

SYLLABUS FOR PROGRAMME/ASSISTANT PROGRAMMER

<u>WRITTEN TEST</u> <u>OBJECTIVE TYPE</u>	PROGRAMMING SKILLS	20
	OPERATING SYSTEMS AND SOFTWARE ENGINEERING	20
	DATA STRUCTURES AND ALGORITHMS	20
	COMPUTER NETWORKS	20
	DATABASE MANAGEMENT SYSTEMS	20
	GENERAL AWARENESS	10
	GENERAL APTITUDE	10



DETAILED SYLLABUS

MAXIMUM MARKS 120

PROGRAMMING SKILLS (20 MARKS)

Arrays: Declaration; Initialization; 2-dimensional and 3-dimensional array, passing array to function, strings and string functions, and character arrays.

Pointers: Variables, swapping data, swapping address v/s data, misuse of address operators, pointers and arrays, pointers to pointers, strings, pointer arithmetic, additional operators, portability, pointers to functions, using pointers with arrays, void pointers.

Structures and unions: syntax and use, members, structures as function arguments, structure pointers, array of structures as arguments, passing array of structure members, call by reference.

Functions: prototypes, passing parameters, storage classes, identifier visibility, Recursive functions. File processing in C and C++.

Introduction to classes and objects, Constructor; destructor; Operator overloading; Function overloading; function overriding; friend function; copy constructor;

Inheritance,: Single, Multiple, and Multilevel Inheritance;

Virtual function and Polymorphism: Dynamic binding; Static binding; Virtual functions; Pure Virtual function; concrete implementation of virtual functions; Dynamic binding call mechanism; Implementation of polymorphism; virtual destructors.

OPERATING SYSTEMS AND SOFTWARE ENGINEERING (20 MARKS)

Overview of an operating system, Resource Management, Operating System Interface, Process Management Concepts, Inter-Process Communication, Process Scheduling, Synchronization, Deadlocks.

Memory Management, Linking, Loading, Memory Allocation, Design Issues and Problems, Virtual Memory Design Techniques, Buffering Techniques, Spooling.

File Management:- File Systems & I/O. Device Drivers, Access Strategies, File Systems, File System Organization, Design Techniques.

Multiprocessor Systems, Types of Multiprocessor Operating Systems, Design and Implementation Issues.

Unix/Linux Operating Systems, Users view, Design Principles, Implementation, Process Management, Memory Management, File System, File System, I/O System.

Concept of software engineering, Evolving role of software, Concept of software, Software Characteristics, Software Components, Software Engineering Challenges (Scale, Quality

