Department: BCA

Course Title: Programming in C part-1

Academic Year: 2021-2022

Name of the teacher: Mr. Vijay Bapuso Pujari.

Month: Se			Module/Unit: 1	Sub-units planned
lectures 15	Practical's 02	Total 17	Problem Solving Methods:	Problem definition, Steps in Problem Solving (Define Problem, Analyze Problem, Explore Solution). ALGORITHM: Definition, notations, characteristics of algorithm, examples on algorithm. FLOWCHARTS: Definition features of flowcharts, symbols, examples, coding, running, debugging-types of errors (syntax, logical, runtime errors.)(syntax, logical, runtime errors.
Month: Oc	tober		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	Introduction to c:	History, features of c language, Character set, Identifiers: variables, constants, symbolic constants, keywords. Data types, Operators: Arithmetic, relational, logical, assignment, bitwise, increment/decrement and special operators, Concept of operator Precedence & Associatively. Comments-types of comments, Use of Comments, Header Files (conio,stdio,string,math). Structure of C Program, Input and Output Functions.
Month: No	vember		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total 20	Control Structures:	Conditional statements: if, If-else nested if-else, switch statement. Loops: while, for, doWhile loop, Unconditional statements: Break,
				continue, exit, goto statements.
Month: Dec	cember		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Arrays and Strings:	Arrays- Meaning and definition,
15	07	22		Declaration, Initialization and types of arrays (single and multidimensional arrays). Strings: Meaning and definition, Declaration, Initialization String functions strlen(), strrev(), strlwr(), strupr(), strcat(), strcmp(), strcpy(). Handling of character array.functionsstrlen(),strrev(), strupr(), strcpy(). Handling of characterarray.



Atademic Year: 2021-2022

 $C_{\texttt{Ourse Title:}} \ \textbf{Fundamental of Computer}$

Name of the teacher: Mrs. Megha S. Patil

Department: BCA

Month: Se			Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 02	Total 17	Introduction to Computers:	Introduction to computer, Characteristics of Computers, Block diagram of computer, History of computers, Generations of computer, Applications of computer, Types of computers and features: Mini, micro, mainframe and super, Types of Programming Languages: Machine Languages, Assembly Languages and High Leve Languages.(syntax, logical, runtime errors.)
Month: Oc	tober		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	Peripheral Devices and Number Systems:	Types of Memory (Primary And Secondary): RAM, ROM, Secondary Storage Devices (FD, CD, HD, Pen drive), I/O Devices, Number Systems: Binary, Octal and Hexadecimal, Conversion from one base to another,
Month: No	vember		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Introduction to Software & Operating Environment:	Introduction to software, Types of software: System, Application and utilities, Introduction to apprecia
15	05	20		utilities. Introduction to operating system, Types of O.S., Functions of O.S., Files and Directories, Batch Files Windows Operating Environment, Features of Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories: Notepad and Paintbrush
Month: December			Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	Linux:	Introduction Linux, Features, Structure of Linux, File system, Linux Commands, Permission and Inodes, I/O redirection, Pipes, VI Editor.



Academic Year: 2021-2022

Course Title: Principles of Management

Name of the teacher: Ms. Vaishali D. Patil .

Department: BCA

Month: Se			Module/Unit: 1	Sub-units planned
Lectures 15	Practical's	Total 15	Introduction to Management:	Definition of Management, nature and importance of management, Functions of Management, Levels of management, Role of Manager in Organization, Contribution of F.W. Taylor, Henry Fayol and Max Weber, Peter Drucker to management theory.and High Level Languages.
Month: Oc	tober		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 00	Total 15	Planning, Organizing and Staffing:	Planning: Meaning, Definition & Nature, Steps in Planning Organizing: Meaning, Definition & Classification. (Formal & Informal organization, Virtual organization.), Staffing: Meaning Definition & Functions.
Month: No	vember		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Directing:	Leadership: Meaning & Definition, Theories of Leadership, Qualities of
15	00	15		Leadership & Types of Leaders Motivation: Meaning, definition & importance of motivation, Theories of motivation –Maslow's Hierarchy Theory, Herzberg's theory & Theory X & Y. Communication- Types, Problems
Month: De	cember		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Controlling and Trends	Management Information System:
15	00	15	inManagement	Meaning, Definition & Types of Information Management of Change: Meaning Definition & Forms or Types of Changes, Corporate Social Responsibilities. Controlling :- Meaning, Importance, Steps in Control Process, Types of control-Feed forward control, Concurrent control & feedback control,



Academic Year: 2021-2022

Department: BCA

Course Title: Financial Accounting with Tally

Name of the teacher: Ms. Vaishali D. Patil .

Month: September			Module/Unit: 1		Sub-units planned
Lectures	Practical's	Total	Introduction to	Financial	Meaning and Definition of Financial
15	00	15	Accounting:		Accounting, Objectives of Accounting, Various users of Accounting Information, Accounting Terminologies, Accounting Concepts and Conventions, Double entry system, Types of Accounts and Golden rules of accounting. Books of Prime Entry, Subsidiary Books and Ledger Creation.
Month: Oct	ober		Module/Unit: 1		Sub-units planned
Lectures	Practical's	Total	Preparation of	Financial	Trial Balance - Meaning, Definition,
15	00	15	Statements:		purpose and features, preparation of TrialBalance. Final Accounts – Introduction, Objectives of Final Accounts, Adjustments before PreparingFinal Accounts, Preparation of Trading Account, Profit and Loss Account, BalanceSheet.
Month: No	vember		Module/Unit: 1		Sub-units planned
Lectures	Practical's	Total	Introduction to Tally		Tally History and Journey, Difference between manual accounting v/s computerized accounting, Tally features,
15	00	15			Tally Fundamentals - Company Data — Gateway of Tally, Creating and Maintaining a Company, Loading a Company, F11: Company Features, F12: Configuration. VoucherEntry,Inventory- StockGroups,StockCategories,StockItems,Unitsof Measurement, Bills of Materials, Batches & ExpiryDates.
Month: Dec	Month: December		Module/Unit: 1	-	Sub-units planned
Lectures	Practical's	Total	Report:		Profit and Loss A/C, Balance Sheet, Interest
15	000	15			Calculations, Statutory Master-VAT, Inventory report, Day Book, Use of Reports in Business



Department: BCA

 $C_{0urse\ Title:}$ Basics of Web Technology Name of the teacher: Mr. R. S. Sawant .

Academic Year: 2021-2022

Month: Ma	rch		Module/Unit: 1	Sub-units planned
lectures 15	Practical's	Total 17	Introduction:	Introduction to internet and its applications, E-mail, telnet, FTP, E-commerce, video conferencing, e-business. Internet service providers, domain name server, internet address, World Wide Web, uniform resource locator (URL), browsers – internet explorer, netscape navigator etc. search engine, web saver – apache, proxy server,
Month:Apr	il		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	HTML-5:	What is HTML-5, Basic Tags, Structure, Layout, Web Development Process Overview of HTML Tags, Formatting Tags, Headings(H1-H6), Tags and Attributes, Paragraph Tag, FONT Tag, List Tags, Ordered and Unordered Tags, Hyperlink,
Month: Ma	y		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's	Total 20	Basic of CSS;	Introduction to CSS, CSS Basics, Syntax / Rule of CSS, Selectors, properties and values, Applying CSS to HTML tags. Types: Internal, Inline, External CSS,CSS Colors, Background and color, CSS Box Model, CSS Margins, Padding, Borders CSS Text and Font Properties
Month: Jun	e		Module/Unit: I	Sub-units planned
Lectures 15	Practical's 07	Total 22	CSS – Page Layout :	Classes IDs DIVs Spans, The Box, Styling Page Divisions, Paragraph Formatting. NavBars: Adding a Navigation Bar, Customizing a Navigation Bar. Case Study: Select any topic of your interest and Design Project using above technologies which suit for Desktop and Laptop computer screen only.Pipes, VI Editor.



Department: BCA

Academic Year: 2021-2022

Seme

 ${C_0} urse\ Title:: Programming\ in\ C\ Part\ -II \\ N_0 me\ of\ the\ teacher:\ Mr.\ Vijay\ BapusoPujari + {C_0} urse\ Title: Title: Title:\ Title:\$

Month: Ma	rch		Module/Unit: I	Sub-units planned
tectures 15	Practical's 02	Total 17	User defined functions:	Need, multi functioned program, form of a c function, return value and their type, calling a function, category of a functions, Actual and Formal arguments, functions with array, Storage classes: auto, external, static and register. Command line argument. Preprocessors-Introduction, types of Preprocessor.
Month: Api	-lil		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Pointers:	Understanding pointers, accessing
15	07	22		address of variable, declaration and initializing pointers, pointer expression, pointer to array and functions, function call by value and by reference. Dynamic memory allocationmalloc(),calloc(),realloc().
Month: Mag	У.	1	Module/Unit: 1	Sub-units planned
Lectures 15	Practical's	Total 20	Structures and Unions:	Defining and processing a structure, array of structure, array within structure, structure within structure, Defining and processing a Unions. Difference between structure and union.
34				
Month: Jun	e		Module/Unit: I	Sub-units planned
Lectures	Practical's	Total	File Handling:	Defining and opening a file, File
15	07	22		opening mode- open, modify, write, Closing a file, Functions:fopen(), fclose(), fscanf(), Input/Output Operations on file: getc(), putc(), getw(), putw(), fprintf(), fscanf(), ftell(), fscek(), rewind().



Academic Year: 2021-2022Semester: II

Department: BCA

 $C_{0urse\ Title:\ :Operating\ System}$

Name of the teacher: Mrs. Kshori A. Sawardekar

Month: Ma	reh		Module/Unit: I	Sub-units planned
Lectures 15	Practical's	Total 15	Introduction of Operating System:	Definition, Objectives, Functions, Generations of OS, Types of OS (Batch, Multiprogramming, Time Sharing, Real time, Distributed, Personal, Mobile). OS Structure (Monolithic, Layered, Microkernel, Exokernel, Client-Server).
Month: Api	ril	-	Module/Unit: I	Sub-units planned '
Lectures 15	Practical's	Total 15	Process Management :	Process Management-Introduction to Processes, Process Model, Process creation, Process termination, Process hierarchy, Process states.
Month: May			Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total	Memory Management:	Memory Management- Introduction to memory management, Requirements
15	00	15		(Relocation, Protection, Sharing, Logical organization, Physical organization). Memory partitioning-Fixed partitioning, Dynamic partitioning, Paging, Segmentation. Concept of Virtual memory.
Month: Jun	e	-00	Module/Unit: I	Sub-units planned
Lectures	Practical's	Total	File System:	Files & File system, File structure,
15	00	15		File types, File access, File attributes, Basic file operations. Directories- Single-level & Hierarchical directory systems, Path names & Directory operations. Differentiate between Windows and Linux OS.



Academic Year: 2021-2022

Course Title: :Database Management System

Name of the teacher: Mrs. Megha S. Patil .

Department: BCA

Month: Mar	Month: March		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 03	Total 18	Introduction of Database	1.1 Introduction 1.2 Definition of DBMS 1.3 file processing system Vs DBMS 1 1.4 Advantages and Disadvantages of DBMS 1.5 Users of DBMS 1.5.1 Database Designers 1.5.2 Application programmer 1.5.3 Sophisticated Users 1.5.4 End Users 1.6 Capabilities of good DBMS 1.7 Types of Database System: 1.7.1 Centralized database system 1.7.2 client-server system 1.7.3 Distributed database system.
Month: Api	il		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	Organization of Database System:	2.1 Introduction 2.2. Logical and Physical Files 2.2.1 Logical and Physical Files Definitions 2.2.2 File Structure 2.3 Basic File Operations 2.3.1 Opening Files 2.3.2 Closing Files 2.3.3 Reading and Writing 2.3.4 Seeking 2.4 File Organization 2.4.1 Field and Record structure in file 2.4.2 Record Types 2.5 Types of file organization
Month: Ma	γ.	***************************************	Module/Unit: I	Sub-units planned
Lectures 15	Practical's	Total 22	Data Models :	3.1 Introduction 3.2 Data Models 3.2.1 Object Based Logical Model 3.2.2 Record Base Logical Mode a. Relational Model b. Network Model c. Hierarchical Model 3.3 Entity Relationship Model 3.3.1 Entity Set 3.3.2 Attribute 3.3.3 Relationship Set 3.4 E-R Model terms Introduction 3.6. Relational Database Design 3.6.1 Introduction 3.6.2Normalization 3.6.3 Normal Form 3.6.1. I NF, 3.6.2 2 NF, 3.6.3 3 NF
Month: Jun	e		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's 07	Total 22	Relational algebra :	4.1 Introduction 4.2 Operations- a. Select, b. Project, c. Union, d. Difference, e.Intersection, f. Cartesian Product, g. Natural Join 4.3. SQL (Structured Query Language) 4.3.1 Introduction 4.3.3 Basic Structure 4.3.4 DDL Commands 4.3.5 DML Commands 4.3.6 Simple Queries 4.3.7 Nested Queries



Semester: II

Department: BCA

Course Title: :Human Resource Management

Name of the teacher: Mrs. Vaishali D.Patil .

Academic Year: 2021-2022

Month: Ma	Month: March		Module/Unit: I	Sub-units planned
Lectures 15	Practical's	Total 15	Introduction to HRM:	Introduction, Concept, Definition, HRD, Functions of HRM, Organization of HR, Role HRM, Qualities of HR Manager, Limitations & challenges of HRM.
, Month: Apr	ril		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's	Total 15	Human resource Planning & Development :	Meaning and need of HRP, Process of HRP in I.T. Industry, Factors affecting HRP, Job Analysis, Job Description, Recruitment and Selection procedures in I.T. Industry. Training and Development methods followed in I.T. Industry.
Month: Ma	y		Module/Unit: 1	Sub-units planned
Lectures	Lectures Practical's Total		Employee Separation :	Employee Separation practices in I.T. industry, Voluntary Retirement Schemes, Resignation-Discharge-
15	00	15		Dismissal-Suspension-Layoff, Exit interview.
Month: Jun	Month: June		Module/Unit: 1	Sub-units planned
Lectures 15	Practical's	Total 15	Compensation Management:	Components of remuneration, factors effecting wage and salary levels, variable compensation, incentive schemes.



Co-ordinator
Department of B.C.A.
Vivekanand College, Kolhapur

Academic Year: 2021-2022

Semester: III

Department: BCA

Course Title: Management Accounting

Name of the teacher: Mrs. Vaishali D. Patil

Month: S	September		Module/Unit: 1	Sub-units planned Meaning and Nature of Management
ectu res 15			Introduction to Management Accounting:-	Accounting, Role of Management, Accountant in Planning, Controlling and Decision Making, Difference between Financial Accounting and Management Accounting, Tools and Techniques of Management Accounting.
				Sub-units planned
Month:	()ctober		Module/Unit: 1	
Lectur es	Practical's	Total	Financial Statement Analysis:-	Importance of Financial Statement Analysis, Techniques of FinancialStatement Analysis- Ratio
15	00	15	1	Analysis, Classification of Ratios- ProfitabilityRatio, Turnover Ratios, Liquidity Ratios, Solvency Ratios.
Manuella	November		Module/Unit: 1	Sub-units planned
Lecture		Total	Cost-Volume- Profit(CVP)	Analysis and Decision Making- Break Even Analysis, Cost-Volume- ProfitAnalysis, Decision Making- Make or Buy Decisions,
15	00	15		Shut Down or ContinueDecisions, Alternative Course of Action etc.
Month	: December		Module/Unit: 1	Sub-units planned
	es Practic	Total	Budgetary Control:-	Meaning of Budget and Budgetary Control, Objectives, Advantages,
15	00	15		Limitations of Budgetary Control, Types of Budget- Production, Sales, Cash, Master Budget, Capital Expenditure, Budgeting.



Academic Year: 2021-2022

Semester: III

Department: BCA

Course Title: Human Resource Management

Name of the teacher: Mr. R. S. Sawant

Month: September Lectu Practical's Total		Module/Unit: I	Sub-units planned
Practical's	Total	Introduction to HRM :	Introduction , Concept, Definition, HRD, Functions of HRM , Organization of HRD
00	15		Role HRM ,Qualities of HR Manager, Limitations & challenges of HRM
October		Module/Unit: I	Sub-units planned
Practical's	Total	Human resource Planning & Development :	Meaning and need of HRP, Process of HRP in I.T. Industry, Factors affecting HRP
00	15		, Job Analysis , Job Description, Recruitment and Selection procedures in I.T. Industry. Training and Development methods followed in I.T. Industry
Vovember		Module/Unit: I	Sub-units planned
Practical' s	Total	Virtual Organization :	Virtual Organization: meaning, type., Difference between Traditional and
00	0 15	5	Virtual Organization. ,features of Virtual
			Organization, HRM in Virtual
			Organization,
Month: December		Module/Unit:	Sub-units planned
s Practic al's		Employee Separation	Employee Separation practices in I.T. industry, Voluntary Retirement Scheme
00	15		, Resignation-Discharge-Dismissal- Suspension-Layoff, Exit interview,
	Practical's OO October Practical's OO November Practical' s OO December Practic al's	Practical's Total OO 15 October Practical's Total OO 15 November Practical' Total OO 15 December Practic al's Total	Practical's Total Introduction to HRM: OO 15 October Module/Unit: I Practical's Total Human resource Planning & Development: OO 15 November Module/Unit: I Practical' Total Virtual Organization: OO 15 December Module/Unit: I Practic al's Total Employee Separation



Academic Year: 2021-2022

Semester: III

Department: BCA

Course Title: System Analysis and Design

Name of the teacher: Mrs. M. S. Patil

Month:	September		Module/Unit: I	Sub-units planned
ectu	Practical's	Total	Introduction to System Concepts:	1Definition , Elements of System
es				1.2Characteristics of System
15	00	15		1.3Types of System
				1.4System Concepts
Month:	October		Module/Unit: 1	Sub-units planned
Lectur	Practical's	Total	Requirement Analysis	2.1Definition of System Analysis
es			,	2.2Requirement Anticipation
15	00	15		2.3Knowledge and Qualities of System
				Analyst
				2.4Role of a System Analyst
				2.5Feasibility Study And It's Types
				2.6Fact Gathering Techniques
				2.7SRS(System Requirement Specification)
Month	: November		Module/Unit: 1	Sub-units planned
Lecture	es Practical'	Total	Introduction to Software Engineering	3.1Definition Need for software
	S	,		Engineering
				3.2Software Characteristics
15	00	0 15		3.3Software Qualities (McCall's Quality
				Factors
				Software Development Methodologies
				3.4 SDLC (System Development Life Cycle)
	1			3.5 Waterfall Model
	1			3.6 Spiral Model
				3.7 Prototyping Model
				3.8 RAD Model
Montl	1: December	-	Module/Unit: I	Sub-units planned
Lectur	res Practic	Total	Analysis and Design Tools	4.1Entity-Relationship Diagrams
2000	al's		, many and a second	4.2Decision Tree and Decision Table
15	00	15		4.3Data Flow Diagrams (DFD)
				4.4Data Dictionary
				4.4.1 Elements of DD
				4.6 CASE STUDIES (Based on Above Topic
			V	Software Testing
				4.7 Definition, Test characteristics
				4.8 Types of testing
				4.8.1 Black-Box Testing
				4.8.2 White-Box Testing
				4.8.3 Unit testing
			1	



Academic Year: 2021-2022

Semester: III

Department: BCA

Course Title: Object Oriented Programming with C++

Name of the teacher: V. B. Pujari

Month:	September		Module/Unit: 1	Sub-units planned
res 15	Practical's 02	Total	Principles of Objective Oriented Programming	History of OOP, Introduction to Object Oriented Programming, Basic Concepts of Object Oriented Programming, Benefits of Object Oriented Programming, Object Oriented Languages, Difference between C and C++. Beginning with C++:- Tokens, Keywords, Identifiers and Constants, Data Types, Type Compatibility, Variables, Operators in C++, Operator Precedence, Control Structures (Conditional, Unconditional and Looping).
Month:	October		Module/Unit: I	Sub-units planned
Lectur es Practical's es 07		Total 22	Functions in C++, Classes & Objects	Concept of Function, main() Function, Inline Functions, Function Overloading, Specifying a Class, Data members and Member Functions, Access Specifiers, Friend Function, Static data Member,
				Object declaration and Initialization, Arrays of Objects Constructors & Destructors, Inheritance Constructors-Definition, Use of Constructors, Types of Constructors (Default, Parameterized, Copy, Dynamic), Destructors-Definition, Use, Inheritance- Definition, Types of Inheritance (Single, Multiple, Multilevel, Hierarchical, Hybrid)
Month:	November		Module/Unit: I	Sub-units planned
Lecture	Practical's	Total 20	Pointers, Virtual Functions &Polymorphism	Pointer, Pointer to Object, this pointer, Pointer to Derived Classes, Polymorphism: Meaning, compile Time and Run time polymorphism, Rules for Operator Overloading, Operator Overloading (Unary & Binary)-with member function and friend function.
Month: December			Module/Unit: 1	Sub-units planned
Lecture 15	s Practic al's 07	Total 22	Working with Files	File-Definition, Use, Classes for File Stream Operations, Opening and Closing a File, File Opening Modes, File Pointers, Manipulation of File Pointer(using- seekg,seekp,tellg,tellp), Input Output Operations- get () Put (), read () Write ().



Academic Year: 2021-2022

Semester: III

Department: BCA

Course Title: Computer Oriented Statistical Methods

Name of the teacher: Mr. A. A. Powar

Month:	: September		Module/Unit: I	Sub-units planned
Lectu res 15	Practical's	Total	Introduction to Statistics:	Meaning and Scope of Statistics, Primary and Secondary data. Frequency, Frequency distribution, Qualitative and quantitative data, Discrete and Continuous variables. 1.3 Representation of frequency distribution by graphs: Histogram, Frequency polygon, Frequency curve, O give curve.
Month:	: October		Module/Unit: 1	Sub-units planned
Lectur			Measures of Central Tendency and Dispersion:	Measures of Central Tendency and Dispersion
15	07	22	Dispersion.	2.1 Measures of central Tendency (Averages) 2.1.1 Meaning of averages, Requirements of good average 2.1.2 Definitions of Arithmetic mean (A.M.), Combined mean, Median, Quartiles, Mode, Relation between mean, median and mode. 2.1.3 Merits and Demerits of Mean, Median and Mode 2.1.4 Numerical examples based on 2.1.2 2.1.5 Determination of Median and Mode by Graph
Month	: November		Module/Unit: 1	Sub-units planned
Lecture	es Practical' s	Total 20	Analysis of Bivariate data	3.1 Correlation 3.1.1 Concept of Correlation, Types of correlation (Positive, Negative, Linear and Non-linear), Methods of
13	US	20		studying correlation: Scatter diagram, Karl Pearson's Correlation Coefficient (r) and Spearman's Rank Correlation Coefficient (R). 3.1.2 Interpretation of r = + 1, r = -1, r = 0. 3.1.3 Numerical examples on 3.1.1and 3.1.2
Month	Month: December		Module/Unit: 1	Sub-units planned
Lectur			Sampling Techniques and Time Series Analysis:	4.1 Sampling Techniques: 4.1.1 Definitions of Sample,
15	07	22		Population, Sampling, Sampling Method and Census method. Advantages of sampling method over census method. 4.1.2 Types of sampling: Simple Random Sampling (with and without replacement), Stratified Random Sampling, Merits and Demerits of S.R.S. and Stratified Sampling 4.1.3 Simple examples on Stratified 4.2.3 Numerical examples on 4.2.2.



Academic Year: 2021-2022

Semester: IV

Department: BCA

Course Title: Entrepreneurship Development

Name of the teacher: Mrs. V. D. Patil

Month:	March		Module/Unit: I	Sub-units planned
Lectu res 15	Practical's	Total 15	Entrepreneurship:-	Concept, Classification – Functions, Qualities of successful Entrepreneurship, Concept of Entrepreneur and entrepreneur. Entrepreneurship in modern Era.
Month:	April		Module/Unit: 1	Sub-units planned
Lectur es 15	Practical's	Total	Entrepreneurship Development:-	Concept, objectives, process, problems, measures in Entrepreneurship Development, Role of Entrepreneurship In Economic Development (Theories), Institutional support for Entrepreneurship Development - National Institute for Entrepreneurship and Small Business Development (NIESBD), Small Industry Development Bank of India (SIDBI), District Industry Censes (DIC)
Month:	: May		Module/Unit: I	Sub-units planned
Lecture			Project Management:-	Project- classification of project, Stages of Project Management, Reasons for failure for, Project, Project for Retail stores,
15	00	15		Hotel, Hospital, Dairy.
Month	: June		Module/Unit: I	Sub-units planned
Lecture	es Practic	Total	Successful IT Indian Entrepreneurs:-	Ratan Tata, AzimPremji, Narayan Murthy, Anand Mahindra, Kumar Mangalam Birla,
15	00	15		Nandan Nilekani.



Academic Year: 2021-2022

Semester: IV

Department: BCA

Course Title: Web Technology

Name of the teacher: Mr. R. S. Sawant

Month:	March		Module/Unit: I	Sub-units planned
Lectu res 15	Practical's 02	Total	Internet and WWW:	1.1 Network, Client, Server, 1.2 What is Internet & Applications, WWW 1.3 URL, DNS, Bbrowsers, Web Development: 2.1 :Introduction, features, steps in web development, . 2.2 Scripting Languages 2.3 HTML,structure 2.4 Basic Tags 2.5 Formatting tags, examples
Month: 7	zben		Module/Unit: I	Sub-units planned
Lectur es	Practical's	Total	HTML tags :	3.1 Heading and paragraph tags, font tag. tag
15	07	22		3.2 List Tags-ordered and unordered list tags: , <hr/> ., <marquee> 3.3: Hyperlink, <a> Image and Image maps, <form> tag, form controls to design UI</form></marquee>
Month: N	4ay		Module/Unit: 1	Sub-units planned
Lectures	Practical's	Total 20	JAVA SCRIPT :	4.1 Introduction, Difference in Client-Side and Server-Side Script, features, introduction to Java script 4.2 keywords, data types, control statements (if-else, looping) with examples 4.3 objects in java. Events and Event Handlers, 4.4 Dialogue boxes, Built-in functions and Validations
Month: J	ine		Module/Unit: I	Sub-units planned
Lectures	Practic al's	Total	Introduction to Server-Side scripting:	5.1 ASP – Advantages and limitations, server set-up for ASP (PWS/IIS), built in
15	07	22	E	ASP objects 5.2 loop Structure, control structure (If- Else-Then), methods to get data from 5.3 Clients – (GET and POST), difference between GET and POST 5.4,database handling, connections and record set object. 5.5Case Studies: On line Shopping Website, University Website



Academic Year: 2021-2022

Semester: IV

Department: BCA

Course Title: Relational Database Management System

Name of the teacher: Mrs. M. S. Patil

Month:	March		Module/Unit: 1	Sub-units planned
Lectu res 15	Practical's	Total	Introduction of Database	1.1 Introduction 1.2 Definition of DBMS 1.3 file processing system Vs DBMS 1.3.1 Limitation of file processing system 1.3.2 Comparison of File processing system and DBMS 1.4 Advantages and Disadvantages of DBMS 1.5 Users of DBMS 1.5.1 Database Designers 1.5.2 Application programmer 1.5.3 Sophisticated Users 1.5.4 End Users 1.6 Capabilities of good DBMS 1.7 Types of Database System: 1.7.1 Centralized database system 1.7.2 client-server system
Month:	April		Module/Unit: 1	Sub-units planned
Lectur es	Practical's	Lotal	Organization of Database System	2.1 Introduction 2.2. Logical and Physical Files 2.2.1 Logical and Physical Files Definitions 2.2.2 File Structure 2.3 Basic File Operations 2.3.1 Opening Files 2.3.2 Closing Files
15	07	22		2.3.3 Reading and Writing 2.3.4 Seeking 2.4 File Organization 2.4.1 Field and Record structure in file 2.4.2 Record Types 2.5 Types of file organization 2.5.1 Files of Unordered Records (Heap Files) 2.5.2 File of Ordered Records (Sorted Files) 2.5.3 Hash Files 2.5.4 Indexed file
Month:	May		Module/Unit: 1	Sub-units planned
Lecture	Practical'	Total	Data Models	3.1 Introduction 3.2 Data Models 3.2.1 Object Based Logical Model 3.2.2 Record
15	05	20		Base Logical Model a. Relational Model b. Network Model c. Hierarchical Model 3.3 Entity Relationship Model 3.3.1 Entity Set 3.3.2 Attribute 3.3.3 Relationship Set 3.4 E-R Model terms Introduction
Month: June			Module/Unit: 1	Sub-units planned
Lecture 15	Practic al's	Total 22	Relational algebra	4.1 Introduction 4.2 Operations a. Select b. Project c. Union d. Difference e. Intersection f. Cartesian Product g. Natural Join 4.3. SQL (Structured Query Language) 4.3.1 Introduction 4.3.2 History of SQL



Academic Year: 2021-2022

Semester: IV

Department: BCA

Course Title: Organizational Behavior

Name of the teacher: Ms. V. D. Patil

Month:	March		Module/Unit: I	Sub-units planned
Lectu res	Practical's	Total	Introduction to Organizational Behavior:	Definition, Importance, Scope.
15	00	15		Fundamental Concepts of OB, Discipline continuing to O.B. Evolution of O.B
Month:	April		Module/Unit: 1	Sub-units planned
Lectur es	r Practical's Total		Attitude, Values and Motivation:	Meaning of attitude, perception, Effects of employee attitudes, components of Attitude, Organizational Values, Importance of Motivation, Motivation process, Motivation model. Maslow's
15	00	15	/	Need Hierarchy Theory
Month: N	1ay		Module/Unit: I	Sub-units planned
Lectures	Practical' Total		Organizational culture, Quality Work Life and Stress Management :	A) Organization Culture & Stress Management: B) Stress Management C)
15	00	15	7	Quality Work Life
Month: Ju	ine		Module/Unit: I	Sub-units planned
.ectures	Practic al's	Total	Group Behavior ,Conflict and Stress:	Nature of Group. Types of Groups, Team
15	al's 00	15	Building and Effective team works, Stages of group Formation, Concept of conflict-Conflicts & Stress – Concept, why and how & Management5.5Case Studies: On line Shopping Website, University Website	



Academic Year: 2021-2022

Semester: IV

r: IV Department: BCA

Course Title: Mathematics Foundation Name of the teacher: Miss, Snehal Patil

Month N	March		Module/Unit_t	Sub-units planned
Lectur es	Practical's	Total	SETS:	1.1 Meaning of a set. 1.2 Methods of describing of a set. 1.2.1
15	02	17		Tabular form 1.2.2 Set builder form 1.3 Types of a set 1.3.1 Finite set, Infinite set, Empty set, Subset
				Universal set. 1.3.2 Equal sets, Disjoint sets, Complementary set. 1.4 Operation on Sets 1.4.1 Union of sets 1.4.2 Intersection of sets 1.4.3 Difference of sets. 1.5 De Morgan's Laws (without proof).
Month A	Aprıl		Module/Unit: I	Sub-units planned
Lecture S	Practical's	Total	Logic	2.1 Introduction 2.2 Meaning of Statement (Proposition). 2.3 Simple and compound statements. 2.4 Truth values of a statement. 2.5 Law of excluded middle. 2.6 Logical Operations: Negation, Conjunction, Disjunction,
15	07	22		Implication, Double Implication. 2.7 Equivalence of Logical statements. 2.8 Truth Tables and construction of truth tables. 2.9 Converse, Inverse and Contra positive.2.10 Statement forms: Tautology, Contradiction, Contingency.2.11 Duality, Laws of logic: Idempotent laws, Commutative laws,
				Associative laws, Identity laws, Involution laws, Distributive laws, Complement laws, De Morgan's laws.2.12 Argument: Valid and Invalid arguments.2.13 Examples based on above.
Month M	lav	',,	Module/Unit	Sub-units planned
Lectures	Practical's	Total	Matrices:	3.1 Meaning of a matrix, Order of matrix.3.2 Types of matrices 3.2.1 Row matrix, Column matrix, Null matrix, Unit matrix 3.2.2 Square Matrix, Diagonal matrix, Scalar
15	05	20		matrix, 3.2.3 Symmetric matrix, Skew - symmetric matrix 3.2.4 Transpose of a matrix, 3.3 Definition of Determinants of order 2nd & 3rd and their expansions 3.4 Singular and Non-Singular Matrices 3.5 Algebra of Matrices 3.5.1 Equality of matrices 3.5.2 Scalar Multiplication of matrix 3.5.3 Addition of
Month June		"1	Module/Unit: 1	Sub-units planned
Lectures	Practica l's	Total	Graph Theory	4.1 Introduction to Graph 4.2 Kinds of Graph : Simple, Multi and Pseudo Graph 4.3 Digraph
15	07	22		4.4 Weighted Graph 4.5 Degree of Vertex, Isolated Vertex 4.6 Path, Cycle, A-Cycle, 4.7 Types of Graph: Complete, Regular, Bi-Partite, Complete Bipartite, Isomorphism of Graph 4.8 Matrix Representation of Graph:



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Academic Year: 2021-2022

Semester: V

Department: BCA

Financial Accounts.

Course Title: Cost Accounting

Name of the teacher: Ms. Vaishali D.Patil

Month: September

Lectures Practical's Total

15

O0

Introduction to cost Accounting:

Concept of cost, costing, Cost Accounting and Cost Accountancy, Objectives, Advantages and Limitations of Cost Accounting, Difference between cost Accounting & Financial Accounting Cost Units

				Accounting, Difference between cost
1				Accounting & Financial Accounting, CostUnit
1				and cost centre. Elements of Cost,
1				Preparation of cost sheet.
Month: O	ctober		Module/Unit: 2	Sub waits at
lectures	Practical's	Total	Cost Accounting of Mr.	Sub-units planned
15	00	15	Cost Accounting of Material, Labour and Overheads:	Cost Accounting of Material, Labour and Overheads:
	1			Methods of pricing of material issues FIFO,
				LIFO, Simple Average, weighted Average.
				Methods of Wages- Time basis, Piece Basis,
	14			Labour Turn over(Theory) Classification,
	1			Allocation, Absorption and Apportionment
				of Overheads (Theory)
Month: No	vember		Module/Unit: 3	
Lectures	Practical's	Total		Sub-units planned
		Total	Methods of Costing - Process:	Methods of Costing - Process:
15	00	15		Costing excluding calculation of Equivalent production, contract costing, service costing
Month: December			Module/Unit: 4	(Transport Costing).
Lectures				Sub-units planned
	Practical's	Total	Reconciliation of Cost and Financial	Paganailiati
15	00	15	Accounts:	Reconciliation of Cost and Financial Accounts: Reconciliation of Cost and Financial Accounts



Academic Year: 2021-2022

Semester: V

Department: BCA

Course Title: E Commerce

Name of the teacher: Mr. V. B. Pujari

Lectures	September		Module/Unit: I	Sub-units planned	
15	Practical 00	's Total	Introduction to E-Commerce:	Introduction to E-Commerce: Defining Commerce; Main Activities of	
				Electronic Commerce; Benefits of E-	
			1	Commerce; Broad Goals of Electronic	
				Commerce; Main Components of E- Commerce; Functions of Electronic	
				Commerce – Communication, Process	
				Management, Service Management,	
				TransactionCapabilities; Limitations, Challenges and opportunities, Process of	
				Commerce; Types of E-Commerce; Role o	
				Internet and Web in E-Commerce;	
	4			Technologies Used; E-Commerce Systems Pre-requisites of E-Commerce; Scope of E-	
			10	Commerce; E-Business Models. CDI-	
				Concept, Components, working mechanism	
				of EDI, Advantages and disadvantages of	
Ionth:October				EDI. Difference between E-Business and E- Commerce, Introduction to M-Commerce.	
ctures			Module/Unit: 2	Sub-units planned	
)	Practical's	Total 15	Electronic payment System	Electronic payment System	
	W			Concept of e-payment, Difference between	
					traditional and electronics payment system,
				UPI, NCPI, Digital cash, Credit and Debit card system, Smart Card, E Wallet, Prepaid, post	
				paid and instant payment system, Electronic	
onth: Nove	mber	1	Module/Unit: 3	funds transfer, Concept of e-banking.	
tures	Practical's	Total	E-Security	Sub-units planned	
	00	15		E-Security Concept of E-security, Security threats- concept and types, Malicious code, Phishing and identity theft, Hacking and cyber vandalism, Credit card fraud/Theft	
oth. D			, a	vandalism, Credit card fraud/Theft, Spoofing, Denial of service (DoS), Firewall and proxy server.	
ith: Decem			Module/Unit: 4	Sub-units planned	
	Practical's	Total 15	Security Solutions	Security Solutions	
		10		Concept of encryption and decryption, Symmetric and asymmetric key encryption, Cipher text, Digital Envelopes, Digital certificates, Security socket layer (SSL), Limitations of encryption solutions.	



Department: BCA

Course Title: Computer Network

Academic Year: 2021-2022

Name of the teacher: Mrs. Megha S. Patil.

Lectures	eptember Practical's		Module/Unit: 1	Sub-units planned
15	00	Total	1Basics of Data communication	1Basics of Data communication 1.1. Data Communication concept 1.1.1 Components-sender, receiver, message,transmission media 1.1.2 Data Flow- simplex, half duplex, or full-duplex 1.2 Networks 1.2.1 Definition, Advantages and disadvantages 1.2.2 Categories of Networks- LAN, WAN, MAN
Month: O	ctober		Module/Unit: 2	1.2.3 Network Architecture-Client-Server
Lectures	Practical's	Total	Transmission media and Reference Models	Sub-units planned
15	00	15	Models	Transmission media and Reference Models 2.1 Transmission Media 2.1.1 Gulded Media - Twisted-Pair Cable Coaxial Cable, Fiber-Optic Cable 2.1.2 Unguided Media: Radio Waves Microwaves, Infrared, satellite communication 2.2 Transmission Modes- Parallel and Serial (Asynchronous, Synchronous) 2.3 Reference Models 2.3.1 OSI reference model 2.3.2 TCP/IP reference model
Month: Nov	ember		Module/Unit: 3	Sub-units planned
ectures	Practical's	Total	Data link, Network and Transport layer	Data link, Network and Transport layer 12 3.1 Data link Layer- 3.1.1Design issues
5	00	15		3.1.2 Framing, error detection and correction 3.2 Network layer 3.2. 1 design issues of network layer 3.2.2 Routing algorithm (shortest path, Flooding, distance vector,) , connect, send, receive, disconnect
onth: Decer	nber		Module/Unit: 4	3.3.2 Protocols: TCP, UDP
ctures	Practical's ()()	Total 15		Sub-units planned 4.1 Session layer: 4.1.1 Services: dialog management, synchronization, activity management, exception handling 4.1.2 Remote procedure calls 4.2 Presentation layer: 4.2.1 Services: Translation, compression, encryption 4.2.2 Cryptography: concept, symmetric key & asymmetric key cryptography 4.3 Application layer: 4.3.1 Function4.3.2 Domain name system (DNS), Hypertext Transfer Protocol (HTTP), Simple Mail Transfer Protocol (FTP)



Academic Year: 2021-2022

Semester: V

Department: BCA

Course Title: RDBMS with Oracle Name of the teacher: Mr. R. S. Savwant.

Month: So			Module/Unit: 1	Sub units plant
Lectures	Practical's	Total	Relational Database Management System	Sub-units planned
15	05	20	Standard Wanagement System	Relational Database Management System 1.1 Concept of RDBMS, Difference between DBMS and RDBMS, Features of RDBMS. 1.2 Introduction of Oracle, Role and responsibilities of DBA. 1.3 RDBMS Terminology- Relation, Tuple, Cardinality, Attribute, Degree, Primary Key, Domain, Codd's Rules 1.4 Relational Model, Functional Dependencies, Normalization and its types.
Month: Oct	lober		Module/Unit: 2	
Lectures	Practical's	Total		Sub-units planned
15	07	22	Introduction to sql	INTRODUCTION TO SQL: 2.1 Features of SQL, Data types, 2.2 Classification of SQL Commands – DDL (create, alter, drop), DML (insert, update, delete), DCL (grant, revoke), TCL (rollback, commit). 2.3 SQL Integrity Constraints-(Primary key, Foreign key, unique key, not null, default, check) 2.4 Select statement with group by and order by clause 2.5 SQL Operators-arithmetic, relational, Logical, Like, Between, IN operator 2.6 SQL Functions- Arithmetic functions, Conversion Functions, Date function,
onth: Nove	mber		Module/Unit: 3	Aggregate functions, String functions
ctures	Practical's	Total	Join and sub queries:	Sub-units planned
	07	22		JOIN AND SUB QUERIES: 3.1 Join types - Inner Join, Outer Join, Cross Join and self-Join 3.2 Sub-queries, Multiple sub queries, nesting of sub queries, sub queries in DML commands. 3.3 Correlated queries, Indexes, Sequences. Views-Create View, Drop, View and its Advantages., Denial of service (DoS), Firewall and proxy server.
nth: Decem	ber		Module/Unit: 4	Cub. 1
ures	Practical's	Total	Introduction to allow	Sub-units planned
		222		INTRODUCTION TO PL/SQL: 4.1 Introduction to PL/SQL, Block Structure 4.2 Data types in PL-SQL 4.3 Control Structures-Branching statements, Iterative Control statements. 4.4 Cursors —Concept, Types- Implicit, Explicit, Procedure to create explicit cursors, Cursor Attributes.



Academic Year: 2021-2022

Semester: V

Department: BCA

Course Title: Visual Programming
Name of the teacher: Mr. R. S. Sawant

Lectur	h: September		Module/Unit: 1	Sub units 1
Lectur 15	es Practical'	Total	Introduction	Sub-units planned Introduction 12
	02	17		1.1 overview, Architecture, Features of .N 1.2 Meta data, CLR, Managed and unmanaged code 1.3 CTS, CLS, .NET base classes 1.4 Introduction to Visual Studio .NET IDE 1.5 Types of JIT compiler
Month	October		Module/Unit: 2	
Lecture	s Practical's	Total	Introduction To C#	Sub-units planned
15	07	22	MI SOCION TO CA	Introduction To C# 12 2.1 Introduction to C#, Entry point method, command line arguments 2.2 Compiling and building projects, Compiling a C# program using command line utility, CSC.EXE, Different valid forms of main. 2.3 Global stack and heap memory, reference type and data type, castingimplicit and explicit 2.4 Buxing and unboxing, pass by value and pass by reference and out parameters
Month: N	lovember		M	2.5 Partial class, DLL, Difference between DLL and EXE
ectures	Practical's	Total	Module/Unit: 3	Sub-units planned
.5	05	Potal 20	Introduction to Web Programming	Introduction to Web Programming 12 3.1 Understanding role of WEB source and
				response structure. 3.2 Introduction to ASP, Types of path, FORM tag 3.3 Types of server controls 3.4 Validation controls-Base validator, compare validator, range validator, grouping control validator 3.5 Web forms life cycle 3.6 Event handling in WEB forms, response redirect, server response, cross page post back property of button 3.7 ASP.NET state management 3.8 WEB.config. globalization and
onth: Dec	ember		Module/Unit: 4	localization, AppDomain
tures	Practical's	Total		Sub-units planned
	07	22	ADO .NET	ADO .NET 12 4.1 Introduction to ADO.Net 4.2 ADO.NET Architecture- Conncetion, command, dat reader, data adapter, data set 4.3 Understanding connected layaer of ADO.NET and disconnected layer of ADO.NET



Academic Year: 2021-2022
Course Title: Strategic Management

Name of the teacher: Ms. Vaishali D. Patil.

Semester: VI

Department: BCA

Month: N			Module/Unit: 1	Cul
	Practical's	Total	Introduction to Strategic Management	Sub-units planned
15	00	15	and State See Management	Introduction to Strategic Management Concept of Mission, Vision, Objectives, Concept of Strategy, Importance of Strat Levels of Strategy, Strategic Managemen Process — Different Phases.
Month: A	oril		Module/Unit: 2	
lectures	Practical's	1		Sub-units planned
15	00	Total 15	Environment Analysis	Environment Analysis Concept and Characteristics of environment, components of internal environment, SWOC, Components of external environment, PESTEL Framework — Porter Five Forces Model.
Month: Ma	ıy		Module/Unit: 3	
Lectures	Practical's	Total	Strategies Types and Analysis	Sub-units planned
15 Month: June	00	15	e a le Si	Strategies Types and Analysis Corporate strategies: stability strateg expansion strategy, retrenchment strategy adv/disadv. Competitive strategy: corporate competitive strategy: corporategy Types – adv/disadv. BCG Matrix, TOWS Matrix, ANSOFF Matrix.
			Module/Unit: 4	
ectures 5	Practical's	1000	Strategic Evaluation and Control	Sub-units planned Strategic Evaluation and Control Strategic evaluation: imp, problems - Benchmarking for strategy evaluation. Strategic Control: Types and techniques of strategic control, -operational control- managing strategic change-types, mechanism and process of managing strategic change-strategy in global environment-Social & environmental sustainability issues in strategic management, Triple bottom line—Role of Different Strategists- Contemporary practices of strategic management.
,	00 15	15		



Academic Year: 2021-2022

Semester: VI

Department: BCA

Course Title: Data warehousing and data mining

Name of the teacher: Mrs. Megha S. Patil.

Month: March			Module/Unit: 1	Cub
Lectures 15	Practical's	Total	Introduction to Data Mining	Sub-units planned Introduction to Data Mining
		15		1.1 Basic Data mining Task 1.2 DM versus Knowledge Discovery Databases 1.3 Data Mining Issues 1.4 Data Mining Metrics 1.5 Social implementation of Data Mining 1.6 Overview of Application of Data minin 1.6.1 Architecture of DW 1.6.2 OLAP and Data Cubes 1.6.3 Dimensional Data Modeling - sta snowflake schemas 1.6.4 Data processing - Need Data cleanin Data integration and Transformation, Data reduction 1.6.5 machine learning
Month: Ap			Module/Unit: 2	1.6.6 pattern matching Sub-units planned
lectures	Practical's	Total	Data Mining techniques	
onth: May	00	15		Data Mining techniques 2.1 Frequent item - set and association rui mining: apriori algorithm, use of sampling for frequent item- set tre algorithm 2.2 graph sampling: frequent sub grap mining. tree mining, sequence mining 2.3 Classification and prediction: 2.3.1 Decision tree [3 hrs] 2.3.2 Construction, performance, attribute selection 2.3.3 Issues: Over fitting tree pruning methods, missing values, continuous classes 2.3.4 Classification and regression tree(CART) 2.3.5 Bayesians Classification [6 hrs] 2.3.6 Bayesians theorem, Narvee Bayes classifier
			Module/Unit: 3	6.1
ctures	Practical's	Total	Clustering	Sub-units planned
	00	15		Clustering 3.1 K-means 3.2 expectation maximization (EM) algorithm 3.3 Hierarchical clustering , Carrolton clustering
nth: June			Module/Unit: 4	
tures	Practical's	Total	Software for Data mining and application of Data mining	Software for Data mining and application of
	00			Data mining 4.1 R



Academic Year: 2021-2022

Semester: VI

Department: BCA

Course Title: Linux Operating System
Name of the teacher: Mr. Vijay B. Pujari.

Month: March Lectures Practical's Tabel			Module/Unit: 1	Sub '
-	s Practica	l's Total	Introduction	Sub-units planned
15	02	17		Introduction 1.1 Operating system 1.2 Types of operating system 1.3 Functions of operating system 1.4 History and development of Linux 1.5 Features of Linux 1.6 Login , logout procedure, Conception shell, kernel, Kernel-shell relationship
Month:	April		Module/Unit: 2	- Clationsnip
Lectures	Practical'	s Total		Sub-units planned
15	07	22	Handling files and directory's	Handling files and directory's 2.1 Concept of file, types, file system tree 2.2 Different GPU (clear ,cal , date, wc, w) 2.3 file handling is ,cat ,cp, mv , commands , listing file names, using meta characters (*,?,[]). 2.4 Concept of directory , home directory directory handling commands - cd , mkdir, rmdir,pwd. 2.5 Basic file attributes, chang file/directory, chmod command 2.6 Filters-cut, paste, sort, unique, head, ta grep commands. 2.7 Command linking using pipe (
Month: M.	ay		Mad Lay	operator, command substitution.
ectures	Practical's	Total	Module/Unit: 3 VI editor	Sub-units planned
		· otal	Vieditor	VI editor
5	05	20		3.1 Vi Editor, use of VI, features of VI 3.3 Different modes and working with VI editor 3.4 Command mode -cursor movements(k,j,h,I), delete(character, line, word), Screen up, down, use of repeat factor, joining lines (J), searching for pattern (/ and?) 3.5 Input mode-switching with (I,o,r,s,a,I,O,R,S,A)
nth: June		.1	Module/Unit: 4	3.6 ex mode – saving (w, x, q)
tures	Practical's	T		Sub-units planned
	Fracticals	Total	Simple Shell programming	Simple Shell programming 4.1 Concept of Shell Script, running a shell
	05	20		script 4.2 Statements – read , echo , test , if, case , exit. 4.3 Loops- while, until, for 4.4 Command line arguments



Academic Year: 2021-2022

Semester: VI

Department: BCA

Course Title: Java Programming

Name of the teacher: Mr. R. S. Sawant

Month: M	arch		Module/Unit: 1	Sub-units planned	
Lectures	Practical's	Total	Introduction To Java	Introduction To Java	
15	02	17		1.1 History and features of Ja Programming 1.2 Difference between Java & C++ 1.3 Java Environment 1.4 Java tokens, constants, variables, da types, type casting 1.5 Operators and Expressions 1.6 Implementing Java Program 1.7 Branching and looping statements 1.8 Class, objects, methods 1.9 Constructors and destructor	
Month: Ap	rit		Module/Unit: 2	Sub-units planned	
lectures	Practical's	Total	Inhoritones and B. I.		
15	07	22	Inheritance and Packages	Inheritance and Packages 2.1 Defining sub class, subclass constructor 2.2 Inheritance-Multiple and hierarchical 2.3 Defining packages, system packages 2.4 Creating & accessing packages 2.5 Adding a class to package 2.6 Polymorphism-function overloading and over ridding, its difference	
Month: Mag	Month: May		Module/Unit: 3	Sub-units planned	
Lectures	Practical's	Total	Multithreading and Exception Handling	Multithreading and Exception Handling 3.1 Creating threads, extending a thread	
1.5	05	20		class- declaring the class, run() method 3.2 Stopping and blocking threads 3.3 Life cycle of thread 3.4 Using thread method 3.5 Thread priority 3.6 Introduction to exception 3.7 Syntax of exception handling code 3.8 Multiple catch statement 3.9 Using finally statement 3.10 Throwing exception	
onth: June			Module/Unit: 4	Sub-units planned	
ctures	Practical's	Total	Applets Programming & Introduction to AWT	And I also a	
5	05	20		Applets Programming & Introduction to AWT 4.1 Introduction to applets 4.2 Building applet code 4.3 Applet life cycle 4.4 Adding applet code to HTML file 4.5 Introduction to Abstract Window Toolkit	



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