Tentative Syllabus for the Post of Junior Laboratory Assistant (Technical)
Digital & Computing Services- Software Development & Automation
Post Code- 017
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1. **Programming Fundamentals:**
   Variables, data types, operators, flow control statements and loops; functions/methods including parameters and return types; basics of recursion; error and exception handling.

2. **Data Structures:**
   Arrays, lists, and strings; stacks, queues, and linked lists; hash tables/maps/dictionaries; trees (binary trees and binary search trees); basic graph concepts.

3. **Algorithms:**
   Searching techniques (linear and binary search); sorting techniques (bubble, selection, insertion, merge, and quick sort); basic algorithmic complexity and Big O notation.

4. **Object-Oriented Programming:**
   Concepts of classes and objects; encapsulation, abstraction, inheritance, and polymorphism; constructors and destructors; interfaces and abstract classes.

5. **Databases:**
   Relational database concepts including tables, primary keys, and foreign keys; basic SQL commands (SELECT, INSERT, UPDATE, DELETE); simple joins, aggregation, and ordering.

6. **Web and Network Basics:**
   Fundamentals of HTTP/HTTPS; client–server architecture; basics of RESTful APIs; introductory concepts of HTML, PHP, CSS, and JavaScript.

7. **Linux Basics:**
   Linux directory structure; users and groups; file permissions (read, write, execute); commonly used Linux commands; package management tools (apt, yum, dnf, dpkg); basics of shell scripting.