COURSES OF STUDIES

FOR

THREE YEAR DEGREE COURSE

IN

BCA

First & Second Semester Examination – 2020-21

Third & Fourth Semester Examination – 2021-22

Fifth & Sixth Semester Examination – 2022-23

GOVERNMENT AUTONOMOUS COLLEGE, PHULBANI, KANDHAMAL

YEAR & SEMESTER-WISE PAPERS & CREDITS AT A GLANCE

Yr.	Sl.No.	Course Structure	Code	Marks
		Three-Year (6-Semester) Programme (BCA)		

Yr.	Sl.No.	Course Structure	Code	Marks
		Three-Year (6-Semester) Programme (BCA)		
		SEMESTER-I		
FIRST YEAR	1	English for Technical Communication	1.2	20+80
	2	Computer Fundamental	1.2	20+80
	3	Application Software	1.3	20+80
	4	LAB-I (Application Software)	1.4	100
		Total		**400**
		SEMESTER-II		
	5	Discrete Mathematics	2.1	20+80
	6	'C' Language	2.2	20+80
	7	Operating System (CUL, GUI)	2.3	20+80
	8	LAB-II (C-Language)	2.4	100
		Total		**400**
		SEMESTER-III		
SECOND YEAR	9	Numerical Analysis & Statistical Methods (Math-II)	3.1	20+80
	10	Data Structure	3.2	20+80
	11	Object Oriented Programming Lanauge Using C++	3.3	20+80
	12	LAB-I (C++)	3.4	100
		Total		**400**
		SEMESTER-IV		
	13	Computer Organisation	4.1	20+80
	14	Introduction to Relational Database Mangement System	4.2	20+80
	15	Human Resource Management	4.3	20+80
	16	LAB-II (RDBMS)	4.4	100
		Total		**400**
		SEMESTER-V		
THIRD YEAR	17	Operation Research (Math-III)	5.1	20+80
	18	Data Communication & Computer Network	5.2	20+80
	19	Visual Basic, Internet & Web Development	5.3	20+80
	20	LAB-I (VB, HTML, DHTML & Web Development)	5.4	20+80
		Total		**400**
		SEMESTER-VI		
	21	System Analysis & Design	6.1	20+80
	22	Computer Oriented Accounting System	6.2	20+80
	23	Object Oriented Programming Lanauge (JAVA)	6.3	20+80
	24	LAB-II (JAVA)	6.4	100
	25	Project	6.5	200
		Total		**600**
		GRAND TOTAL		**2600**

SEMESTER-I

1.1: ENGLISH FOR TECHNICAL COMMUNICATIONS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Grammar: Articles, tenses, voice, prepositions.
UNIT-II
Vocabulary & Usages: Pairs and groups of words, synonyms; antonyms; idioms and phrases; one-word substitution.
UNIT-III
Reading & Comprehension: Correct pronunciation; note making, reporting
UNIT-IV
1. Letter Writing
2. Composition writing (of not more than 250 words)

Books Recommended :
1. A practical English grammar By A.J. Thomson & A.N. Martinet (Oxford University Press)
2. Strengthen your writing By V.R. Narayan Swamy. (Orient Longman)Chapters-2, 3, 6, 9.
3. Spoken English Highery By V. Sasikumar & P.V. Dhamija (Tata McGraw Hill).
4. Higher Secondary practical English Grammar By R.N. Panda (Banirupa, Buxi Bazar, Cuttack) Chapters-3, 4, 5, 10, 12, 14, 15, 16.

1.2: COMPUTER FUNDAMENTALS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Introduction: Basic anatomy of a computer; input and Output, Control unit; ALU and memory; working of a computer History of computer; classification of computer; working of Micro computer, Input and Output devices and secondary storage devices
UNIT-II
Data Representation: Number system; decimal, octal, hexadecimal and binary, conversions 01 number system, Binary arithmetic, BCD, ASCII, EBCDIC codes
UNIT-III
Computer Software and Hardware: Meaning of computer software hardware; difference between software and hardware, types of software, firmware, computer language, Machine level, assembly language and high level language. Translators, assemblers, interpreters and compilers
Operating System: Definition and function; Batch processing, Spooling; Multiprogramming Multiprocessing; Time sharing; Online and real time processing; Library and Utility programs
UNIT-IV
Data Communication & Computer Networks: Element of a communication system, Data transmission modes; media and speed; digital and analog transmission; communication processors. Asynchronous and synchronous transmission; Switching technique; Network technologies; LAN & WAN; Communication protocols; Distributed Data Processing

Books Recommended :
1. Computer Fundamental By P.K. Sinha Chapters: 1-5, 7-10, 12, 14-16.
2. Computer for Beginner By V.P. Jaggi and S. Jain. Chapters : 1, 2, 3, 5, 7.

1.3: APPLICATION SOFTWARES

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Word Processing (MS-Word): Basics of word processing, text selection, opening document and creating document, sharing document, quitting document, cursor control, printing documents' using the interface (menu, toolbar), editing text (copy, delete, move etc.) finding and replacing text, spell check feature, auto correct feature, grammar facility, auto text, character formatting, page formatting, document enhancement, creating tables and news paper columns adding borders and shading, adding headers and footers, setting up multiple columns, sorting blocks, adjusting margins and hyphenating documents creating master documents, creating data source, merging documents using mail merge feature for labels and envelopes, graphics, using documents and wizards, introductions to desk publishing (PM 7)

UNIT-II

Spreadsheet (MS-Excel): Work sheet basics, data entry cells, entry of numbers, text and formulae, moving data in worksheet, moving around the work sheet, selecting data range, using the interface (tool bar, menus) Editing basics, Working with workbooks, saving & quitting, call referencing, formatting and calculations, calculations and worksheet using auto fill, working with formulae, efficient data display with data formatting (number formatting, date formatting etc.) working with ranges, worksheet printing, working with graphics & charts, adding formatting text data with auto format, creating embedded chart using chart wizard, sizing and moving parts, updating charts, changing chart types creating separate chart sheets, adding titles, legend and grid lines, printing charts, intro to Macros.

UNIT-III

Introduction to MS-Power Point : How to create a simple presentation in power point and present the power point show through power point view.

UNIT-IV

MS-Access: Introduction to Database, Generating tables & Forms, Query & Report, Forms & Query. Single Column report, Groups/totals reports, summary reports, Tabular reports Customizing report, Creating forms without using wizard, customizing forms, Modifying Forms, How to import & Exports, using condition in a Macro, Data transfer using macro. Introduction to Access Basic, Event procedure, Access basic Constructs etc.

Books Recommended:
1. Microsoft Office by Dinesh Maidisani
2. Microsoft Office by Ramesh Bangia

1.4: LAB - I

Full Marks - 100
End Sem Practical – 100/6 hrs

Application Software: Practical using MS-Word, MS-Excel, MS- Power Point and MS-Access of 1.3 Unit.

SEMESTER-II

2.1: DISCRETE MATHMATIC-I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Propositions and Logical operators, construction of truth table, Tautology, Contradiction, Implication, NAND and NOR, principle of induction, Normal forms, Set Operation, Relation, properties and Operations of Relation, Function, Different Types of Function

UNIT-II

Simple Problems of Permutations and Combinations, Definition of Matrix, Types, Operation and Properties of Matrix, Inverse and Rank of Matrix, Solution of System of Equation. Eigen Values, Eigen Vectors and Characteristics, Equation of Matrix

UNIT-III

Recursion, Recursion relation, binary operations, Algebraic System, Group and its properties, sub-group, permutation group, cosset, Lagrange's Theorem, Group partial Order set, Lattices, Concept of Boolean Algebra, Basic Laws and Expression, Transformations of Expression as sum of product forms

UNIT-IV

Basic concept of Graph Theory. Connectedness in Directed Graphs. Eulerian and Hamiltonian Graphs

Books Recommended:

1. Discrete Mathematics by N. Ch, S.N Lyengar, V.M Chandrasekaram, K.A Venkatesh and P.S Arunachalam (Vikas publishing House, New Delhi) . Chapters-1,2,3,4,5,6 & 7
2. Fundamental Approach to Discrete Mathematics by D.P Acharya Sreekumar (New Age int. Publishers, New Delhi)

2.2: 'C' LANGUAGE

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Introduction of 'C' Basic structure of 'C' Programs Programming style & Executing C Program. Introduction to character Set, C' Tokens, Keywords & Identifiers, Constants, variables & Data type uses & declaration. Introduction of operators, Type conversions in expressions, operator procedure and associavity mathematical functions.

UNIT-II

Introduction to decision making with IF statement, The if-else statement, Nesting of If-else statement and the Else... if ladder. The switch statement, the? Operators and go to statement. Introduction to while statement, the Do statement, the four statements and Jump in loops.

UNIT-III

Introduction to Arrays, declaration and initialization of one-dimension Array, Dynamic Arrays, and more about Array. Declaring and initializing string variables, Reading strings from Terminal, writing to string, string handling functions and table of strings.

UNIT-IV

Introduction of user-defined function definition of function and its declaration, Nesting of functions. Passing Arrays to function and passing strings to function. Introduction of structure variables and its declare and initiazation. Accessing structure members. Array of structures, with in structures and structure & functions, Unions, size of structure and Bit field.

Introduction to pointers, Declaring Pointer variables, Initialization 'pointer variables, chain of pointer, pointer expression, Array of pointers, pointers

Books Recommended:
1. ANSI C by E. Balaguruswamy

2.3: OPERATING SYSTEM (CUL, GUI)

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Evolution of operating System, Resident monitor, batch processing, multiprogramming, multiprocessing time sharing, real-time System, I/O interrupts, DMA, dual mode operation operating system services.

UNIT-II

File System, File concepts, file Attributes, File operation, File type, File Structure, access methods, sequential access, index sequential access and direct access, directory structure, structure, single level, two level, tree structure, file protection and access control.

UNIT-III

Process concepts, process state transition diagram, process control block, process scheduling schedulers, CPU scheduling to functions, pointers and structures. Introduction to defining and opening a file: Closing a file, Input/output operation on file. Error handling during I/O operations and Random access to files.

CPO/IO brust cycle, scheduling algorithms; FCFS, SJF, Priority, round robin. Deadlock, resource allocation graph, deadlock prevention, detection and recover.

UNIT-IV

Logical verses physical address space, overlays, swapping, contiguous allocations single partition and multiple partition, internal and external memory fragmentation, non-contiguous allocation, paging, demand paging, concept of virtual memory, page replacement algorithms FIFO, Optimal and LRU.

Books Recommended:

1. Operating system concept By A. Sibernchatz and Peter B. Galvin (Addition Wesley) Chapters: 1-5, 7-10
2. Operating system By Andrews S. Tanenbaum (PHI)
3. An Introduction to operating system By H.M Dietel (Addition Wesly)

2.4 : LAB-II (C - Language)

Full Marks - 100
End Sem Practical – 100/6 hrs

C - Language

SEMESTER-III

3.1: NUMERICAL ANALYSIS AND STATISTICAL METHOD (MATH-II)

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Interpolation, Polynomial Interpolation, Langrage Interpolation, difference Table, Newton's Forward and Backward Interpolation, Numerical Integration by Simpson's 1/3 Rule and Trapezoidal Rule.

UNIT-II

Solution of algebraic and transcendental equation, bisection method, Method of false Position, Newton-Raphson Method, Convergence of the above Methods. Solution of simultaneous of linear equations: Gauss-Jordan Method, Gauss-Seidal method.

Classification and tabulation of data, Diagrammatic and graphical presentation of data, Measure of central value, (Mean, Mode, Median), measure of dispersion (Variance, Standard Deviation)

UNIT-III

Probability and expected values, theoretical distribution, binomial; Poisson and Normal Distribution.

UNIT-IV

Co-efficient of Variance, Skewness and kurtosis, correlation and regression, Analysis Of Variance.

Books Recommended:

1. Numerical Analysis by Dutta & Jena : Chapter. 1, 2(2.1-2.14), 3(3.1-3.3 & 3.7-3.14), 4(4.14-4.6), 5(5.1-5.4) & 6(6.1-6.3)
2. Statistical methods by S.P. Gupta (S. Chand & Sons)

3.2: DATA STRUCTURE

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Data, Data Structure, Algorithmic notation. Complexity (Fundamental Idea Only). Operations on data structure Linear array (Representation, traversal, insertion, deletion, reverse), Two-dimensional array (representation only) record, record structure, representation o records in memory, parallel array

UNIT-II
Stack, operation on stack, few application of stack liner queue, circular queue, priority queue.
Single linked list. Memory representation of linked list traversing linear list, searching a linked list, insertion into and deletion error linked list, Reverting a linked list, Circular list. Double linked list

UNIT-III
Tree, Binary tree, Representation of Binary tree in memory, Binary tree traversal. Binary search tree. Threaded binary tree, AVL tree (Idea only)

UNIT-IV
Searching Linear and Binary Search Sorting; selection, Bubble, Insertion, Quick, Heap and Merge sort

Book Recommended:
1. Data Structure by S. Lipshutz (Tata McGraw Hill)
2. An Introduction to the Data Structure with application by. JP. Tremblay& P.G. Sorenson (McGraw Hill)

3.3: OBJECT ORIENTED PROGRAMMING LANGUAGE USING C++

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Introduction, data types, keywords, operators, expression conditional, iterative, branching statements, function, pointer, structure.

UNIT-II
OOP in C++, Object, Class

UNIT-III
Constructor, Destructor, Operator, Overloading and type coversion.
Inheritance, Function Overloading

UNIT-IV
Virtual function, input-output files.

Books Recommended :
1. Object Oriented programming with C++ By E. Balaguruswamy (TMH).
2. OOP in Trubo C++ By Robert Lafors (Galgotia publication)

3.4 : LAB - I

Full Marks - 100
End Sem Practical – 100/6 hrs

LAB-I C++ Practical using UNIT-I, UNIT-II, UNIT-III & UNIT-IV of 3.3

SEMESTER-IV

4.1: COMPUTER ORGANISATION

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Combinational and sequential circuits
Boolean algebra, truth tables, synthesis of logic functions using AND, OR, NOT, NAND, NOR, XOR gates, minimization of logical expressions, Kar enough maps, flip-flops, master slave and edge triggered flip-flops, registers and shift registers, counters, decoders, multiplexers

UNIT-II
Arithmetic and logical organization: Addition and subtraction using 1's and 2's complement method, binary adder. Parallel adder, carrylook ahead adder, multiplication, Booth's algorithm, Division, floating point operations

UNIT-III
CPU Organisation: Instruction and instruction sequencing, Instruction formats (Zero, one and two address instruction)
Addressing modes (Register, Absolute, Immediate, Indirect, Indexed, auto increment and auto decrement) stack queue and subroutine

UNIT-IV
Input-Output Organization: Addressing input-Output devices. Intterrupts, handling multiple devices, Vector Interrupts, Simultaneous Request, Direct memory access (DMA). Channels

Books Recommended:
1. Computer Organization By Hamacher (Tata McGraw Hill)
2. Computer System Architecture 3/ed (PHI)

4.2: INTRODUCTION TO RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
Basic concept of database system: Advantages of DBMS, 3 level architecture for DBMS, Data independence, Database access, DDL, DML. Database administrator. Data modeling, E-R diagram

UNIT-II
Database file structure: sequential, Indexed-sequential and direct access files, indexed and hasing techniques

UNIT-III
Relational Model: Structure of relational databases, Base table, view
Relational algebra, set operation, relational operation, selection, projection, join and division operations, Normal forms

UNIT-IV
Hierarchical data model: Tree structure diagrams, physical and logical database records, data retrieval, Virtual records. Internal representation like HSAM, HISAM, HDAM and HIDAM. Network data model: Data structure diagrams, DBTG CODASYL MODEL, DBTG retrieval and update facilities

Books Recommended:
1. An Introduction to database system By. C.J. Date (Narosa) Chapters 1-6, 12, 14, 16-19, 24-26.
2. An Introduction to database system By B.C Deasi (Golgatia) Chapter: 2, 4

4.3: HUMAN RESOURCE MANAGEMENT

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
  Nature and scope of Human Resource Management: Meaning and Definition, scope, functions and objective, Evolution of Human resource management in India. Human Resource Planning
  Meaning and Definition, Importance of Human Resource Planning, Factors Affecting Human Resource Planning, Human Resource Planning Process, Requisites for Successful Human Resource Planning, Barriers to Human Resource Planning
  Job Analysis: Meaning, Process, Methods of Collecting Job data, Problems with Job Analysis.
  Job Design: concept, factors Affecting process, constraints, sources
  Selection: Meaning, Role, Process, Barriers to Selection
UNIT-II
  Performance Appraisal / Merit Rating: Concept, Meaning, Definition, Objectives, Process, Methods, Merits & Problems of performance Appraisal / Merit Rating
  Job Evaluation: Concept, Scope, Process Job Evaluation, Methods, Advantages and Limitations of Job Evaluations
UNIT-III
  Wage and Salary Administration: Concept, Principles, Objectives, Theories of Wages - Iron Law, Wages Fund, Residual Claimant, Marginal Productivity, Bargaining Theory, Modern Theory, Types of Wages - Time Wage & Piece Wage System
  Incentive Payment : Meaning & Definition, Merits,   Demerits, Pre-Requisites for an effective Incentives system, Pre-Requisites for an effective Incentives system, Scope, Types of Incentives, Schemes, Incentives, Schemes in India Industries, Non-Financial Incentive
UNIT-IV
  Industrial Relations: Concept, Nature, Importance, Approaches, Parties to IR, IR Strategy, Role of HRM.
  Trade Union: Concept, Nature, Why do employees join Union? Strategic Choices, Before Unions, Trade Union Movement in India
  Disputes and Their Resolution: Nature of Disputes, cause, settlement of disputes - Collective Bargaining, Code of Discipline, Grievance Procedure

Books Recommended :
1. HRM: K. Aswathapa
2. HRM: P. Subba Rao

4.4 : LAB - II

Full Marks - 100
End Sem Practical – 100/6 hrs

LAB-II (RDBMS): Practical using UNIT-I, UNIT-II, UNIT-III & UNIT-IV of 4.2

SEMESTER-V

5.1: OPERATION RESEARCH (MATH-III)

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I
  Linear Programming Problems, Simplex method
UNIT-II
  Integer Programming
  Assignment and transportation methods

UNIT-III

Elements of Game Theory, PERT; C.P.M

UNIT-IV

Sequencing

Books Recommended :

1. Operation Research By S.D. Sharma (Kedar Nath Ram Nath & Co.) Chapter 1-3, 5-10 of UNIT-II & 1, 6 & 7 of UNIT-IV

5.2: DATA COMMUNICATION AND COMPUTER NETWORK

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Introduction to computer networks: Advantages of networks, structure of the communication network, point-to-point and multi drop circuit, data flow and physical circuits, Network topologies and design goals, switched and non-switched options, channel speed and bit rate, voice communication and analog wave forms, bandwidth and frequency spectrum, digital signals, modem, synchronous and asynchronous transmission Communication. among computers

Traffic control and accountability: WAN and LAN, connection oriented and connection less networks, classification of communication protocols. Time Division Multiple Access (TDMA), Time Division Multiplexing (TDM), Carrier science (Collision) system, token passing, (priority system)

UNIT-II

Layered Protocols, Network and OSI model: Goals of layered protocols, network design problems, communication between layers, layers of OSI, OSI Status, Pooling/Selection Protocols; Character and bit protocols, binary synchronous control (BSC) formats and control cedes HDLC, HDLC Options, HDLC frame format code Transparency and synchronization, HDLC control field, commands and responses, HDLC, transmission process, HDLC subsets

UNIT-III

Local Area Network & Primary attributes of LAN: Broad band and base band LAN, IEEE LAN Standard, Relationship of 802 standards to the ISO/CCITT Model; Connection options with Lans LLC and MAC protocols, data Units. LAN topologies and protocols, CSMA/CD and IELE 805.3. Collisions, token Ring (Priority). IEEE 802.5, Priority scheme, token bus and IEEE 802.4, Switching & Routing

UNIT-IV

TCP/IP, TCP/IP and internetworking, TCP/IP operations and sockets IP address structure, major features of IP, IP datagram, Major IP services. IP source routing value of transport layer, TCP major features of TCP; passive and active opens

Transmission control blocks (TCP), TCP segments, user datagram protocols (UDP) Route discovery protocol. Application layer protocol, Personnel computer as a server. Linked the PC to main frame computer, file transfer in personnel computers and Local Area Network

Books Recommended:

1. Computer Networks 2/e by U. alack (PHI Publication) Chapters. 1-4, 6, 10, 11.
2. Computer Networks By A.S. Tanenbum (PHI Publication) Chapters: 1, 2 (Excluding 2.1 and 1.6), 3.

5.3: VISUAL BASIC, INTERNET AND WEB DEVELOPMENT

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Introduction of Visual Basic- Basic Toolbar, Function of the buttons & Visual Basic Toolbox. Project window, Form Window & Properties Windows & Toolbox, Objects, Events, Properties and Methods, Naming Conventions, Design consideration

Form and controls (Part-1) - Form objects, Picture Box Object, command Button Objects & Menu Object, Listing Code & Safe guarding Project

Form and Controls (Part-2) - Text Box Object. List Box Object, Common Box Object, Label Object & Horizontal and Vertical Scroll Bar Objects and Properties, Events & Methods, Timer Objects, Drive List Box Object, Directory List Box Objects & File List Box Object. Creating Modules & Procedures → Private and public sub procedures, passing parameters to procedures, function procedures, variables, Arrays & constants, Saving & Reading data , data control & database files, Sequential files. Control Arrays. Mouse & Keyboard Events, multiple documents interface. Database in Visual Basic → Table & Queries, Creating database in Access Creating tables, & Queries, Modifying table etc.(Adding, Deleting, Modifying Records in a Table) Moving into Records(First, Previous, Next & Last)

Internet: Introduction to Internet, Understanding Internet, Hardware and software requirement for internet, internet service providers, protocols (HTTP. FTP, TCP/IP) IP address, URL, World Wide, Web Browser, Web Page

UNIT-II

HTML: Standard text formatting tags, color, linking image-Loading, table frame set, form

UNIT-III

DHTML: Java script, Data types, programming logic, functions, use of functions in HTML code, objects in Java script

UNIT-IV

ADOBE PHOTO SHOP: filters, Painting, Retouching, Action, Photoshop files

Books Recommended:

1. The Internet Complete Reference By Hartey Hann (TMH)
2. HTML 4.0 By E. Stephen Mark, Jaaen Plaff BPB Pub.
3. HTML 4.0 By Molly E. Holzschalg. Techmedia
4. Adobe Photoshop Techmedia Pub
5. Visual basic by Mandeep S. Bhatia
6. Visual Basic by Ramesh Bangia

5.4 : LAB - I

Full Marks - 100
End Sem Practical – 100/6 hrs

LAB-I: VB, HTML Practical using UNIT-I, UNIT-II, UNIT-III & UNIT-IV of 5.3

SEMESTER - VI

6.1: SYSTEM ANALYSIS AND DESIGN

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Overview of system analysis and design: Business system concept System development life cycle, project selection, Feasibility study, analysis, design, Implementation testing and maintenance

Feasibility Study: Technical and Economical feasibility cost and benefit analysis

UNIT-II

Project selection: Source of project request, managing project review and selection, preliminary investigation

UNIT-III

System requirement specification and analysis, fact finding technique, data flow diagrams, data dictionary, process organization and integrations

UNIT-IV

Decision tree and tables, structured English detailed design modularization, module specification, file organization and data base design

Book Recommended:

1. Analysis and Design of Information System By James A.S.
2. System Analysis and design By Award EH.
3. System Analysis and Design By Lee B.S (NCC)

6.2: COMPUTER ORIENTED ACCOUNTAING SYSTEM

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Book keeping and Accounting: Meaning to book keeping and accounting, accounting concept and convention accounting equation, accounting procedure and practical system of books keeping Journal, Ledger, Cash book and subsidiary book, banking transaction and bank reconciliation statement, trial balance and final accounts, depreciation

UNIT-II

Introduction to financial management goals and key activities relationship of finance to accounting Basics of capital budgeting cost and benefits, investment appraisal criteria, net present value, benefit and cost ratio, internet rate of return, payback period and accounting rate of return

UNIT-III

Long term financing, Retaining earnings, equity, preference and debenture capital, term loan, public issue, right issue, right issue, private placement financial institutions

Element of working capital management, cash management credit management, inventory management and working capital financing

UNIT-IV

Entry of financial transactions and preparation of trial balance by using one of the commercially available accounting packages such TCS-EX of Tally package

Book Recommended:

1. Double Entry Books Keeping By Juneja Chaula and Sexena, Chapters: 1, 8, 10, 11.
2. Financial Management Theory and Practice By Prasanna Chandra Chapters: 1, 7, 16, 18, 22, 25.
3. Single User and Multi User Ex package, Tata Consultancy services

6.3: OBJECT ORIENTED PROGRAMMING LANGUAGE (JAVA)

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I

Application Program: Overview of Java language, constants, variable, data types, operators, expressions, decision making, branching, loops.

UNIT-II

OOP in Java, class, object and methods, Array, Sting, String buffer, Vectors, Interfaces.

UNIT-III

Package

UNIT-IV

Multi threaded, Managing errors, Exception.

Book Recommended:

1. Java Complete Reference TMI PUBLICATION
2. Programming with Java a Primer By E. Balaguruswamy

6.4 : LAB - II

Full Marks - 100
End Sem Practical – 100/6 hrs

LAB-II: JAVA Programs using in UNIT-I, UNIT-II, UNIT-III & UNIT-IV of 6.3

6.5 : PROJECT

Full Marks – 200

(Project Report - 150, Viva & Presentation on Dissertation - 50)

Each student has to undergo a summer placement training of four weeks at the end of their second year course in an Industry/Business Organisation to gain firsthand experience and knowledge of Practice and prepare a project report at his own cost and has to submit a report within four weeks from the completion of such training to the Principal of the concerned institution. The Report shall be examined jointly by an internal and an external examiner in which the minimum pass marks shall be 50%.

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