

तह ६, वरिष्ठ कम्प्यूटर अपरेटर

प्रशासन सेवा, (सुचना प्रविधि) (प्रशासन सेवा र सुचना प्रविधि समुह) पदको खूला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

पत्र	विषय	पूर्णाङ्क	परिक्षाको किसिम	प्रश्न संख्या	समय
प्रथम	सुचना तथा प्रविधि	१००	वस्तुगत	५० वटा	१ घण्टा

Basic Knowledge on :

Low Level/High Level Programming Language, Data Structure, Operating System, Applied electronics, Digital Logic Design, RDBMS, Data encoding scheme: ASCII, EBCDIC and Unicode, Communication & Networking, Internet, Web Technologies, Basic Principle of Information Security .

System Analysis , Design and MIS

Information systems and modern systems analysis techniques, Organization structures analysis, Systems overview and life cycle. MIS.

Computer Programming:

Types of programming languages and their binding policies, Structured programming, Programming Languages C, Software Requirement Specification, Implementation issues, Software testing, verification and validation techniques, Software reliability, quality and maintenance, Object oriented programming, Inheritance, encapsulation and Phrasing, Code generation and optimization, Visual Modeling with UML.

Computer to computer communication:

Telephone Modems and remote network access: Different kinds of modems, speed, standards, Error Detection and correction techniques, Data compression techniques, communication software, Local area network. Topology., Token-ring, Starnet and ARCnet, Transmission media of LAN, Network operating system, Wide area networks: Bridge, routers, gateways TCP/IP, ISO's OSI models, Concept of packet switching and Circuit Switching, Email System, Basic Concept of Internet. Data Encryption, Digital Signature, Virtual Private Network.

Computer Organization:

General principles of computer organization and design aspect. Von Neumann machine architecture, CPU and ALU design, instruction set formal, Addressing mode, memory systems: Main, virtual cache, Reduced instruction set computers : RISC chips and implementation, 8086 family assembly language programming, Interrupts.

Digital electronics:

Bipolar transistor switching characteristics, MOS transistor switching characteristics, TTL logic circuits, NMOS family of logic circuits, Memory: RAM, DRAM, PROM. EPROM.

Parallel processing:

Multiplicity of functional units, Parallelism and pipelining with CPU, Overlapped with CPU and I/O operation, Multiprogramming and time-sharing, Pipeline computers, Array computers.

Operating System:

Process management and scheduling, Process co-operating, DOS, Windows UNIX operating system, File systems filters pipelines, Reduction C-shell, UNIX system software tools.

Data structure and algorithms :

Linear Data Structure : lists, queues, Search Structure and Algorithm: Binary Search, Hash Tree, Search Trees, Graphs, Priority Queues, Performance of Searching and sorting algorithms, String and list processing, Prefix, Postfix, infix, Recursive expressions.