GUIDELINES AND SYLLABUS FOR RECRUITMENT PROCESS FOR THE POST OF SCIENTIFIC TECHNICAL ASSISTANT (COMPUTER SCIENCE)

Sl. No.	Posts	Selection Pattern	Nos. of MCQ for screening / written test	Total Marks	Duration
1.	STA (CS)	Written test only	100	100	120 Min.

*Only written test will be conducted for the post of STA (CS) and selection will be on merit of written test only.

Indicative syllabus and weightage of marks for written test

Sl. No.	Topic	Weightage %
1	**Operating System:** Processes, Threads, Inter-process communication, Concurrency, Synchronization, Deadlock, CPU scheduling, Memory management and virtual memory, File systems, I/O systems, Protection and security.	10
2	**Databases:** ER-model, Relational model (relational algebra, tuple calculus), Database design (integrity constraints, normal forms), Query languages (SQL), File structures), Transactions and concurrency control.	15
3	**Systems and Software Engineering**: information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project, design, coding, testing, implementation, maintenance. Computer	15
4	**Networks and Security:** ISO/OSI stack, LAN technologies (Ethernet, Token ring), Flow and error control techniques, Routing algorithms, Congestion control, TCP/UDP and sockets, IP(v4),OSI Model, Application layer protocols (ICMP, DNS, SMTP, POP, FTP, HTTP); Basic concepts of hubs, switches, gateways, and routers. Basic concepts of public key and private key cryptography, digital signature, firewalls	15
5	**Programming and Data Structures:** Programming in C; Functions, Recursion, Parameter passing, Scope, Binding; Abstract data types, Arrays, Stacks, Queues, Linked Lists, Trees, Binary search trees, Binary heaps. Programming Languages such as C/C++/PHP/Java/.NET	15
6	**Web technologies**: HTML, XML, JSON basic concepts of client-server computing, Scripting, AJAX,	10
7	General Aptitude / Awareness/ INFLIBNET Awareness	20