

Computer Application


Only For Regular Students

B.A. / B.Com./B.Sc. Part-I (Examination 2023) ✓

Paper Code	Paper Name (Theory)	Lec./Week	Tuto./Week	Exam Hours	Max Marks (BA/B.Com)	Max Marks (B.Sc)
Theory Papers						
Paper I	Computer Fundamentals & PC Software	3	1	3	65	50
Paper II	Programming with C	3	1	3	65	50
Total of Theory Papers					130	100
Practical Papers						
Practical		3	0	3	70	50
Total of Practical Papers					70	50
Grand Total					200	150

B.A. / B.Com. /B.Sc. Part-II (Examination 2024) ✓

Paper Code	Paper Name (Theory)	Lec./Week	Tuto./Week	Exam Hours	Max Marks (BA/B.Com)	Max Marks (B.Sc)
Theory Papers						
Paper I	Database Management System	3	1	3	65	50
Paper II	Internet & Web Programming	3	1	3	65	50



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Total of Theory Papers				130	100
Practical Papers					
Practical	3	0	3	70	50
Total of Practical Papers				70	50
Grand Total				200	150

B.A. / B.Com. /B.Sc. Part-III (Examination 2025) ✓

Paper Code	Paper Name (Theory)	Lec./Week	Tuto./Week	Exam Hours	Max Marks (BA/B.Com)	Max Marks (B.Sc)
Theory Papers						
Paper I	DTP	3	1	3	65	50
Paper II	PHP	3	1	3	65	50
Total of Theory Papers					130	100
Practical Papers						
Practical		3	0	3	70	50
Total of Practical Papers					70	50
Grand Total					200	150


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BA/BCom/BSc Part I (Examination 2023)

Paper-I

COMPUTER FUNDAMENTALS & PC SOFTWARE

Unit – I

Evolution and generations of Computers, Characteristics of computer, Classification of Computer, Modern Computer & its Application; Block diagram and Components of Computer System, Central Processing Unit, Memory Unit, memory hierarchy, Microprocessor; Interconnecting the Units of a Computer, Inside a Computer Cabinet; 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

Software and Hardware: Meaning and definition of software & hardware, relations between software & hardware, Need & Types of Software: System & Application software; Open source softwares concept and examples. hardware- all input devices, all output devices and all other physical parts of the computer. Programming Languages: Machine, Assembly, High Level, 4GLs, Translators:Assemblers, Compilers and Interpreter;

Operating system: Objectives of Operating System, Basic OS functions, resource abstraction, types of operating systems–multiprogramming systems, batch systems, time sharing systems; operating systems for personal computers & workstations, process control & real time systems, Concept of CUI & GUI;

Unit – III

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, Windows Accessories.

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.

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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, Pivot Table, Creating Charts & Graphs. Database in worksheet, Data organization- what-if analysis, Macro, Linking and embedding.

Unit – V

PowerPoint 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. Basics of MS Access, Creating Tables, Data Types, Entering Data, Table Design, Form creation, Report generation and Query execution.

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

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BA/BCom/BSc Part I (Examination 2023)

Paper-II

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)

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BA/BCom/BSc Part II (Examination 2024)

Paper-I

Database Management System

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.

Unit III

Basic Concept of functional dependencies, loss less decomposition and dependency preservation. Normalization and its types: 1NF, 2NF, 3NF and BCNF. Introduction to transactions, Transaction States.

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 Minus, Nested Queries and Joins in SQL.

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 (McGrawHill)
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
5. Introduction to Computer Data Processing and System Analysis By V K Kapoor (Sultan Chand and Sons)


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BA/BCom/BSc Part II (Examination 2024)

Paper-II

Internet and Web Programming

Unit I

Data communication, Components of Data Communication System, Transmission Media- Coaxial, UTP, Optical-Fiber, Wireless, Transmission Mode- Simplex, Half Duplex, Full Duplex, Introduction to networking, objectives of computer network, LAN, MAN, WAN, network topologies, 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).

Unit II

Evolution of Internet, 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 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 HyperText 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. Introduction to Advanced Technologies: Big Data, Cloud Computing, Internet of Things, Artificial Intelligence.

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


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Suggested Readings

1. Internet and Web Page Designing By V.K Jain (BPB)
2. Internet & Web Design By A. Mansoor, Pragma 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
5. Computer Forensics by Marie- Helen Maras

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BA/BCom/BSc Part III (Examination 2025)

Paper-I

DTP

Unit I

DTP: Importance of D.T.P in Publication, Introduction to PageMaker, Different page format/ Layouts, Tool Box, Styles, Menus, Import and Export Facility, Alignment, Formatting, Filling in Page Maker.

Unit II

Photoshop Environment: Photoshop Interface, Photoshop toolbox and option bar, Graphics basic: Bitmap v/s Vector Based, image resolution, graphic file format; color mode; Photoshop tool: Parts of toolbox, Magic wand, lassos, move tool, crop tool, pencil, eraser tools, brushes, gradient, Pen tool: Photoshop layers: Naming, creating, deleting, viewing, moving, locking, merging layers, blending options.

Unit III

Multimedia: Components of multimedia, Applications, Transition from conventional media to digital media. Usage of text in Multimedia, Digitization of sound, Sound synthesis, MIDI, Compression and transmission of audio on Internet, Image Compression and File Formats like GIF, JPEG, PNG, PDF; Basic Image Processing, Use of image editing software, Video Basics, How Video Works, Overview of Video Compression and File Formats, Video compression based on motion compensation.

Unit IV

Introduction of CorelDraw, The CorelDraw Menus, The Draw Toolbox: Using the Drawing Tools, Using the Zoom Tool, Using the Text Tool, Using Pick Tool, Using node editing (Shape) Tool, Using Fill tool, Arranging Objects:, Layering, Combining and Grouping Objects, Stacking Order, Aligning Objects, Type Casting: Typeface or Font, Types of Typeface, Using and manipulate type in CorelDraw, Using Fonts in your Drawing.

UNIT V

Colour & Fills: Colour Scheme, Colour Models, Using Colour in your document, Using Colour in presentations, Using Fills, Texture and patterns Special Effects, Using Envelops, Using extrude, Using blend, Using Lenses, Using perspective, Rotating and skewing objects with transform Roll-up, Stretching and mirroring, Printing Your Document, Save & Close & open file, Export file 207

Suggested Readings:

1. Learning Page Maker (BPB)
2. Multimedia making it work By Tay Vaughan, Tata McGraw-Hill.
3. Rajneesh Aggarwal & B. B Tiwari, " Multimedia Systems",

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Paper-II

PHP

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


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