

**B.A. / B.Com./B.Sc. Vocational Computer Application
B.A./B.Com./B.Sc.**

B.A./B.Com./B.Sc. Part-I

Paper Code	Paper Name (Theory)	LEC	Exam Hours	MAX. MARKS		Min. Marks
				Sessional	Sem. Exam	
Paper-I	Computer Fundamental	3.	3	15	60	27
Paper-I	DBMS	3	3	15	60	27
	Total			30	120	54

Total of Theory = 150

PAPER NAME(Practical)	Practical HOURS	Exam hours	Max Marks	Mini Marks
PC software & DBMS	3	3	50	18
Total			50	

Total of Theory & Practical Marks=200

B.A./B.Com./B.Sc. Part-II

Paper Code	Paper Name (Theory)	LEC	Exam Hours	MAX. MARKS		Min. Marks
				Sessional	Sem. Exam	
Paper-I	Programming with C	3.	3	15	60	27
Paper-I	Internet & Web Programming	3	3	15	60	27
	Total			30	120	54

Total of Theory = 150

Paper Name (Practical)	Practical HOURS	Exam hours	Max Marks	Mini Marks
Practical 'C' & Web Programming	3	3	50	18
Total			50	

Total of Theory & Practical Marks=200

B.A./B.Com./B.Sc. Part-III

Paper Code	Paper Name (Theory)	LEC	Exam Hours	MAX. MARKS		Min. Marks
				Sessional	Sem. Exam	
Paper-I	OOP with C++	3.	3	15	60	27
Paper-I	Web Development : PHP & MYSQL	3	3	15	60	27
	Total			30	120	54

Total of Theory = 150

Paper Name(Practical)	Practical Hours	Exam hours	Max Marks	Mini Marks
OOP with C++ & PHP	3	3	50	18
Total			50	

Total of Theory & Practical Marks=200

B.A./B.Com./B.Sc. Part I
PAPER-I PAPER NAME : COMPUTER FUNDAMENTALS & PC
SOFTWARE

Unit – I

Historical Evolution of Computers, Characteristics of computer, Classification of Computer, Modern Computer & its Application; Block diagram and Components of Computer System, Central Processing Unit, Memory Unit, Microprocessor; Interconnecting the Units of a Computer, Inside a Computer Cabinet; Functions and Characteristics of Various commonly used Input/Output Devices; Start-up Process (Booting), Specification of a Desktop and Laptop currently available in the market (Processor, motherboard, memory, interface & capacity of HDD & DVD drives, I/O ports etc).

Unit – II

Need & Types of Software: System & Application software; Programming Languages: Machine, Assembly, High Level, 4GLs, Assemblers, Compilers and Interpreter; Objectives of Operating System, Concept of CUI & GUI; Installation of Windows Operating System, Installation of Printer and Other Software Packages such as Ms Office etc; Backup and Restore Operations. Features of Windows; Various versions of Windows, Desktop, Explorer, Searching, Recycle Bin, Setting common devices using Control Panel, System Tools, Disk cleanup, defragmentation, scanning for virus, Windows Accessories.

Unit – III

Features of Word Processor: Create, edit, store, print documents, Navigation of documents, cut, copy & paste, Find & replace, Different Page Views and layouts, Alignment, formatting features, Tabs & Indents, Inserting tables, pictures, hyperlinks, Spell checking, Macros, Mail merge, Template, Wizards, Overview of Index and Tables.

Importing and exporting to and from various formats.

Unit – IV

Features of Spreadsheet: Creating, saving, editing, moving around a worksheet, workbook; Inserting, deleting navigation in worksheets, Working with Formula, Cell reference, Functions (Financial, Database, Maths, Trigonometric, Statistical etc); Creating, editing, selecting and naming range. Format Feature, Changing alignment, Character styles, Date Format, Border & Colors etc. Previewing & Printing a worksheet, Goal Seek, Pivot Table, Creating Charts & Graphs. Database in worksheet, Data organization- what-if analysis, Macro, Linking and embedding.

Unit – V

Power Point Presentation Package: Creating Presentation, Different presentation templates, Setting backgrounds, layouts, Customizing, Formatting a presentation, Adding Graphics and effects to the presentation, Printing Handouts, Generating standalone presentation viewer.

Suggested Readings

1. Computer Fundamental By P.K. Sinha (BPB Publications)
2. Upgrading and Repairing PCs By Scott and Mueller, Techmedia, New Delhi
3. Rapidex MS Office By Vikas Gupta (Pustak Mahal)
4. Absolute Beginners Guide to Computer Basics By Miller M, Pearson Education,
5. Fundamentals of Computers By Balagurusamy E, Tata McGraw-Hill By Wiley INDIA

PAPER-II PAPER NAME : DATABASE MANAGEMENT SYSTEM
SCHEME OF EXAMINATION

Unit I

Data, Data Processing, Merits and demerits of file organisation. Database Overview, Purpose of the Database system, File systems Vs. Database Systems, View of Data: Data Abstraction, Instances, Schema, Data Models: Overview of Network, Hierarchical, and Relational Model, Database Architecture and Administrators, Codd's Rules.

Unit II

ER Model: Basic Terminology, Entity, Entity sets, attributes and keys, Relation and Relationship sets, Entity-Relationship Diagram, Weak and Strong entity types, Features of E-R Model, Specialization, Generalization Aggregation, Creating table from ER diagram. Basic Concept of Normalization up to BCNF.

Unit III

Implement Database concepts using Access, Creating Tables, Data Types, Entering Data, Table Design, Indexing, Importing Data, Operators and expressions, expression builder, various functions of Access, Import and Export Table, Creating Queries, Setting Relationship between Tables, Creating Forms, Controls and components of form, Master table and transaction table. Join property, various join options available in access, Creating & Printing Reports.

Unit IV

Query Languages: DDL, DML, DCL, Introduction to SQL, Data Types, Basic SQL commands like Create, Alter, Drop, Truncate, Insert, Update, Delete etc, Basic SQL Queries, Union, Intersect and Except, Nested Queries.

Unit V

Transaction management and Concurrency control, Transaction management: ACID properties, serializability and concurrency control, Lock based concurrency control (2PL, Deadlocks), Time stamping methods, optimistic methods, database recovery management.

Suggested Readings

1. Database Management System By A. Silberschatz, Henry F.Korth, S. Sudershan (McGraw- Hill)
2. An Introduction to Database System By C.J. Date (Addision Wesley)
3. Fundamentals of DBMS By Gupta, Dhillon, Magho, Sharma (Lakhanpal Publishers)
4. Teach yourself Access. Sieglel, BPB.

BA/ BCom/ BSc Part II

PAPER-I PAPER NAME : PROGRAMMING WITH C

Unit-I

Basic concepts of programming: Characteristic & Implementation of Algorithm, Flow Chart Symbols, Benefit and Limitations; Decision Table, Pseudo Code. Programming Techniques: Top down, Bottom up, Modular, Structured, Features, Merits, Demerits and their Comparative study.

Unit-II

Structure of C Program; Character Set, Tokens, Variable, Constant; Data Types; Operator, Expressions, Type Conversions; Console Input-Output functions; Control Flow Statements and Blocks, Branching statements and Labels.

Unit-III

Loop Structure: While, Do while, For, Modular programming: Basic types of function, Declaration and definition, Function call, Parameter passing, Recursion, Scope of variables, Storage classes.

Unit-IV

Arrays: Declaration and use of Array, Array manipulation; Searching, Insertion, Deletion of an element, Strings as array of characters, Standard library string functions. Pointer: Declaring & Initializing pointers, Accessing a variable and address of a variable, Pointer expressions, Pointers and Function Arguments, Pointers and Arrays,

Unit-V

Structure, Union: Declaration and use. Programs to show the use of structure, union; Concept of Files, Basic Functions for File Handling, Basic Input/Output operations on files.

Suggested Readings

1. Programming In C By Gottfried (Tata McGraw Hill)
2. C Programming Language By Kernighan (Prentice Hall Of India)
3. C Programming By R.B. Patel, Khanna Publication.
4. Let Us C By Yashwant Kanetkar (BPB Publication)

PAPER-II PAPER NAME : INTERNET AND WEB PROGRAMMING

Unit I

Data communication, Transmission Media- Coaxial, UTP, Optical-Fiber, Wireless, Components of Computer Networks, Transmission Mode- Simplex, Half Duplex, Full Duplex, LAN, MAN, WAN, the OSI Model, TCP/IP and others main protocols used on the Web; Types of wireless communication (Mobile, WiFi, WiMAX, Bluetooth, Infrared – concept and definition only).

Software Piracy, Firewall, Threats, Hacking and Cracking (basic concepts only for these topics).

Unit II

Evolution of Internet, Introduction to the terms LAN, WAN, MAN, Basic internet terms (Client, Server, MODEM, Web page, Web site, Home page, Browser, URL, ISP, Web server, Download & Upload, Online & Offline etc), Internet applications (Remote login, VoIP, Video Conferencing, Audio-Video streaming, Chatting etc). Identify and solve basic problems related to connecting to networks and the Internet. E-Mail, Advantages, How it's Works? Anatomy of an e-mail Message, basic of sending and receiving, E-mail Protocol.

Unit III

Introduction to World Wide Web: History, Working of Web Browsers, Its functions, Search engine category, Concept of Hyper Text Transfer Protocol (HTTP), Web Servers, Internet Explorer, Web publishing Document Interchange Standard, Component of Web Publishing, Site and Domain Name, Overview of Intranet and its applications.

Unit IV

HTML, Designed Tools, HTML Editors, Issue in Web Site Creations and Maintenance, FTP S/W for Upload Website, Elements of HTML & Syntax, Building HTML Documents, Use of Font Size and Attributes, Backgrounds, Formatting tags, Images, Hyperlinks, div tag, List Type and its Tags, Table Layout, , Use of Frames and Forms in Web Pages. Working with Style sheet: Elements and different Type of style sheet; Introduction to Java Script: Identifier & operator, control structure, functions, Predefined functions, numbers & string functions, Array in Java scripts.

Unit V

Basic of Cyber Security and Cyber Crime: Computer Ethics and Application Programs, Cyber Law, Introduction to IT laws & Cyber Crimes – Internet, Hacking, Cracking, Viruses, Virus Attacks, Software Piracy, Intellectual property, Legal System of Information Technology, Social Engineering, Mail Bombs, Bug Exploits

Suggested Readings

1. Internet and Web Page Designing By V.K Jain (BPB)
2. Internet & Web Design By A. Mansoor, Pragya Publications.
3. Web Enabled Commercial Application Development Using HTML, DHTML , java script, Perl CGI By Ivan Bayross (BPB)
4. Cyber Security by Nina Godbole & Sunit Belapure.

BA/ B.Com. Part III

Paper-I Paper Name : OOP With C++

UNIT I

Object Oriented System: Difference Between Procedural and Object Oriented Languages, Object Oriented Paradigm, Inheritance, Polymorphism, Abstraction, Encapsulation, Benefits and Application of Oops. Introduction to C++, Character Set, Constants, Variables and Data Types, Enumeration Types, Operators, Arithmetic Expressions, Operator Precedence and Associativity, Integer Overflow and Underflow, Input, Output, Conditional Statements, Conditional Operator, Scope of Variables, Type Conversion.

UNIT II

Iteration: While, Do While, For. Break, Continue, Goto Functions - Standard and User-Defined Function, Recursive Function, Passing By Value And Reference, Pointers and Functions, Reference and Functions.

UNIT III

Array: One, Two and Multidimensional, Passing Array to a Function, Pointers and References. Array and Pointers - Dynamic Arrays, String Processing, Pointer to One and Two Dimensional Arrays, Array of Pointer. Pointer and Function, Function Returning Pointer, Structures and Pointers, Dynamic Structures.

UNIT IV

Class: Definitions, Declaring Members and Methods in Functions, Functions Returning Objects, Static Data Members and Methods, Inline Function, Offline(Outline) Function, Virtual Function, Abstract Class, Friend Function, Function Overloading and Overriding. Constructors- Needs and Its Usage, Types of Constructors, Destructor, Pointer to Objects, Pointers to Members, Dynamic Class Objects, Friend Functions and Its Usage, Inheritance - Needs of Inheritance, Usage, Types of Inheritance.

UNIT V

Operator Overloading: Needs and Rules of Operator Overloading, Overloading Through Member Function and Friend Function. Type Conversion- Basic to Class, Class to Basic, One Class to Another Class. Compile Time and Run Time Polymorphism. String Class, Stream Classes In C++, Manipulators, Templates, File Handling.

Suggested Readings

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata McGraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata McGraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata McGraw Hill)

PAPER-II PAPER NAME : WEB DEVELOPMENT & PHP MYSQL

Unit I

INTRODUCTION TO PHP. : History of PHP, Apache Web Server, MySQL and Open Source Relationship between Apache, MySQL and PHP (AMP Module) PHP configuration in IIS and Apache Web server

Unit II

BASICS OF PHP: PHP structure and syntax, Creating the PHP pages , Rules of PHP syntax, Integrating HTML with PHP , Constants, Variables : static and global variable , Conditional Structure & Looping , PHP Operators , Arrays, foreach loop , User defined function, function arguments, function variables, Return from Function, default argument, variable length argument

Unit III

INTRODUCTION TO MYSQL : MySQL structure and syntax , Types of MySQL tables and storages engines , MySQL commands , Integration of PHP with MySQL , Connection to the MySQL server , Working with PHP and arrays of data , Referencing two tables , Joining two tables

UNIT IV

WORKING WITH DATA and PHP FUNCTION: FORM element, INPUT elements, Processing the form User Input , INPUT checkbox type ,one form, multiple processing , Radio INPUT element Multiple submit buttons , Basic input testing , Dynamic page title , Manipulating the string as an array ,Adding items , Validating the user input. Basic PHP Function like Variable Function, String Function, Math Function , Date Function, Array Function , File Function

Unit V

WORKING WITH DATABASE AND PHP FUNCTION: Creating a table, Manipulating the table ,Filling the table with data , Adding links to the table , Adding data to the table , Displaying the new information , Displaying table data , Editing the database , Inserting a record , Deleting a record , Editing data,

Suggested Readings

1. Beginning PHP, Apache, MySQL Web Development Elizabeth Naramore, Jason Gerner , Yann Le Scouarnec, Jeremy Stolz, Michael K. Glass, Gary Mailer - By Wrox Publication
2. PHP, MySQL and Apache - Julie C. Melone By Pearson Education
3. Beginning PHP 5.3 by Matt Doyle - By Wrox Publication
4. PHP and MySQL Bible – Tim Converse and Joyce Park with Clark Morgam By Wiley INDIA.
