SYLLABUS FOR COMPUTER BASED RECRUITMENT TEST (CBRT)
FOR THE POST OF ASSISTANT PROFESSORS IN GOVERNMENT COLLEGE
(COMPUTER SCIENCE)
UNDER
DIRECTORATE OF HIGHER EDUCATION
(Advt No. 10 Year 2024)

I. General English including Grammar   **- 05 marks**

II. General Knowledge, Current Affairs and Events of National and **- 10 marks**
International Importance

III. Logical Reasoning and Analytical Ability   **- 10 marks**

IV. Core: **- 50 marks**

Computer Organization, Operating Systems and Systems Software
- Boolean Algebra and Logic Gates
- Basic Computer Organization and Design
- Main functions of operating systems
- Memory Management and Virtual Memory
- CPU, I/O, and Resource Scheduling
- Linux/UNIX Commands and System Calls

2. Computer Arithmetic
- Propositional and Predicate Logic
- Integer Representation: Octal, Hex, Decimal, and Binary
- 2's complement and 1's complement arithmetic

3. Discrete Structures
- Sets, Relations, and Functions
- Elementary Counting Techniques and Probability
- Graph Concepts and Tree Structures

4. Programming in C/C++ and Data Structures
- Basic elements of C: Tokens, identifiers, data types, control structures
- O-O Programming Concepts: Class, Object, Inheritance, Polymorphism
- Data Structures: Arrays, Stacks, Queues, Linked Lists, Trees, Graphs

5. Relational Database Management and SQL
- E-R Diagrams and Normalization up to 4NF
- SQL: DDL, DML, DCL
- Transactions, Concurrency Control, and Recovery

6. Software Engineering
- SDLC: Waterfall, Prototypes, Spiral Model
- Software Design: System Design, Detailed Design
- Coding, Testing, Software Quality, and Reliability

7. Computer Networks
- Network Fundamentals: LAN, MAN, WAN, Wireless Networks
- OSI and TCP/IP Models
- Network Security: Cryptography, DNS, Email Architecture

8. Current Trends and Technologies
- Parallel Computing
- Mobile Computing
- E-technologies
- Data Mining

Note:

Duration for C.B.R.T :   90 Minutes

Maximum Marks for C.B.R.T : 75 Marks