

पद का नाम: प्रोग्राम सहायक (कंप्यूटर) [Programme Assistant (Computer)]

परीक्षा योजना:

इस पद की भर्ती हेतु एक लिखित परीक्षा आयोजित की जावेगी। लिखित परीक्षा में 100 वस्तुनिष्ठ प्रश्न (50 प्रश्न भाग-1 एवं 50 प्रश्न भाग-2) पूछे जायेंगे। प्रत्येक सही उत्तर के लिए 3 अंक प्रदान किए जायेंगे व प्रत्येक गलत उत्तर का 1 अंक काटा जायेगा। लिखित परीक्षा व साक्षात्कार दोनों में न्यूनतम उत्तीर्णांक 40 प्रतिशत निर्धारित है। इससे कम अंक प्राप्त करने वाले अभ्यर्थी नियुक्ति के लिए पात्र नहीं होंगे। मेरिट (वरीयता) सूची लिखित परीक्षा, अकादमिक तथा साक्षात्कार के अंकों से बनाई जायेगी।

क.स	प्रश्न पत्र का भाग	विषय का नाम	प्रश्नों की संख्या	अंक	कुल अंक	अवधि
1.	Part-I	Reasoning Test, Numerical Analysis, General Knowledge, Data Base Management System, Data Communication and Computer Networks	50	150	300	2 घंटे
	Part-II	System Analysis and Design and Programming Concepts	50	150		

भारांक गणना

श्री कर्ण नरेन्द्र कृषि विश्वविद्यालय, जोबनेर द्वारा अशैक्षणिक पदों हेतु भर्ती के 100 अंकों का विभाजन निम्नानुसार रहेगा:-

संवीक्षा परीक्षा में भारांक [संवीक्षा परीक्षा में प्राप्तांक / 6 (Total Marks Secured in Screening Test / 6)]	अकादमिक भारांक*	साक्षात्कार भारांक	कुल अंक
50 अंक	20 अंक	30 अंक	100 अंक

*अकादमिक भारांक के 20 अंकों का वर्गीकरण निम्नानुसार होगा:-

Criteria Percentage/ OGPA*	Academic qualification & Marks allocated 20%			Grand Total (Marks Max.20)
	Secondary 5 Marks	Sr.Secondary 5 Marks	Graduation 10 Marks	
Distinction>75	5	5	10	20
First Div.	4	4	8	16
Second Div.	3	3	6	12
Pass	2	2	4	08

*OGPA को प्रतिशत में नियमानुसार बदला जावेगा।

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प्रोग्राम सहायक (कंप्यूटर) की लिखित परीक्षा के लिए पाठ्यक्रम

PART-I

Reasoning Test, Numerical Analysis & General Knowledge

Problem Solving, Data Interpretation, Data Sufficiency, Logical Reasoning and Analytical Reasoning. General Knowledge and Current Affairs relating to India and Rajasthan.

Data Base Management System

ER Diagram, Data Models- Relational and Object-Oriented Databases.

Data Base Design: Conceptual Database Design, Normalization Primitive and Composite Data types, Concept of Physical and Logical Databases, Data Abstraction and Data Independence, Data Aggregation and Relational Algebra.

Application Development using SQL: Host Language Interface, embedded SQL Programming, Stored Procedures and Triggers and Views, Constraints Assertions.

Internal of RDBMS: Physical Data Organization in sequential, indexed random and hashed files. Inverted and Multilist Structures, B trees, B+ trees, Query optimization, Join algorithm.

Transaction Processing, Concurrency Control and Recovery Management. Transaction Model properties and State Serializability. Lock base Protocols, Two phase locking.

Data Communication and Computer Networks

Computer Network Architecture, Circuit Switching. Packet and Message Switching, Network Structure. Physical Layer, Data Link Layer, Framing, Retransmission Algorithms.

Multiple Access and ALOHA. CSMA/CD and Ethernet. High Speed LANs and Topologies. Broadcast Routing and Spanning trees.

TCP/IP Stack. IP Networks and Internet. DNS and Firewalls. Intrusion Detection and Prevention.

Transport Layer and TCP/IP, Network Management and Interoperability.

PART-II

System Analysis and Design

System Concept: Definition and Characteristics, Elements and Boundaries, types of System Development Life Cycle, recognition of needs, Feasibility Study, Prototyping, role of System Analyst.

System Planning and Tools like DFD, Data Dictionary, Decision Trees, Structured Analysis and Decision Tables. IPO charts, Structured Walkthrough, input-output Form Design, requirement and classification of Forms, layout considerations Form Control, Object-Oriented Design Concepts and methods.

Software Life Cycle, Software Engineering paradigms.

System analysis: Feasibility Study Requirement Analysis, Cost Benefit Analysis, Planning Systems, Analysis Tools and Techniques.

System Design: Design Fundamentals, Modular Design, Data and Procedural Design, Object Oriented Design.

System development: Code Documentation, Programme Design Paradigms, Efficiency Consideration. Verification, Validation and Testing: Testing Methods, formal Programme Verification, Testing Strategies. Software Maintenance: Maintenance Characteristics, Maintainability, Maintenance Tasks and Side Effects.

Programming Concepts

Introduction: Internet, Java as a tool for Internet Applications, Byte Code and its advantages. Object Oriented Programming and Design: Review of Abstraction, Objects and other basics, Encapsulation, Information Hiding, Method, Signature, Classes and Instances, Polymorphism, Inheritance, Exceptions and Exception Handling with reference to Object Modeling, Coupling and Cohesion in Object-Oriented Software.

Object Oriented Design- Process, Exploration and Analysis.

Java programming Basics: Variables and Assignments, Input and output, Data types and Expressions, Flow of control, Local Variables, Overloading parameter passing, this pointer, Java Object Oriented Concepts: Use of file for I/O, Formatting output with stream functions, Character I/O, Inheritance, Public and Private members, Constructors for initializations, Derived Classes, flow of Control Arrays- Programming with arrays, arrays of classes, arrays as function arguments, Strings, Multidimensional arrays, arrays of strings, vectors base classes.

Introduction to JSP, RMI, Java Applets and Servlets.

Introduction to Dot Net Framework and Visual Programming Interface.

