

MIZORAM PUBLIC SERVICE COMMISSION
DEPARTMENTAL EXAMINATION FOR JUNIOR GRADE OF M.E.S. (AE/SDO)
UNDER PUBLIC WORKS DEPARTMENT,
GOVERNMENT OF MIZORAM.
(JULY, 2025)

ARCHITECTURE ENGINEERING PAPER – I

Time Allowed : 3 hours

FM : 100 PM : 40

SECTION - A (Multiple Choice Questions) (70 Marks)

All questions carry equal mark of 2 each. Attempt all questions.

*This Section should be answered only on the **OMR Response Sheet** provided.*

1. A Cul-de-sac is a street where
 - (a) Only two-wheelers are permitted
 - (b) Through traffic is discouraged
 - (c) Pedestrians are not permitted
 - (d) Vehicles are permitted to move in one direction only
2. What is the minimum plot size and minimum width for commercial buildings as per The Aizawl Municipal Council Building Regulations, 2012?
 - (a) 55 square metre with a minimum width of 6 m.
 - (b) 60 square metre with a minimum width of 6.5 m.
 - (c) 50 square metre with a minimum width of 6 m.
 - (d) 65 square metre with a minimum width of 7m.
3. 1 Acre of land is equal to
 - (a) 4046.85 sq.m
 - (b) 5056.85 sq.m
 - (c) 4056.85 sq.m
 - (d) 5000.85 sq.m
4. Modern architecture emphasizes
 - (a) the curves
 - (b) the form using many details
 - (c) horizontal and vertical lines and elimination of unnecessary detail
 - (d) None of the above
5. Vernacular architecture mainly involves:
 - (a) Use of modern/ contemporary materials
 - (b) Use of automation technology
 - (c) Use of composite/ hightech materials
 - (d) Use of locally available materials & traditional construction technology
6. Star Rating of an Air Conditioner is determined by its
 - (a) Power Consumption
 - (b) Energy Efficiency Ratio
 - (c) Cooling Capacity
 - (d) Power of Compressor

7. What is the minimum width of an internal staircase for residential dwellings as per The Aizawl Municipal Council Building Regulations, 2012?
 - (a) 120 cm
 - (b) 100 cm
 - (c) 110 cm
 - (d) 90 cm
8. Which one of the following is not related to prestigious international awards in architecture:
 - (a) Royal Gold Medal (RIBA)
 - (b) Pritzker Award
 - (c) Aga Khan Award
 - (d) META Award
9. As per AMC rules, in large buildings, the fire escape placements shall be dictated by the travelling distance, the maximum of which should not be more than
 - (a) 23 metres
 - (b) 20 metres
 - (c) 21 metres
 - (d) 22 metres
10. What is the minimum water requirement for offices (including canteen) per head per day as per the NBC?
 - (a) 45 ltrs
 - (b) 50 ltrs
 - (c) 60 ltrs
 - (d) 70 ltrs
11. What is the maximum permissible FAR for Government or Semi- Government buildings as per The Aizawl Municipal Council Building Regulations, 2012?
 - (a) 2.5
 - (b) 2
 - (c) 3
 - (d) 1.5
12. Ozone-depleting substances are commonly found in which products?
 - (a) paints and lacquers
 - (b) refrigerants
 - (c) household appliances
 - (d) furniture
13. What is the full form of ECBC?
 - (a) Energy Conservation Building Code
 - (b) Energy Conservation in Building Construction
 - (c) Environmental Conservation Building Code
 - (d) Environmental Conservation in Building Construction
14. Which of the following is not a green building rating systems in India:
 - (a) LEED (USGBC)
 - (b) IGBC (CII)
 - (c) GRIHA (TERI)
 - (d) BEE
15. What are the minimum vertical and horizontal distance of the roof of a building from High Voltage lines upto and including 33.000V:
 - (a) 3.0m vertically and 2.5 metres horizontally
 - (b) 3.7m vertically and 2 metres horizontally
 - (c) 2.7m vertically and 2 metres horizontally
 - (d) 2 m vertically and 3 metres horizontally
16. The total length of a Stair in a horizontal plane is known as the
 - (a) run
 - (b) soffit
 - (c) scotia
 - (d) step
17. What is Brise-soleil in architecture?
 - (a) architectural feature that reduces heat gain within that building
 - (b) an architectural feature that reduces the entrance of cold air
 - (c) an architectural feature for rain and moisture protection
 - (d) an aesthetic feature of a building

18. What is the optimum passage/ corridor width for lying patients' transfer:
- (a) 2.25m wide minimum
 - (b) 1.5 mm wide minimum
 - (c) 2.0 m wide minimum
 - (d) 2.8m wide minimum
19. Scale is the size of one object in relation to the other objects in a design. _____ refers to the size of the parts of an object in relationship to other parts of the same object.
- (a) Proportion
 - (b) Order
 - (c) Balance
 - (d) Contrast
20. What is the essential/required width of the space between counters in a kitchen having parallel counters?
- (a) 1.2 m
 - (b) 1.5m
 - (c) 1 m
 - (d) 1.6 m
21. What is the minimum width of a water closet room without bath as per NBC norms?
- (a) 1.0 m
 - (b) 1.2 m
 - (c) 0.9 m
 - (d) 0.8 m
22. What is the optimum height of the top of a wash basin?
- (a) 800 – 850 mm
 - (b) 850 – 900 mm
 - (c) 750 – 800 mm
 - (d) 900 – 1000mm
23. How did romans create structures with great spans?
- (a) Use of arch
 - (b) Use of stones piled together
 - (c) Stone corbel systems
 - (d) Large column and stone beams
24. What is the best orientation for the longer axis of a football field?
- (a) North – South
 - (b) East- West
 - (c) North East- South west
 - (d) None of the above
25. Wheelchair ramp should not have a slope greater than 1:20 or maximum of _____ for short distances upto 9000 mm as per NBC norms.
- (a) 10
 - (b) 15
 - (c) 20
 - (d) 12
26. When lines, planes, and surface treatments are repeated in a regular sequence.
- (a) Balance
 - (b) Rhythm
 - (c) Contrast
 - (d) Proportion
27. How many water closets should be provided for an office building Male public toilet as per norms?
- (a) 1 for every 25
 - (b) 1 for every 20
 - (c) 1 for every 30
 - (d) 1 for every 20
28. What is the minimum water requirement for offices per head per day as per the NBC?
- (a) 45 ltrs
 - (b) 50 ltrs
 - (c) 60 ltrs
 - (d) 70 ltrs
29. Pyramids are the best example of
- (a) Flood resisting structures
 - (b) Dust storm resisting structures
 - (c) Insulating structure
 - (d) Earthquake resisting structures
30. _____ in a building means the free passage of clean air in a building.
- (a) Habitation
 - (b) Protection
 - (c) Sanitation
 - (d) Ventilation

31. A structure can appear _____ if viewed from above:
(a) shorter (b) taller
(c) wider (d) none of the above
32. It is a line established by two points in space, about which forms and spaces can be arranged in a regular or irregular manner
(a) Symmetry (b) Axis
(c) Rhythm (d) Hierarchy
33. Reed beds are often used as an important component for
(a) natural purification of air (b) sewage treatment
(c) solid waste management (d) air conditioners
34. Fire extinguisher extinguishes the small fires in the house by using
(a) Carbon dioxide (b) Nitrogen gas
(c) Water (d) Foam
35. The name of the Master Plan adopted for Aizawl city is
(a) Master Plan for Aizawl, Vision 2020 (b) Master Plan for Aizawl, Vision 2030
(c) Master Plan for Aizawl, Vision 2025 (d) Master Plan for Aizawl, Vision 2022

SECTION- B (Conventional Type) (30 Marks)

*This Section should be answered only on the **Answer Sheet** provided.
All questions carry equal 3 (Three) marks each.*

You can use sketches to support your answer

1. Explain the need of scale and proportions in architecture. Give one example to support your answer.
2. What do you think is the best orientation for a residential building in Aizawl? Give reasons with sketches to support your answer.
3. Suggest 2 (two) ways in which solar energy can be incorporated in buildings for a more environment friendly design?
4. What design considerations would you give for the handicapped in the design of office buildings?
5. What is the need of anthropometrics in designing and functioning of spaces? Also explain the Golden Section with appropriate sketches.
6. What are the negative effects of building construction on the environment?
7. Write short notes on slope stabilization using landscape design with special reference to Mizoram.
8. Suggest ways in which solar energy can be incorporated in buildings for a more environment friendly design?
9. Define street furniture. What are the guidelines to be kept in mind while designing street furniture?
10. Describe how you understand the word 'Green architecture'