tourism application – J. S Cardoso
- 2) Educational technology – V.C Pandy
- 3) Current issues in international tourism development – E.M Ineson

Module TSI 120: Tourism Impact Analysis

No. of Credits: 04

Assignments: 30 Marks

Contact Hours/ Week: 04

Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	Economic Impact 1. Positive impact. 2. Negative impact. 3. Analysis/case study. 4. Solutions/Assessment.	10
UNIT 2	Socio-Cultural impact 1. 1)positive impact 2. 2) Negative impact. 3. Analysis/case study. 4. Solutions/assessment.	10
UNIT 3	Environmental impact 1. Negative impact. 2. Positive impact. 3. Analysis/case study. 4. Solutions/assessment.	10
UNIT 4	Political impact 1. Negative impact. 2. Positive impact. 3. Analysis/case study. 4. Solutions/assessment.	10
UNIT 5	Tourism satellite accounting 1. Tourism Supply 2. Tourism Demand 3. Tourism GDP 4. Tourism Employment 5. TSA measures only direct effects on GDP	10
UNIT 6	Sustainable tourism 1. Tourism 2. Definition 3. Importance 4. Examples 5. Pillars	10

Reference books:

- 1) Sustainable tourism development – WTO
- 2) Successful tourism management – PranNath Seth
- 3) Tourism impact planning and management- PetesMaso
- 4) Economic Impact and tourism development- kunalchattopadyay

Module TSI 121: Tourist Product Design & Destination Development

No. of Credits: 04

Assignments: 30 Marks

Contact Hours/ Week: 04

Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	Destination the Tourism Product 1. Principle of product design in tourism 2. Market survey 3. Concerns for destination planning 4. Stage in tourist destination design	12
UNIT 2	Destination Development 1. Development of a destination 2. Managing tourist destinations 3. Operation of destination or site as a product 4. Tourism product development	12
UNIT 3	Steps of Tourism Product Development 1. Match the product with the market 2. Assess the Destination 3. Understand the Stakeholder Pole 4. Product Building 5. Marketing Promotion	12
UNIT 4	Sustainability of tourism product 1) Background 2) Operational measures 3) Conservation measures 4) Third party certification	12
UNIT 5	A vital component of tourism product 1) Accessibility 2) Accommodation 3) Attractions 4) Amenities 5) Activities	12

REFERENCE BOOKS:

1. Tourist destination management by Naraivkorak
2. Tourism and Regional Development by Maria Giaoutri
3. Visitor attractions - Zhu Yue Trip Planner Notebook - Sara blank

Module TSI 122: Agro Tourism

No. of Credits: 04
Contact Hours/ Week: 04

Assignments: 30 Marks
Semester Exam: 70 Marks

Unit No	Topic	No of Lectures
UNIT 1	Agro Tourism 1. A Part of Rural Development and Tourism 2. Definitions and Forms 3. Strengths and Weakness 4. Rural Tourism and Agro Tourism	15
UNIT 2	Agro Tourism Business Project 1. Content and Development 2. Economic and Environmental Aspects 3. Characteristics of Quality and Their Grant 4. Field Experience in Agro Tourism Form and Facilities	15
UNIT 3	Other Form of Tourism 1. Folk Lore 2. Handicrafts 3. Cuisine 4. Ethnic Tourism 5. Faire and Festival	18
UNIT 4	Agro tourism and rural development 1. Objectives 2. Approach/ Methods 3. Results and Conclusion	12

Reference Book:

1. Agro Tourism by BarbareBerst Adams
2. The Community Scale by Josh Trought
3. Agri Tourism and Nature Tourism by Holly George
4. Cultural Heritage and Tourism by Daller Timothy
5. The Community Scale by Josh Trought

Module TSI 123: Project report Practical Paper

No. of Credits: 08

Contact Hours/ Week: 08

Assignments: 60 Marks

Semester Exam: 140 Marks

Unit No	Topic	No of Lectures
UNIT 1	State Project 1 Selecting the State 2 Material Study 3 Material Collection	30
UNIT 2	Material Collection 1 Project Material 2 Audio-Video Material 3 Contents	30
UNIT 3	Contents 1 Introduction 2 Maps 3 Geography 4 Climate Conditions 5 Districts 6 Accommodation 7 Transportation 9 Fairs And Festivals 10 Handicrafts 11 Cuisine	50
UNIT 4	Conclusion 1 Self Perspective 2 Bibliography	20

Module TSI 124: Field Trip & Viva – Voce Practical Paper IV

No. of Credits: 08

Assignments: 60 Marks

Contact Hours/ Week: 08

Semester Exam: 140 Marks

Unit No	Topic	No of Lectures
UNIT 1	Study Tour 1) Planning at the study tour 2) Job allotment for the trip 3) Trip management 4) Solutions to the problems on the trip	80
UNIT 2	Tour report 1) tour itinerary 2) Introduction of the destinations	40

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T. Y. B. Voc (Tourism & Service industries)

SEMESTER-V

Course No	Category	Title	Credits	Lecture/Week	Evolution		
					CE	UE	Total
TSI125	GC	Tour and Travel Agency Management	4	4	30	70	100
TSI 126	GC	Event Management in Tourism	4	4	30	70	100
TSI 127	GC	Travel, Trade and Transport	4	4	30	70	100
TSI 128	SC	Business Policy and Corporate Social Responsibility	4	4	30	70	100
TSI 129	SC	Dissertation Practical Paper I	4	4	30	70	100
TSI 130	SC	Presentation & Viva on Dissertation Practical Paper II	8	8	60	140	200
TOTAL			28	28	210	490	700

SEMESTER-VI

Course No	Category	Title	Credits	Lecture/Week	Evolution		
					CE	UE	Total
TSI131	GC	Tour Operations Management	4	4	30	70	100
TSI 132	GC	Responsible Tourism and Destination Management	4	4	30	70	100
TSI 133	GC	Entrepreneurship in Tourism	4	4	30	70	100
TSI 134	SC	Tourism Information and Management System	4	4	30	70	100
TSI 135	SC	Internship for Tour Escort and Travel Consultancy Practical III	8	8	60	140	200
TSI 136	SC	Project report Practical Paper IV	8	8	60	140	200
TOTAL			32	32	240	560	800

MODULE TSI 125: TOUR & TRAVEL AGENCY MANAGEMENT**NO.OF.CREDIT: 04****INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM: 70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	INTRODUCTION <ul style="list-style-type: none">- History & growth of travel agency- Definition of travel agent and tour operator- Differentiation between travel agent and tour operator- Interrelationship between travel agent and tour operator- Presentation of business trends & future prospects	12
UNIT 2	APPROVAL AND RECOGNITION <ul style="list-style-type: none">- How to set up a travel agency/ tour operation business- Government approval for getting approval of a tour business- IATA rules, regulation for accreditation- Sources of income travel agency of travel agency business	12
UNIT 3	ITINERARY PLANNING <ul style="list-style-type: none">- Itinerary preparation- Important considerations for preparing an itinerary- Packaging and promotions	12
UNIT 4	TRAVEL FORMALITIES <ul style="list-style-type: none">- Reservations & cancellation procedures for tour related services- hotels, airlines- Travel formalities: passport, visa, health, regulations, customs & currencies	10
UNIT 5	TOUR GUIDING & ESCORTS <ul style="list-style-type: none">- Definition of tour guide, grooming & personal hygiene, defining escorts- Tour guide requirements – tour departure list, checklist for different purpose: vehicle, point of arrival & departure etc.- Guiding techniques, functions of a tour escort	14

Suggested Reading

1. Travel agency & tour operations, concepts and principles- J.M.S Negi
2. Travel agency management-Mohinder Chand
3. Group travel operating procedure-Susan Webstar
4. The business of travel agency operation& tour management- D.H.Foster
5. Conducting tours- Dellers

MODULE TSI 126: EVENT MANAGEMENT IN TOURISM**NO.OF.CREDIT: 04****INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM: 70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	INTORDUCUING EVENT <ul style="list-style-type: none">- Definition, Scope Of Event Management, Characteristics &Complexities Of Events- Growth & Development Of Event Industry, Trade Fairs & Their Roles- Typology Of Planned Events- Varieties & Importance Of Events- Key Steps To Successful Events	20
UNIT 2	ARRANGING EVENTS <ul style="list-style-type: none">- Conference Program Designing, Timing Supervision, Presentation, Catering& Hospitality, Transportation, Tele Conferencing Recording& Publishing- Sponsorship, Sponsors, Organizers, Customers7& Guests- Event Planning, Key Characteristics, Pre-Event Responsibilities, Legal Issues, Negotiations.	20
UNIT 3	DIMENSION OF EVENTS <ul style="list-style-type: none">- Events & Tourism, Business Tourists, Tourism & Culture, Inventive Tours- Risk Management, Safety & Global Issues In Event Management	10
UNIT 4	EVENTS <ul style="list-style-type: none">- National And Internationalscenario- Mice Tourism- International Trade Fair And Marks- Germany, China, Singapore, Hong Kong, Dubai, UKetc.- Events & Tourism Marketing	10

Suggested Reading

1. Event Management In Leisure& Tourism- Davit Watt
2. Conferences- Tony Regers

MODULE TSI 127: TRAVEL TRADE & TRANSPORT**NO.OF.CREDIT: 04****INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04****SEMESTEREXAM:70MARKS**

Unit No	Topic	No of Lectures
UNIT 1	Evolution of tourist transport system Importance of transport in tourism. Introduction totransport system - air, road, rail and water transport. Marketing of passenger transportation:patterns of demand for tourist transportation, characteristics of supply and marketing strategies.	12
UNIT 2	Air transport & Evolution Present policies, practices and laws pertaining to airlines. Licensing of air carriers. Limitations of weights and capacities. Multinational regulations Including Freedoms of air. Functions-ICAO, DGCA, AAI.	8
UNIT 3	Surface Transport System Approved tourist transport, car hire companies including renter car scheme and tourist-coach companies, Documents connected with road transport viz. Regional Transport Authority, transport and insurance documents, road taxis, fitness certificate, contactcarriage, state carriage, All India permits, maxi car, motor car etc.	10
UNIT 4	Rail transport system: Major Railway System of World, British Rail. Euro Rail, Japanese railand Amtrak. Efforts made abroad: package offered by British Rail, Amtrak, Steam Trains. PrivateRailway lines and companies. Cases of orient express Trans Siberian railway or any otherinteresting train of the world. Indian Railways: Past, present, future types of tours available inIndia, India rail pass, special schemes and packages available, palace on wheels, royal orient, fairyqueen and toy trains. Planning itineraries on Indian Railways, reservation and cancellation	20
UNIT 5	Water Transport System Historical past, cruise ships, ferries, hovercraft, river canal boats.	10

	Prospects and future growth of water transport in India. Merger and acquisitions within national Boundariescross border acquisition and allowances patterns. Franchising.	
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Suggested Reading

1. ChuckY. Gee, Travel Industry
2. Stephen Page, Transport for Tourism
3. Mill, R.C. and Morrison, Tourism System
4. P.N. Seth, Successful Tourism Management

MODULE TSI 128: BUSINESS POLICY & CORPORATE SOCIAL RESPONSIBILITY**NO.OF.CREDIT: 04****INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM: 70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	TOURISM POLICY <ul style="list-style-type: none">- Study of national tourism policy 1982&2002- National action plan on tourism- 1992: special tourism area development program- The concept of national tourism boards- National committee on tourism- Case study of tourism policies of a few states (Uttar Pradesh, Rajasthan, Kerala, Madhya Pradesh)- Investment opportunities & government policy for investments in hotel/tourism industry- Sources of funding	20
UNIT 2	CORPORATE SECTOR <ul style="list-style-type: none">- public and Buddhist circuit)private sectors role in tourism development- analysis of an individual tourism project (development of the Buddhist circuit)	10
UNIT 3	ETHICAL RESPONSIBILTIES <ul style="list-style-type: none">- child right impact in tourism- tourism label guide- fair trade tourism principles- community based tourism- animals in tourism	10
UNIT 4	LEGAL RESPONSIBILITIES <ul style="list-style-type: none">- travel agents responsibilities- transportation & common carries- tourism- online travel sales	10
UNIT 5	ECONOMIC RESPONSIBILITIES <ul style="list-style-type: none">- employment- purchasing- product development	10

Suggested Reading

1. Business policy strategic management ~ G.V SatyaSekhar
2. Playing to win ~A.G.Lofley&L.Roger
3. Corporate social responsibility in tourism ~ Mattias.S. Firka
4. Corporate social responsibilities ~ MadhunitaChatterji
5. Corporate sustainability ~ Mark Anthony Camilleri

MODULE TSI 129: DESSERTATION - PRACTICAL I

NO.OF.CREDIT: 04

INTERNAL: 30 MARKS

CONTACT HOURS/WEEKS: 04

SEMESTER EXAM:70MARKS

TOPIC OF DESSERTATION:

1. What factors affect eco-tourism?
2. Are these man-made dark tourism sites more popular than natural disaster sites?
3. Does the brand matter when it comes to leisure tourism?
4. On what factors do tourists choose their tourists destinations for a summer holiday?
5. What are the effects of wars and infighting regarding the tourism industry?
6. What happens to holiday resorts in the off- season?
7. Protected area & tourism
8. Climate change & tourism
9. Tourism planning & regional development
10. Urban tourism & cultural heritage
11. Types of tourism & sustainability
12. Tourism impact on economy
13. Travelling in a changing climate
14. What is the impact of an increasing digital footprint on the global tourism & travel, with an emphasis laid on the role of travel bloggers &Youtubers?
15. Hunting tourism
16. Consumer behavior In hospitality & tourism
17. Niche tourism
18. Equality, gender & diversity issues in tourism
19. Assessing the significance of transportation system in tourism industry
20. Advancing tourism contribution for poverty reduction & development

MODULE TSI 130: PRESENTATION & VIVA ON DESSERTATION - PRACTICAL II

NO.OF.CREDIT: 08

INTERNAL: 60MARKS

CONTACT HOURS/WEEKS: 08

SEMESTER EXAM:140MARKS

UNIT 1: Power Point Presentation

UNIT 2: Viva

MODULE TSI 131: TOUR OPERATION MANAGEMENT**NO.OF.CREDIT: 04 INTERNAL: 30 MARKS****CONTACT HOURS/WEEKS: 04 SEMESTER EXAM:70MARKS**

Unit No	Topic	No of Lectures
UNIT 1	Definition of Tour Package, Types & Forms of Package Tours, Domestic & International Requirements of itinerary preparation. Do's & Don'ts of itinerary preparation.	14
UNIT 2	Special Requirements for outbound packages, Licensing for making & selling package Tours	10
UNIT 3	Product Oriented package Tours: Nature cure, Health Tourism, Yoga & Meditation Beach Holidays, Botanical Tours, MICE, Wildlife Tours, Buddhist circuit.	10
UNIT 4	Costing, Quotation. Tariff. Confidential Tariffs, Commission, Markup Service charges & other Remuneration for Tour operation.	12
UNIT 5	Understanding Tour Motivations: Travel decisions, Mode selection, destination selection, Merits & demerits of Package Tour to the Supplier & Buyer.	14

Suggested Readings:

1. J. M. S Negi, Travel Agency & Tour Operations.
2. D L. Foster, The Business of Travel Agency Operation and Tour Administration
3. Susan Webster, Group Travel Operating Procedure

MODULE TSI 132: RESPONSIBLE TOURISM AND DESTINATION MANAGEMENT**NO.OF.CREDIT: 04****INTERNAL: 30MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM:70MARKS**

Unit No	Topic	No of Lectures
UNIT 1	Introduction <ul style="list-style-type: none">- Role of destination management- Organizations & companies- Work ethics- Results	15
UNIT 2	Destination management <ul style="list-style-type: none">- Destination mix- Sustainability- Destination enhancement- Destination marketing	10
UNIT 3	Responsible tourism <ul style="list-style-type: none">- Responsible tourism and destinations- Shaping sustainable spaces into better places- Guiding principles for economic responsibility- Guiding principles for social responsibility- Guiding principles for environmental responsibility	10
UNIT 4	Responsible tourism related architecture <ul style="list-style-type: none">- Preserve & restore historic buildings, neighborhoods, & landscapes- Focus on the authentic- Ensure the tourism support facilities are compatible with their surroundings- Interpret the resource- Protect community gateways- Control outdoor signs- Enhance the journey as well as the destinations- Recognize that tourism has limits & must be managed	15
UNIT 5	Responsible tourism: concepts, theory, & practices Different concepts of tourism responsibilities and there Ethics , Various theories and Practices in Responsible tourism	10

Suggested Reading

1. Responsibility for tourism~ Harold Goodwin
2. Sustainable tourism on a finite planet ~Megan Epler wood
3. Promoting heritage tourism issues & challenges ~A.K.Singh
4. Promoting tourism & hospitality ~A.K.Singh

MODULE TSI 133: ENTREPRENEURSHIP IN TOURISM**NO.OF.CREDIT: 04****INTERNAL: 30MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM:70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	Entrepreneur & Entrepreneurship: Definition and Theories; Entrepreneurship environment – Socio-economic, Cultural, Political & Natural, Characteristics of Entrepreneur & Entrepreneurial Behavior.	10
UNIT 2	Ownership Ownership structure and organizational framework of Small scale enterprises in Tourism and Travel Business- Venture Creation and Management.	10
UNIT 3	Business plan process Preparation of business plan and managerial process in small scale enterprise. Entrepreneurial Performance assessment. Managing family enterprises in Tourism industry. Promotional agencies for SMEs in India Opportunity Identification – Business Plan - Feasibility Report – Funding options	15
UNIT 4	Financial Planning : Concept & Meaning, Need of Financial Planning, Role of Govt. Institutions in Entrepreneurship/SSI Development	10
UNIT 5	Management in Entrepreneurship H R Issues in Tourism & hospitality Industry ,Strategies for Growth & Stability for Tourism India; Entrepreneurial case studies of major Travel Agencies/ Hotels on risk taking, innovation, creativity and growth in Tourism.	15

Suggested Reading:

1. Srinivasan. R , Strategic Management: the Indian Concept, 2nd Ed., Prentice Hall India, NewDelhi.
2. Thomson. A. A., Stick land. A.J. &Cambel. J. E., Crafting and Executing Strategy- the Quest forCompetitive Advantage, Tata McGraw Hill, New Delhi.
3. Peter F. Drucker, Innovation & Entrepreneurship, Harper & Row, New York.
4. John A. Pearce II & Richard B. Robinson Jr. Strategic Management, 3rd Ed, AITBS, New Delhi.

MODULE TSI 134: TOURISM INFORMATION & MANAGEMENT SYSTEM**NO.OF.CREDIT: 04****INTERNAL: 30MARKS****CONTACT HOURS/WEEKS: 04****SEMESTER EXAM:70 MARKS**

Unit No	Topic	No of Lectures
UNIT 1	INFORMATION SYSTEMS IN TOURISM <ul style="list-style-type: none">- Analysis- Implementation- Requirements- Development- Design	15
UNIT 2	TOURISM ORIENTED APPLICATION AREAS OF GEOGRAPHICAL INFORMATION <ul style="list-style-type: none">- Tourism resource inventories- Location sustainability- Measuring & monitoring tourism impacts- Visitor flows & management- Relationships associated with resource use- Assessing potential impacts of tourism development	20
UNIT 3	TOURISM INFORMATION SYSTEM <ul style="list-style-type: none">- Ecological environment- Technological environment- Social environment- Political environment- Economic environment	15
UNIT 4	COCLUSION	10

Suggested Reading

1. Tourism ~Mohan Mishra
2. Tourism development: products, operations, & case studies ~Gully baba
3. Tourism: operations,& managements ~S.Roday, A.Biwal, V.Joshi
4. Travel & tourism ~Cambridge international
5. Hospitality & tourism management systems ~M.C. Metti

**MODULE TSI 135: INTERNSHIP FOR TOUR ESCORT & TRAVEL COSULTANCY
PRACTICAL III**

NO.OF.CREDIT: 08

INTERNAL: 60MARKS

CONTACT HOURS/WEEKS: 08

SEMESTER EXAM:140 MARKS

UNIT 1: Training In A Travel Agency

UNIT 2: 2 Months

MODULE TSI 136: PROJECT REPORT: PRACTICAL IV

NO.OF.CREDIT: 08

INTERNAL: 60MARKS

CONTACT HOURS/WEEKS: 08

SEMESTER EXAM:140 MARKS

1. World Map
2. Country Map
3. History
4. Accommodation
5. Tourist Places
6. Festivals
7. Shopping
8. Entertainment& Night Life
9. Recreation
10. Cuisine
11. Tours
12. Moving About (Transportation)
13. Touring The Region
14. Bibliography