

**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 – II**

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. Pointing is a construction technique used in
  - (a) Woodwork
  - (b) Masonry Work
  - (c) Steelwork
  - (d) Earthwork
2. The bearing capacity of soil is calculated in \_\_\_\_\_ units.
  - (a) gm/cc
  - (b) kg/m<sup>3</sup>
  - (c) kN/m<sup>2</sup>
  - (d) N/m
3. What is the weight of 1 bag of cement?
  - (a) 25 kg
  - (b) 30 kg
  - (c) 100 kg
  - (d) 50 kg
4. The 9 cm x 9 cm side of a brick as seen in the wall face, is generally known as
  - (a) stretcher
  - (b) face
  - (c) front
  - (d) header
5. What is the purpose of using glass strips in concrete flooring?
  - (a) for aesthetic purpose
  - (b) for ease of construction
  - (c) to take care of contraction and expansion
  - (d) all of the above
6. In RCC beams, the end cover of concrete should not be less than
  - (a) 15 mm
  - (b) 20 mm
  - (c) 25mm
  - (d) 30 mm
7. The under surface of an arch, is called
  - (a) soffit
  - (b) intrados
  - (c) haunch
  - (d) back
8. Steel reinforcement in RCC structures is to provide
  - (a) tensile strength
  - (b) compressive strength
  - (c) bond strength
  - (d) overall strength
9. For walls, columns and vertical faces of all structural members, the formwork is generally removed after
  - (a) 24 to 48 hours
  - (b) 7 days
  - (c) 14 days
  - (d) 21 days

10. What is the purpose of primer before painting?
- (a) better adhesion of paint to the surface
  - (b) primarily for providing better colours
  - (c) more economical
  - (d) makes the paint surface washable
11. To facilitate draining off rain water from coping, sills, sunshades etc, a groove is cut on the underside and this groove is known as
- (a) throating
  - (b) drip course
  - (c) string course
  - (d) break course
12. As per IS- 456:2000, expansion joints in structures are provided in structure lengths greater than
- (a) 15
  - (b) 20
  - (c) 30
  - (d) 45
13. Cavity wall is generally provided for
- (a) heat insulation
  - (b) sound insulation
  - (c) prevention of dampness
  - (d) all the above
14. A wall constructed to resist the pressure of an earth filling, is called
- (a) Retaining wall
  - (b) Breast Wall
  - (c) Buttress
  - (d) Parapet wall
15. The compressive strength of M-25 concrete after 28 days is
- (a) 25 kg/sqm
  - (b) 25 N/sqmm
  - (c) 250 N/sqmm
  - (d) 2.5 N/sqmm
16. The initial setting time for ordinary Portland cement as per IS specifications should not be less than
- (a) 10 minutes
  - (b) 30 minutes
  - (c) 60 minutes
  - (d) 600 minutes
17. A septic tank is a water tight tank where the following operations take place:
- (a) Sedimentation
  - (b) Sedimentation + Digestion
  - (c) Digestion
  - (d) Decomposition of organic & inorganic material
18. The foundation in which a cantilever beam is provided to join two footings, is known as
- (a) strip footing
  - (b) strap footing
  - (c) combined footing
  - (d) raft footing
  - (e) none of these.
19. Which one of the following factors is considered for the orientation of buildings :
- (a) the direction of the prevailing winds in the area
  - (b) the exposure of the walls and roof of the buildings to the rays of sun
  - (c) the extent up to which the sunrays penetrate with the verandah.
  - (d) all the above
20. The form work from the underside of slabs for spans upto 4.5m without props, can be removed only after
- (a) 1 day
  - (b) 4 days
  - (c) 7 days
  - (d) 14 days.
21. The platform at the end of a series of steps, is known as
- (a) platform
  - (b) relief
  - (c) rest
  - (d) landing

22. The process of keeping concrete moist for a certain period after its finishing, is known as  
(a) finishing of concrete (b) curing of concrete  
(c) placing of concrete (d) compaction of concrete
23. The columns of multi-storeyed buildings are designed to withstand the forces due to  
(a) dead loads (b) live loads  
(c) wind loads (d) all of these
24. A cut in frame of a door to receive the shutter, is called  
(a) louver (b) stop  
(c) horn (d) rebate
25. A covering of concrete placed on the exposed top of an external wall, is known as  
(a) cornice (b) coping  
(c) frieze (d) lintel
26. As per IS 2502-1963, the hook allowance for stirrups of RCC columns and beams should not be less than  
(a) 50 mm (b) 75 mm  
(c) 100 mm (d) 25 mm
27. What is the curing period of concrete work under normal weather conditions when using Ordinary Portland Cement?  
(a) 20 days (b) 12 days  
(c) 14 days (d) 25 days
28. Pointing is a construction technique used in  
(a) Woodwork (b) Masonry Work  
(c) Steelwork (d) Earthwork
29. Which of the following is a reusable building material from demolished buildings when constructing new buildings?  
(a) Bricks (b) Paint  
(c) Carpet (d) None of the above
30. What is the cement: sand: coarse aggregates mix for M20 grade of concrete?  
(a) 1: 1.5: 3 (b) 1: 2: 4  
(c) 1: 2.5: 3 (d) 1: 2: 3
31. A common footing provided for two or more columns is known as  
(a) Continued footing (b) Combined footing  
(c) Cantilever footing (d) Eccentric footing
32. Marine ply as a building material has special use because of its  
(a) strength (b) waterproof properties  
(c) compressive properties (d) aesthetic quality
33. The phenomenon of heat build up in cities leads to the formation of:  
(a) Carbon Island (b) Urban Island  
(c) Heat Island (d) Green House Island

34. What does HYSD stand for in reinforcement bars?
- |                                        |                                     |
|----------------------------------------|-------------------------------------|
| (a) High Yielding Strength Deformed    | (b) High Yielding Strong Deformed   |
| (c) Highest Yielding Strength Deformed | (d) Hard Yielding Strength Deformed |
35. Sewage is:
- (a) Waste water from bathrooms
  - (b) Drainage from roads
  - (c) Waste water from kitchens
  - (d) Any waste water of domestic and industrial origin

**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. Draw a sketch of a septic tank specifying size for 12 users.
2. What is the meaning of the term invert level? What is it associated with?
3. Sketch a detail section of an RCC flat roof with waterproofing treatment.
4. Mention 4 points for identifying first class brick
5. What is the full form of HDF Board? How does it differ from MDF board in its application?
6. What are the practical advantages and disadvantages of AAC blocks in building construction?
7. What do you mean by workability of concrete? What affects workability?
8. What is the difference between long and short columns?
9. Cement fiber boards such as bison boards are water resistant. What are the composition cement fiber board?
10. List out special flooring and wall finish specifications that are used in hospital design and explain their area of application briefly.

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