

Syllabus

**Computer Science General
Session 2012-2014**

**Ramakrishna Mission Residential College
(Autonomous) Narendrapur, Kolkata-103**



Semester –I

Paper	Group	Section	Periods	Marks
I	Group – A (Theory)	I) General Concepts II) Office Packages	25 35	50
	Group – B (Practical)	Windows and Office Packages	40	

Group-A (Theory)

Section-I: General Concepts (25 period)

Introduction: History and Generation of computers, Application of computers.

Classification of computers : General and special purpose, Analog, Digital, Hybrid, Super computer, Mainframe, Mini and Micro Computer, PC, Workstation, Laptop, Notebook, PDA.

Components of Digital Computer: CPU (ALU, CU), memory & I/O devices, Block diagram.

Hardware software: Purpose of hardware and software, classification of software (System & Application), firmware,

Programming languages: low level, assembly, high level languages, 4GL.

System software: Operating systems, Compiler, Interpreter, Preprocessor, assembler, loader, linker.

Number system: Bits, bytes, base conversion, complement system, addition, subtraction, Fixed point, Floating point, ASCII, BCD, EBCDIC, Excess-3,2421, Gray code.

Section –II : Office Packages (35 period)

Word Processing: Document creation, saving, editing; Formatting text and paragraphs; ;header and footers; clipart, tables; tools, Inserting images, files; mail merge; margins; Hyphenation; page setups; OLE; index and references; comments; templates; macros.

Spreadsheet: Workbook, worksheets, cell; address; entering, editing, formatting , filtering, sorting worksheet data; printing; charts; functions and formulas; macros; importing , exporting files;

Presentation: Slides; formatting; wizard, layout; word art; animation.

Group-B (Practical)

(40 periods)

Operating system: Concepts of Windows

Application s/w: Word processing, Presentation & Spreadsheet,

Semester –II

Paper	Group	Section	Periods	Marks
II	Group – A (Theory)	I) C programming	60	50
	Group – B (Practical)	C programming	40	25

Group-A (Theory)

Section –I (Programming Through C Language) (60 Periods)

Introduction: Basic Structure; Character Set; Keywords, Identifiers, Constants, Variables; Data Types and Sizes, Type Casting, operators; if-else, loop.

Functions: Declaration, Definition; use; Recursion;

C Preprocessor: Macros; Difference with Function;

Arrays: One Dimensional and Two Dimensional Arrays; Memory Representation, Insertion and Deletion of Elements; Searching (Linear, Binary), Sorting (Bubble, Insertion, Selection); Matrix Implementation.

Strings: Basic concepts

File: Basic text files concepts

Group-B (Practical)

(40 periods)

C programming:

Basic structure, Operators, Branch and looping, preprocessor, arrays, user-defined function.

Semester –III

Paper	Group	Section	Periods	Marks
III	Group – A (Theory)	I)Data Structures II) Concepts of Database	35 25	50
	Group – B (Practical)	Data Structure using C SQL using MsAccess	40	25

Group-A (Theory)

Section –I: Data Structures (35 periods)

Introduction: Algorithms, ADT.

Arrays: One dimensional and Two Dimensional Arrays, Row Major and Column Major Forms.

Linked List: Single Linked List; Operations Like Insertion, Deletion. Searching,

Stacks and Queues: Concepts of Stack and Queue; Insertion and Deletion of Elements; Array and Linked Representation; Prefix, Infix and Postfix Notation; Postfix Expression Evaluation, Infix to Postfix;

Searching: Algorithm of Sequential, Binary Search Techniques.

Sorting: Bubble, Selection, Insertion, Quick, Merge.

Section –II: Concepts of Database (25 periods)

Access: Concepts of database; table creation and data manipulation; SQL; forms; report

Group-B(practical) 40 periods

Data Structure using C
MS-Access.

Semester –IV

Paper	Group	Section	Periods	Marks
IV	Group – A (Theory)	Introduction to Computer Network	25	50
		HTML and JavaScript	35	
	Group – B (Practical)	HTML and JavaScript	40	25

Group-A (Theory)

Introduction to Computer Network and Web Application

Introduction: LAN, WAN, MAN; Protocols; media; topology; OSI and TCP/IP Models concepts.

General concepts: Internet, TCP, IP address, http, ftp, email, www, browser, URL, DNS.

HTML and JavaScript

HTML: Basic structure, basic tags ; forms; tables; frames; list ; fonts; image; hyperlink tags.

JavaScript: Basic concepts; control statements; event handling.

Group-B (Practical)

(40 periods)

HTML
JavaScript