SCHEME AND SYLLABUS FOR RECRUITMENT TO THE POST OF
DEGREE COLLEGE LECTURERS IN GOVERNMENT DEGREE COLLEGES

(P.G. Standard)

Papers	No.of Questions	Duration (Minutes)	Maximum Marks
PART-A: Written 'Examination (Objective Type)			
Paper-1: General Studies	150	150	150
Paper-2: Concerned Subject (One only)	150	150	300
PART-B: Interview (Oral Test)			50

1. The Candidates have to choose one subject from the following for Paper-2:

1. English	2. Commerce	3. Economics
4. History	5. Political Science	6. Mathematics
7. Physics	8. Botany	9. Zoology
10. Statistics		

N.B:
1.   The selections to these posts will be based on the total marks obtained by the candidates at the written examination and oral test taken together subject to the rule of reservation.
2.   The eligible candidates will be called for an interview at the ratio of 1:2 with referenced to the number of vacancies duly following the special representation as laid down in General Rule-22 and 22-A of A.P. State and Subordinate Service Rules.
3.   Appearance to Written Examination and Oral Test is compulsory for final selection.
4.   For Paper-2 i.e., concerned subject the candidates have to write the subject of study at Post Graduate level but not other subject

SYLLABUS

PAPER-1: GENERAL STUDIES AND MENTAL ABILITY

1. General Science – Contemporary developments in Science and Technology and their implications including matters of every day observation and experience, as may be expected of a well-educated person who has not made a special study of any scientific discipline.

2. Current events of national and international importance.

3. History of India – emphasis will be on broad general understanding of the subject in its social, economic, cultural and political aspects with a focus on AP Indian National Movement.

4. World Geography and Geography of India with a focus on AP.

5. Indian polity and Economy – including the country's political system- rural development – Planning and economic reforms in India.

6. Mental ability – reasoning and inferences.

COMPUTER SCIENCE

Computer Organization: Memory Organizations, CPU Organisation, Assembly Language, Microprogramming, Input-Output Organization, Intel 8086 Computer.

Programming: Programming in C, Object oriented programming concepts including classes, Polymorphism, Inheritance, and Programming in C++ and Java.

Data Structures: Arrays, Records, Linked Lists, Trees, Binary Tree Traversal, Binary Search Trees, and Graphs.

Design and Analysis of Algorithms: Algorithm complexity, Algorithms Design Techniques – Divide and Conquer, Greedy Method, Dynamic Programming, Backtracking, Branch and Bound, NP-Hard and NP-Complete Problems.

Principles of Programming Languages: BNF, Variables, Data Types, Control Structures, Scope and Extent, Data Abstraction, Concurrency concepts, Exception Handling, Functional Programming, and Logic Programming.

Compiler Design: Types of grammar, Phases of compiler, Lexical Analysis, Parsing Techniques, Code generation and Optimization.

Operating Systems: Introduction, Process and CPU Scheduling, Process Synchronization, Deadlocks, Disk and Memory Management, Virtual Memory, File System Interface and Implementation, Protection and Security.

Database Management Systems: Introduction, Relational Model and Languages, Data Modeling, Database Design Theory and Methodology, SQL, Transaction Processing & Concurrency control and Database Recovery & Security.

Computer Graphics: Line Drawing, Graphic Primitives and Polygons, 2D Transformations, Windows and Clipping, 3-D Graphics, Curves and Surfaces.

Computer Networks: Introduction, Seven Layers in OSI Model, Internetworking, and TCP/IP Model.

Distributed Operating Systems: Goals, Client-Server Model, Synchronization in distributed systems, Distributed Process Management and File Systems, Distributed Shared Memory.

Software Engineering: Software Characteristics, Software Process Models, Analysis, Design, Coding, Testing, and Software Quality Assurance.

Object oriented Analysis and Design: Introduction to UML, Basic Structural Modeling, Classes and Object Diagrams, Behaviour Modeling and Architecture Modeling.

Network Security: Data Encryption and Decryption, Symmetric Key algorithms like DES, IDEA and AES, Public Key Cryptography, RSA algorithm, Digital Signatures & Authentication, Firewalls and VPN.

COMPUTER APPLICATIONS

Mathematical Foundations: Mathematical Logic, Set Theory, Elementary Combinatorics, Probability, Random Variables, Binomial and Poisson Distributions, Curve Fitting, Number Systems and Computer Arithmetic.

Computer Organization: Memory Organizations, CPU Organization, Assembly Language, Microprogramming, Input-Output Organization, Intel 8086 Computer.

Programming: Programming in C, Object oriented programming concepts including classes, Polymorphism, Inheritance, and Programming in C++ and Java.

Data Structures: Arrays, Records, Searching and Sorting Techniques, Linked Lists, Trees, Binary Tree Traversal, Binary Search Trees, and Graphs.

Operating Systems: Introduction, Process and CPU Scheduling, Process Synchronization, Deadlocks, Disk and Memory Management, Virtual Memory, File System Interface and Implementation, Protection and Security.

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