

No. A-12038/68/2025-ICT (E.16996)
GOVERNMENT OF MIZORAM
INFORMATION & COMMUNICATION TECHNOLOGY DEPARTMENT
MIZORAM : AIZAWL

NOTIFICATION

Aizawl, the 30th July, 2026

In pursuance of decision of the Examination Committee of MPSC meeting held on 23rd April, 2026 conveyed vide Memo No.A.12033/3/2025-MPSC(PRE) dt. 24.04.2026, the Competent Authority is pleased to prescribe the syllabus at Annexure for direct recruitment to the post of Informatics Officer (Level-10) under Information & Communication technology Department.

This syllabus is vetted by DP&AR (GSW) vide I.D. No. A-12045/14/2026-GSW-DPAR Dt. 22nd July, 2026.

Sd/- Dr. YLN REDDY, IAS
Secretary to the Govt. of Mizoram
Information & Communication Technology Department

Memo No. A-12038/68/2025-ICT(E.16996) : Aizawl, the 30th July, 2026

Copy to:

1. *P.S to Minister, Information & Communication Technology Department, Mizoram*
2. *Sr. P.P.S to Chief Secretary, Govt. of Mizoram*
3. *P.S to Secretary, Information & Communication Technology Department*
4. *Secretary, Mizoram Public Service Commission*
5. *Chief Informatics Officer, Directorate of Information & Communication Technology*
6. *Controller, Printing & Stationery, with 2 (two) spare copies for publication in the Mizoram Gazette.*
7. *Under Secretary, DP&AR (GSW).*
8. *Guard file.*

Digitally signed by
H. ZORINTLUANGA
Date: 30-07-2026
17:04:34

(H. ZORINTLUANGA)
Under Secretary to the Govt. of Mizoram
Information & Communication Technology Department

**APPROVED SYLLABUS FOR DIRECT RECRUITMENT TO THE POST OF
INFORMATICS OFFICER UNDER INFORMATION & COMMUNICATION
TECHNOLOGY DEPARTMENT**

1. The Examination shall consist of Written Examination and Personal Interview.
2. The Written Examination shall comprise of the following papers:

i) General English	: 100 Marks
ii) General Studies	: 100 Marks
iii) Technical Subject Paper – I	: 200 Marks
iv) Technical Subject Paper – II	: 200 Marks
v) Technical Subject Paper – III	: 200 Marks
Total	: 800 Marks
Personal Interview	- 100 Marks
Grand Total	- 900 Marks
3. Written examination for each paper will be of 3 hours duration with compensatory time of 20 minutes per hour for persons with benchmarked disabilities or as prescribed by the Government from time to time.
4. Question papers for the written examination will be set in English.
5. Technical Papers shall have both MCQ and Conventional Essay Type Questions. MCQ shall carry 100 Marks (50 questions carrying 2 marks each) and Conventional Essay Type shall carry 100 Marks.
6. Personal interview shall be conducted by the Commission and the same will carry 100 marks
7. Standard of questions will be as per the minimum educational qualification as prescribed by the recruitment rules from time to time.

Note regarding Negative Marking:

- 1) There will be penalty (negative marking) for every wrong answer given by a candidate in the Multiple Choice Questions (MCQ).
- 2) For each question for which a wrong answer has been given by the candidate, one third of the marks assigned to that question will be deducted as penalty.
- 3) If a candidate gives more than one answer to one question, it will be treated as wrong answer even if any one of the given answers happens to be correct and there will be same penalty as above for that question.
- 4) If any question is left blank, i.e. no answer is given by the candidate, there will be no penalty for that question.



DETAILS OF SYLLABUS

- 1) **General English** : 100 Marks
 - a) Précis Writing : 14 Marks
 - b) Letter Writing : 10 Marks
 - c) Comprehension of given passages (MCQ) : 10 Marks
 - d) Grammar: Parts of Speech (MCQ) : 30 Marks
 - e) Correct usage and Vocabularies (MCQ) : 16 Marks
 - f) Formation of Sentence (MCQ) : 20 Marks
 - (i) Verbs
Tenses: Present/past forms, Simple/continuous forms, Perfect forms, Future time reference
 - (ii) Sentence Structure
Connectors
Types of sentences: Affirmative/interrogative sentences, Negation, Exclamations
Types of Phrases and Clauses: finite and non-finite subordinate clauses, noun clauses and phrases, adjective clauses and phrases, adverb clauses and phrases
Narration (Direct and Indirect speech)
- 2) **General Studies (MCQ with negative marking)** : 100 Marks
 - a) Current events of state, national and international importance : 12 Marks
 - b) History of India and Indian National Movement : 12 Marks
 - c) Indian and World Geography - Physical, Social, Economic Geography of India and the World : 12 Marks
 - d) Indian Polity and Governance - Constitution, Political System, Public Policy, Duties & Rights Issues : 12 Marks
 - e) Economic and Social Development Sustainable Development, Poverty, Inclusion, Demographics, Social Sector initiatives, and other related issues : 12 Marks
 - f) General issues on Environmental Ecology, Bio-diversity and Climate : 12 Marks
 - g) General Science : 12 Marks

The topics listed above shall cover the State of Mizoram wherever applicable.

 - h) General awareness on Mizo culture, its heritage and society : 16 Marks



1) TECHNICAL SUBJECT PAPER-I - 200 Marks

1. Discrete Mathematics:

40 Marks

Set Theory foundation mapping (bijective, surjective, injective); Relations – equivalence; Poset; Lattice; Mathematical Induction; Propositional Logic; Logical Equivalence; Permutation and Combination; generation functions; Recurrence relation; Concept of Graph Theory (Sub-Graphs; Cyclic Graphs); Trees (Spanning Trees); Algorithms (Kruskal's, Prim's, Dijkstra's, Floyd's, Warshall's, DFS, BFS); Isomorphism; Homomorphism of Graphs; Finite Automata (Construction & Conversion of NFA, DFA, State minimization, Mealy machine, Moore machine); Definition of Grammars (Type 0,1,2,3); Fuzzy sets – Basic properties.

2. Computer Architecture and Organization:

40 Marks

Digital Computer - Introduction, General Organization, Functional Units, Basic Computer Organization and Design; Computer Registers, Register Transfer, Micro Operation, Bus System, Timing And control Signals, Generation of Control Signals, Instruction Cycle; Determination and Execution of different types of Instructions; Machine Language; Assembly Language; Assembler; Program Loops and Subroutines; Control Unit (Hardware and Microprogrammed Control); Elements of the Design of control unit from Control Flow Diagram; Signed Magnitude Representation; Floating Point Representation of numbers; BCD Representation; Addition; Subtraction; Multiplication and Division of numbers in different types of representation; General register Organization, Stack Organization; Instruction Formats; Addressing Modes; RISC; Input/Output; Peripheral Devices; Necessity of Interfacing; Asynchronous function of I/O and I/O bus; Modes of I/O transfer; Memory Hierarchy, Main Memory, Virtual Memory System; Pipeline and Vector Processing; Parallel processing; Arithmetic and instruction Pipelining; Vector Processing-array processor.

3. Data Structures and Algorithm

60 Marks

Array and Strings; Packing; Space array; Algorithm development; complexity; simple example of Algorithm development; recursion; Sequential Search; Divide and conquer binary search; selection and insertion sort; merge sort; quick sort; complexity of sorting; Linear list; Stack; Stack use – postfix notation, recursion removal; operation on stack; Arithmetic Expression Evaluation; Recursion; Queue; Implementation of Queue in Computer memory; Queue as an Abstract data type; operation on queue; Application of Queue; dequeue; Priority Queue; Graphs and Representation Sets – UNION and FIND operations; Graph Algorithms; Optimization and Greedy Method; minimum spanning tree; Shortest path; Trees; AVL Trees; threaded trees; heap sort; trees and B-trees; external search.

4. Operating System

60 Marks

Introduction of OS objective and function; The Evaluation of OS; Batch; interactive; time-sharing and real time system; Protection; OS Structure; System components; OS service; System Structure; Concurrent Processes; Process Concept; Principles of concurrency; The Producer/consumer problem; The critical section problem; Semaphore; Classical problems on concurrency; Inter Process Communication; Process Generation; Process Scheduling; CPU Scheduling; Scheduling Concepts;



Performance Criteria; Scheduling Algorithms; Algorithm evaluation; multiprocessor scheduling; Deadlocks; System model; Deadlock characterization; Prevention; avoidance and detection; Recovery from deadlock combined approach; Memory management; Base Machine; Resident Monitor; Multiprogramming with fixed partitions; Multiprogramming with variable partitions; Multiple Based Registers; Paging; segmentation; Virtual Memory concept; Demand paging; Performance; Page replacement algorithm; Allocation of frames; Thrashing; cache memory organization; impact performance; I/O Management and Disk Scheduling: I/O devices and the organisation of the I/O function; I/O buffering; Disk I/O; Operating System Design issues; File system; File concept- File Organisation and access mechanism; File directories



2) TECHNICAL SUBJECT PAPER-II - 200 Marks**1. Object Oriented Programming****40 Marks**

Introduction of OOP; application of OOP; process of OOP; Classes and Objects; Overview of Classes and Objects; Class definition; class specifiers; defining member functions; Memory allocation for objects; array of objects; constructor; destructor; Polymorphism; Function of Overloading; uses in program; operator overloading; defining operator overloading; limitations of operator overloading; overloading unary and binary operators; Inheritance and its types with examples; virtual functions; pointers to object; pure Virtual Functions and its implementation in program; managing I/O operations; I/O streams; File handling with OOP; Error handling in file operations; random file access; exception handling methods; throwing mechanism; catching mechanism; string characteristics and uses;

2. Web Technologies**60 Marks**

Modern Web Development and Full Stack Engineering: Evolution of the Internet and Web Architecture; Client-Server Communication; HTTP/HTTPS; DNS and Web Hosting; HTML Semantic Elements, Forms, Multimedia, Canvas, SVG and Web Accessibility Standards; CSS, Flexbox, Grid, Responsive Web Design; Git Version Control; JavaScript, DOM Manipulation, Event Handling, Asynchronous Programming, JSON and Fetch API; Frontend Development using JavaScript Framework including Components, Routing, State Management, Forms and API Integration; Backend Development using PHP - Python; RESTful APIs, CRUD Operations, Middleware, Authentication and Authorization, Session and Cookie Management; ORM Concepts, WebSockets; Serverless Computing, Docker, Kubernetes and CI/CD Pipelines; Linux Administration, Web Servers - Nginx, Deployment and Monitoring; Web Security Fundamentals including OWASP Top 10, HTTPS, SSL/TLS, CSRF, XSS and SQL Injection Prevention; MVC Architecture; Microservices Architecture, SOLID Principles, Dependency Management, Event-Driven Systems, Caching and Queue Management; AI-assisted Web Development, Generative AI APIs, Model Context Protocol (MCP), Web Analytics, Scalable Deployment, Ethics, Privacy and Legal Aspects of Modern Web Applications.



3. Database Management Systems**60 Marks**

Introduction to Database System concepts and Architecture; data models; schemes and instances; data independence; Database language and interface; Data Modelling using the Entity-Relationship model; ER Model concepts; SQL; Basic Query Statement; Database Design; Functional dependencies; Normal forms; First, second, third, fourth and BCNF; Inclusion dependencies; Query Processing and Optimisation; Algorithm for executing query Operations; Heuristics for query optimization; Transaction processing Concepts; transaction and system concepts; Schedules and Recoverability; serializability of schedules; Concurring Control Techniques; Locking techniques for concurrency control; Time Stamping and concurrency control;

4. Cloud Computing**40 Marks**

Cloud Architecture and Distributed Systems: Evolution of Distributed, Edge and Cloud Computing; NIST Cloud Architecture; Cloud Deployment and Service Models (IaaS, PaaS, SaaS, Serverless); Cloud-native Architecture, Microservices, Service Mesh, Elasticity, High Availability, Load Balancing, and Sustainable Cloud Computing. Virtualization and Cloud Infrastructure: Virtual Machines, Hypervisors, Full and Para Virtualization; CPU, Storage, and Network Virtualization; Containers, Docker Architecture, Kubernetes Orchestration, Resource Management, Infrastructure as Code using Terraform and Ansible, CI/CD Pipelines, and DevOps Practices. Cloud Storage, Compute, Networking, Managed Databases, Serverless Computing, Monitoring and Observability, OpenStack, Hybrid and Multi-cloud Management, and AI/ML Infrastructure. Cloud Security and Governance: Shared Responsibility Model, IAM, MFA, Zero Trust Security, Encryption, Backup and Disaster Recovery, Container and Kubernetes Security, DevSecOps, API Security, Virtualization Attacks, FinOps, and Service Level Agreements (SLAs)



3) TECHNICAL SUBJECT PAPER-III - 200 Marks**1. Computer Networks****60 Marks**

Introduction to Computer Networks and Layered Architectures; OSI and TCP/IP Models; Protocol Hierarchies and Network Design Principles; Data Communication Concepts; Serial and Parallel Communication; Simplex, Half-Duplex and Full-Duplex Communication; Switching Techniques and Multiplexing Methods including TDM, FDM, WDM and Statistical Multiplexing; Error Detection and Correction Techniques including CRC, Checksum, Hamming Code, Forward Error Correction and ARQ; Network Performance Metrics, QoS and Traffic Management. Internet Protocol Suite; IPv4 and IPv6 Addressing, Subnetting and CIDR; TCP, UDP, ICMP, DHCP, DNS, HTTP/HTTPS, SMTP, FTP/SFTP, SSH, SNMP, RTP and VoIP; Routing and Switching Fundamentals; Static and Dynamic Routing Protocols including OSPF, BGP and MPLS; SD-WAN Concepts; Wireless Networking including Wi-Fi 6/6E, 5G and Introduction to 6G; Cloud, Edge and IoT Networking Fundamentals; Zero Trust Networking and Secure Access Service Edge (SASE) Concepts. Guided and Unguided Transmission Media including Fiber Optics, Twisted Pair, Coaxial and Wireless Media; Ethernet and Modern LAN Technologies; Physical and Logical Topologies; Network Devices including Switches, Routers, Gateways, Firewalls, Access Points and Modems; Data Center Networking and Virtual LANs (VLANs). Network Operating Systems, Virtualization, Container and Kubernetes Networking; Network Security, Access Control, Monitoring, QoS, Fault Management and Disaster Recovery; Software Defined Networking (SDN), Network Function Virtualization (NFV), AI-driven Network Management, Network Automation using Python and Ansible, DevOps for Networking, and Practical Networking using Wireshark, Packet Tracer and GNS3.

2. Software Engineering**60 Marks**

Introduction to Software Engineering; Software development life-cycle; Requirements analysis; Software design; coding; testing; maintenance; Software Requirements Specification; Waterfall Model; prototyping; interactive enhancement; spiral model, Agile Development, Role of management in software development; Role of Metrics and measurement; Problem analysis requirement specification, validation, metrics, monitoring and control; System design – Problem partitioning, abstraction, top-down and bottom-up design, Structured approach, Functional versus Object Oriented approach; design specification and verification metrics; monitoring and control; Coding - Top-down and bottom-up, structure programming, information hiding, programming style and internal documentation, verification, metrics, monitoring and control; Testing – Levels of testing, functional testing, structural testing, test plane, test cases specification reliability assessment; Software Project Management – Cost estimation, Project scheduling, Staffing, Software configuration management, Quality assurance, Project Monitoring, Risk Management.

3. Artificial Intelligence & Machine Learning**40 Marks**

Intelligent Agents, Environments, and Problem Solving through Uninformed, Informed, and Adversarial Search; Constraint Satisfaction Problems (CSP) and Game



Theory including Alpha-Beta Pruning; Knowledge Representation and Reasoning using First-Order Logic, Syntax, Semantics, and Inference (Forward/Backward Chaining, Unification, and Resolution); Planning and Reasoning under Uncertainty, Probabilistic Reasoning, and Bayesian Belief Networks; Machine Learning Foundations including Linear and Logistic Regression, Gradient Descent, and Concept Learning; Supervised Learning via Decision Trees (ID3), Inductive Bias, and Support Vector Machines (SVM); Unsupervised Learning involving Clustering, Mixture of Gaussians, and Principal Component Analysis (PCA); Neural Networks, Ensemble Methods, and the EM Algorithm; Reinforcement Learning tasks including Markov Decision Processes, Q-Learning, and SARSA; Deep Learning and Transformer Architectures, including Self-Attention Mechanisms, Multi-Head Attention, and Encoder-Decoder Frameworks; Large Language Models (LLMs) involving Tokenization, Pre-training, Fine-tuning, and Prompt Engineering; Natural Language Processing through Formal Grammars, Syntactic/Semantic Analysis, and Machine Translation; and Advanced Computational Paradigms including Expert Systems, Fuzzy Logic, Genetic Algorithms, and Swarm Intelligence.



4. Cyber Security

40 Marks

CIA Triad, Zero Trust principles, cyber threats, vulnerabilities, cybercrime, cybercriminal ecosystems, ransomware, AI-driven attacks, cyber ethics, Indian IT Act, data protection laws, modern malicious attacks including malware, ransomware, phishing, social engineering, wireless and IoT attacks, web application and API attacks, attack vectors, security breaches, and countermeasures such as MFA, encryption, endpoint protection, and backup strategies; ethical hacking and penetration testing methodologies including OSINT, WHOIS, DNS enumeration, Netcraft, email harvesting, Google Dorking, Shodan, network and vulnerability scanning, Nmap techniques such as SYN, FIN, NULL, XMAS, and Idle scans, banner grabbing, OS fingerprinting, and tools like Wireshark, Nessus, Burp Suite, Metasploit, and OWASP Top 10; intrusion detection and prevention systems including HIDS, NIDS, hybrid IDS, Snort, SIEM, SOC operations, threat intelligence, honeypots, MITRE ATT&CK framework, incident response, and log analysis; and enterprise security concepts including firewalls, VPNs, network segmentation, cloud security, IAM, Zero Trust Architecture, EDR/XDR, DevSecOps, Docker and Kubernetes security, AI-assisted defense systems, prompt injection attacks.

