

No. A.12026/12/2024–MPSC(DR)
MIZORAM PUBLIC SERVICE COMMISSION
Mizoram New Capital Complex
Aizawl

Advertisement (Gazetted Post) No.12 of 2024 – 25

Dated Aizawl, the 14th February, 2025

The under mentioned vacant post can be applied online on the Mizoram Public Service Commission's online portal <https://mpsonline.mizoram.gov.in> till **17/03/2025**.

1. **Name of Post** : *Technical Officer - SCERT*
2. **Name of Department** : *School Education*
3. **Classification** : *Group 'A' (Gazetted)*
4. **No. of Posts** : **1 (one)**
5. **Pay** : *Level 10 in the Pay Matrix*
6. **Eligibility Conditions** :
 - (i) B.E/B.Tech in Electronics & Telecommunication/Electronics & Communication Engineering from recognized University.
Desirable: At least 2 (two) years experience in SATCOM and VSAT management.

iii) **Age Limit:**

A candidate must not be less than 18 years and not more than 35 years of age on the last date of application. Upper age limit relaxation will be as per Notification No.A-12011/1/2019-P&AR(GSW) dt.3.6.2019 (published in the Mizoram Gazette Extraordinary, Issue No. 375 dt.10.6.2019) as amended from time to time. For age proof, HSLC/HSSLC Certificates which clearly shows the candidate's date of birth shall be accepted. In the absence of date of birth in such certificates, the relevant documents issued by the competent authority may be accepted.

(ii) **Mizo Language Proficiency:**

A candidate must achieve a minimum score in the qualifying test of Mizo Language Proficiency as prescribed by the Government from time to time. However, a candidate who studied Mizo subject in Class-X standard (HSLC) or above within Mizoram or who opted for Mizo subject as MIL outside Mizoram is exempted from taking the qualifying test paper. [vide Notification No.A-11019/1/2021-P&AR(GSW) dt.09.04.2024 (published in the Mizoram Gazette Extraordinary, Issue No.247 Dt.10.04.2024)]

Documentary support to proof all eligibility conditions should not be dated later than the last date of application.

7. Disqualification:

- (i) Canvassing by a candidate directly or indirectly will disqualify his/her candidature.
- (ii) Particulars/Details to be mentioned in the application should be completely and correctly stated. Any application not specifying the required information of a concerned candidate shall be liable to be rejected.
- (iii) Any candidate who, on verification at any stage of the recruitment process, does not fulfil any of the eligibility conditions will be disqualified.

8. Expulsion of Candidate:

- (i) Where a candidate is found guilty of misconduct or malpractice or any offence he shall be expelled and shall not be allowed to continue the examination. In such cases, the Centre Superintendent shall submit a report in the prescribed form to the Controller, stating in full the facts and situation accompanied by the evidence against the candidate in a sealed cover.
- (ii) When a candidate is suspected of using unfair means during the Examination by the Centre Superintendent but lacking in proof of the candidate's misdeeds to warrant expulsion, the Centre Superintendent may allow him/her to continue the examination. However, the Centre Superintendent has to make a special report enclosing the answer book and any other incriminating documents, if any, in a sealed cover to the Controller, clearly indicating in red ink the portions wherein unfair means is suspected to have been practised.
- (iii) Any candidate threatening or intimidating any Invigilator will be expelled from the examination hall/room immediately and the matter will be reported to the Controller as well as the local police.
- (iv) In the event of any contingencies arising which may call for immediate action, action will be taken on the candidate under The Mizoram Prevention of Malpractices at Examination Act, 1990 and further action will also be taken under BNSS, 2023.

9. Debarment:

Candidate(s) charged under Guidelines Para 29 (i) or (ii) or (iii) of the MPSC (Conduct of Examination) Guidelines, 2023 and found guilty may be debarred from appearing in any examinations/recruitment conducted by the Mizoram Public Service Commission. The Commission will maintain a record of this and the same shall be sent to Union Public Service Commission as well as other State Public Service Commissions. Candidate(s) debarred by the Union Public Service Commission and other State Public Service Commissions shall automatically be debarred by the Mizoram Public Service Commission.

10. Government servants will have to apply through proper channel.

11. **Syllabus:** The Commission has adopted Mizoram Engineering Service (Competitive Examination) Regulation, 2023 as the Syllabus for the Examination and the same is available for download on the Commission's official website <https://tinyurl.com/SyllabusTechnical-Officer> and is appended herewith.

12. Any pertinent information regarding this advertisement will be published on the Commission's official website.

*In case of queries/clarification regarding their applications, candidature, etc. candidates may contact MPSC's **Helpline No. 0389-3596493** on working days between 10:00 AM - 3:00 PM.*

Sd/-H.LALCHHANDAMI
Controller of Examinations
Mizoram Public Service Commission
Aizawl

Copy to:-

1. Sr.PPS to Chairman, Mizoram Public Service Commission, Aizawl
2. PPS/PS to Member, Mizoram Public Service Commission, Aizawl.
3. PS to Secretary, Mizoram Public Service Commission, Aizawl.
4. The Under Secretary to the Govt. of Mizoram, School Education Department, with reference to letter No.A.32013/1/2015-EDN(SC)/381 Dt.16.07.2024.
5. All Administrative Departments, Govt. of Mizoram.
6. All Heads of Departments, Govt. of Mizoram.
7. Deputy Commissioners, Aizawl / Lunglei / Siaha / Champhai / Kolasib / Serchhip / Lawngtlai / Mamit / Saitual / Khawzawl / Hnahthial with two spare copies each. One copy should be displayed in the Notice Board.
8. Resident Commissioner / Additional / Joint / Deputy / Asst. Resident Commissioners, Mizoram Houses – N.Delhi / Kolkata / Mumbai / Guwahati / Shillong / Silchar / Bengaluru with two spare copies each for display in the Notice Board of Mizoram Houses.
9. District Employment Officer, Aizawl, Lunglei, Siaha, Champhai, Kolasib, Serchhip, Lawngtlai and Mamit with two spare copies each for display in the Notice Board.
10. All Officers, Mizoram Public Service Commission.
11. All Sections, Mizoram Public Service Commission.
12. I.T. Cell, Mizoram Public Service Commission for uploading on the website.
13. Notice Board.
14. Guard File.



(R.LALTHANTLUANGA)
Deputy Controller of Examinations
Mizoram Public Service Commission
Aizawl

SYLLABUS FOR TECHNICAL OFFICER - SCERT UNDER SCHOOL

EDUCATION DEPARTMENT EXAMINATION-2025

(Technical Officer-SCERT Examination Syllabus atan Mizoram Engineering Service (Competitive Examination) Regulations, 2013 - Regulation No.10 leh Schedule-I-a General English, Genral Studies leh Electronics & Communication Engineering Paper-te adopt a ni e.)

PLAN OF EXAMINATION

- (i) The Examination shall be conducted according to the following plan:
 - (a) The examination shall comprise of written examination and personal interview.
 - (b) The written examination will consist of three papers of Engineering, General English and General Studies.
 - (c) Engineering papers will carry 200 marks each. (Objective type – 100 marks and short answer questions carrying not more than 5 marks – 100 marks.)
 - (d) General English will carry 100 marks and the question will be conventional type.
 - (e) General Studies shall carry 100 marks and the question shall be objective type.
 - (f) Personal Interview will carry 100 marks.
 - (g) The duration of examination for each paper shall be 3 hrs.
 - (h) The standard and syllabi prescribed for these papers are given below.
 - (i) The standard of papers shall be a degree level of Indian University.
- (ii) All questions will be set and answered in English only.
- (iii) Candidates, other than those with loco-motor disability, must write in their own hand. In no circumstances will they be allowed to avail the help of a scribe. In case of those candidates who are allowed the use of a scribe, an extra 20 minutes per hour on pro-rata basis for a written test of 1(one)hour or less than one hour or more than one hour duration shall be granted. Further, the expenses for engagement of the scribes are to be borne by the candidate himself/herself. Such candidates should report themselves to the Controller of Examinations two weeks prior to the commencement of the examination.

SYLLABUS

GENERAL ENGLISH - 100 Marks

The question paper in General English will be designed to test the candidate's ability of understanding English. The pattern of question will be as follows:

- (i) Comprehension of given passage - 20 marks
- (ii) Precis writing - 20 marks
- (iii) Usage and vocabulary - 40 marks
- (iv) Short Essay. - 20 marks

GENERAL STUDIES - 100 Marks

The nature and standard of questions in the General Studies will be such that a well-educated person will be able to answer them without any specialized study. The questions will be such as to test a candidate's general awareness of a variety of subjects, which will have relevance for a career in Engineering Services. The questions are likely to test the candidate's basic understanding of all relevant issues, and ability to analyze, and take a view on conflicting socio-economic goals, objectives and demands.

ELECTRONICS & COMMUNICATION ENGINEERING

PAPER - I – 200 Marks

1 Materials and Components:

Structure and properties of Electrical Engineering materials; Conductors, Semiconductors and Insulators, magnetic, Ferroelectric, Piezoelectric, Ceramic, Optical and Super-conducting materials. Passive components and characteristics Resistors, Capacitors and Inductors; Ferrites, Quartz crystal Ceramic resonators, Electromagnetic and Electromechanical components.

2 Physical Electronics, Electron Devices and ICs:

Electrons and holes in semiconductors, Carrier Statistics, Mechanism of current flow in a semiconductor, Hall effect; Junction theory; Different types of diodes and their characteristics; Bipolar Junction transistor; Field effect transistors; Power switching devices like SCRs, CTOs, power MOSFETs; Basics of ICs – bipolar, MOS and CMOS types; basic to Opto Electronics.

3 Signals and Systems

Classification of signals and systems: System modeling in terms of differential and difference equations; State variable representation; Fourier series; Fourier representation; Fourier series; Fourier transforms and their application to system analysis; Laplace transforms and their application to system analysis; Convolution and superposition integrals and their applications; Z-transforms and their

Applications to the analysis and characterization of discrete time systems; Random signals and probability, Correlation functions; Spectral density; Response of linear system to random inputs.

4 Network theory

Network analysis techniques; Network theorems, transient response, steady state sinusoidal response; Network graphs and their applications in network analysis; Tellegen's theorem. Two port networks; Z, Y h and transmission parameters. Combination of two ports, analysis of common two ports. Network functions: parts of network functions, obtaining a network function from a given part. Transmission criteria: delay and rise time, Elmore's and other definitions effect of cascading. Elements of network synthesis.

PAPER – II - 200 Marks

1. Electromagnetic Theory

Analysis of electrostatic and magnetostatic fields: Laplace's and Poisson's equations; Boundary value problems and their solutions; Maxwell's equations; application to wave propagation in bounded and unbounded media; Transmission lines: basic theory, standing waves, matching applications, mismatched lines. Basics of wave guides and resonators; Elements of antenna theory.

2. Analog Electronic Circuits:

Transistor biasing and stabilization. Small signal analysis. Power amplifiers. Frequency response. Wide banding techniques. Feedback amplifiers. Tuned amplifiers. Oscillators. Rectifiers and power supplies. Op Amp PLL, other linear integrated circuits and applications. Pulse shaping circuits and waveform generators.

3. Digital Electronic Circuits:

Transistor as a switching element; Boolean algebra, simplification of Boolean functions, Karnaugh map and applications; IC Logic gates and their characteristics; IC logic families: DTL, TTL, ECL, NMOS, PMOS and CMOS gates and their comparison; Combinational logic Circuits; Half adder, Full adder; Digital comparator; Multiplexer Demultiplexer; ROM and their applications. Flip flops. R-S, J.K, D and T flip-flops; Different types of counters and registers Waveform generators. A/D and D/A converters. Semiconductor memories.

4. Control Systems:

Transient and steady state response of control systems; Effect of feedback on stability and sensitivity; Root locus techniques; Frequency response analysis. Concepts of gain and phase margins: Constant-M and Constant-N Nichol's Chart; Approximation of transient response from closed loop frequency response; Design of Control Systems, Compensators; Industrial controllers.

PAPER-III - 200 Marks

1. Communication Systems:

Basic information theory; Modulation and detection in analogue and digital systems; Sampling and data reconstructions; Quantization & coding; Time division and frequency division multiplexing; Equalization; Optical Communication: in free space & fiber optic; Propagation of signals at HF, VHF, UHF and microwave frequency; Satellite Communication.

2. Microwave Engineering:

Microwave Tubes and solid state devices, Microwave generation and amplifiers, Waveguides and other Microwave Components and Circuits, Mismatched circuits, Microwave Antennas, Microwave Measurements, Masers, lasers; Microwave propagation. Microwave Communication Systems terrestrial and Satellite based.

3. Computer Engineering:

Number Systems. Data representation; Programming; Elements of a high level programming language PASCAL/C; Use of basic data structures; Fundamentals of computer architecture; Processor design; Control unit design; Memory organization, I/O System Organisation. Microprocessors: Architecture and instruction set of Microprocessors 8085 and 8086, Assembly language Programming. Microprocessor Based system design: typical examples. Personal computers and their typical uses.