

MIZORAM PUBLIC SERVICE COMMISSION
TECHNICAL COMPETITIVE EXAMINATIONS FOR JUNIOR GRADE OF
MIZORAM ENGINEERING SERVICE (M.E.S.) UNDER PUBLIC WORKS DEPARTMENT,
GOVERNMENT OF MIZORAM, MARCH, 2020

ARCHITECTURE
PAPER - II

Time Allowed : 3 hours

FM : 200

SECTION - A (Multiple Choice questions)

(100 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. How long should curing be done for Damp proof course?
(a) At least 6 days
(b) At least 7 days
(c) At least 8 days
(d) At least 9 days
2. Cloud seeding is one method of?
(a) Soil modification
(b) Weather modification
(c) Plant modification
(d) Soil testing
3. Slenderness ratio of a column is represented as:
(a) Effective length / Cross-sectional area
(b) Effective length / Radius of gyration
(c) Actual length / Cross-sectional area
(d) Actual length / Radius of gyration
4. Which of the following has more fire resisting characteristics?
(a) Marble
(b) Lime stone
(c) Compact sand stone
(d) Granite
5. CCTV Headquarters in Beijing is an example of
(a) Modernism
(b) Post- Modernism
(c) Deconstructivism
(d) Art Nouveau
6. The under surface of an arch is called
(a) Soffit
(b) Intrados
(c) Haunch
(d) Back
7. Which of the following actions may best help maintain human comfort even in an increased indoor temperature?
(a) Lowering the humidity
(b) Re-circulating the air supply
(c) Lowering the lighting intensity
(d) Increasing the ventilation rate
8. U-value of material is
(a) Thermal Transmittance
(b) Thermal Conductivity
(c) Thermal Conductance
(d) Thermal Resistance
9. What is the optimum indoor thermal comfort condition in India?
(a) 25.5°C
(b) 26.5°C
(c) 27.5°C
(d) 28.5°C

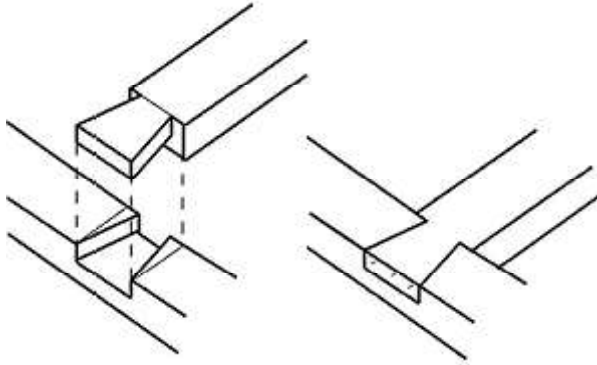
10. Carbon footprint can be measured by
 - (a) Carbon dating
 - (b) Instruments
 - (c) Carbon accounting
 - (d) Formula
11. Which of the below green building in India has received a platinum LEED certification?
 - (a) Dabur India, Chandigarh
 - (b) Logix Cyber Park, UP
 - (c) Unitech Commercial Tower, Chandigarh
 - (d) Suzlon One Earth, Pune
12. What is the full form of GRIHA?
 - (a) Green Rating for Intense Habitat Assessment
 - (b) Green Rating for Integrated Habitat Assessment
 - (c) Green Rating for Intense Housing Assessment
 - (d) Green Rating for Integrated Housing Assessment
13. What is “green fatigue”?
 - (a) Living in Sick building
 - (b) Weariness in talking about all things green
 - (c) An erosion of materials in green construction
 - (d) Endorsing something which is not as green as it sounds
14. What are the external corners angles of a wall surface called?
 - (a) Bond
 - (b) Reveals
 - (c) Jambs
 - (d) Quoins
15. The unit of Thermal Transmittance is
 - (a) W/K
 - (b) W/m²
 - (c) W/mK
 - (d) W/m²K
16. Which of the following is not an influencing factor of Thermal Comfort
 - (a) Relative Humidity
 - (b) Clothing
 - (c) Air speed
 - (d) Carbon footprint
17. Which is the only country to claim negative Carbon Footprint?
 - (a) Bhutan
 - (b) England
 - (c) Finland
 - (d) Austria
18. Which city has the first skyscraper
 - (a) Chicago
 - (b) New York City
 - (c) Paris
 - (d) Seattle
19. The horizontal course provided at suitable levels between the plinth and the cornice is termed as a
 - (a) Sill
 - (b) Corbel
 - (c) String Course
 - (d) Cornice
20. From where does the term ‘Brutalism’ come from?
 - (a) From its Architecture Style
 - (b) From the Architects of this style
 - (c) From the material used
 - (d) From the expressions of public
21. When does Deconstructivism appear?
 - (a) 1960s
 - (b) 1970s
 - (c) 1980s
 - (d) None of these

22. Indian Institute of Management building in Ahmedabad was designed by
(a) Laurie Baker (b) Louis Kahn
(c) Le Corbusier (d) B.V Doshi
23. The lowest edge of the sloping surface of roof is called
(a) Ridge (b) Rafters
(c) Pitch (d) Eaves
24. Which of the following, is a type of shallow footing?
(a) Spread footing (b) Pile foundation
(c) Pier foundation (d) Well foundation
25. Who pioneered Cubism
(a) Douglas Cooper and Allan Quartermain (b) Georges Valmier and Pablo Picasso
(c) Allan Quartermain and Georges Braque (d) Pablo Picasso and Georges Braque
26. The term 'Zeitgist', used in contemporary architecture, refers to
(a) Iconicity (b) Spirit of Times
(c) Kinesthetics (d) Semantic Associations
27. Which material is a poor conductor of heat and the cracks when heated and then suddenly cools down.
(a) Glass (b) Steel
(c) Brick (d) Aluminium
28. In which area did the art nouveau developed?
(a) Painting (b) Furniture
(c) Sculpture (d) All of these
29. Who is the famous architect of the Arts and Crafts Movement?
(a) Le Corbusier (b) Frank Lloyd Wright
(c) Walter Gropius (d) Ludwig Mies van der Rohe
30. The four LEED certification level designations are Platinum, Gold, Silver and _____.
(a) Bronze (b) Certified
(c) Pearl (d) Paper
31. What aspects of a building does a building automation system control?
(a) lighting (b) heating
(c) fire/ smoke alarms (d) all of these
32. Marble stone belong to
(a) Igneous Rocks (b) Metamorphic Rocks
(c) Sedimentary Rocks (d) Foliated Rocks
33. The Mahatma Gandhi Memorial, at the Sabarmati Ashram, Ahmedabad is designed by
(a) Charles Correa (b) Balkrishna Doshi
(c) Christopher Charles Benninger (d) Anupama Kundoo
34. Pointing is a construction technique used in
(a) woodwork (b) masonry work
(c) steelwork (d) earthwork

35. Who is the architect of the New National Stadium for the 2020 Tokyo Olympics?
(a) Richard Rogers and Renzo Piano (b) Kengo Kuma
(c) Foster & partners (d) Shigeru Ban

36. What is the standard length of a HYSD bar of TATA Tiscon?
(a) 10m (b) 12m
(c) 9m (d) 14m

37. What is the name of this carpentry joint?

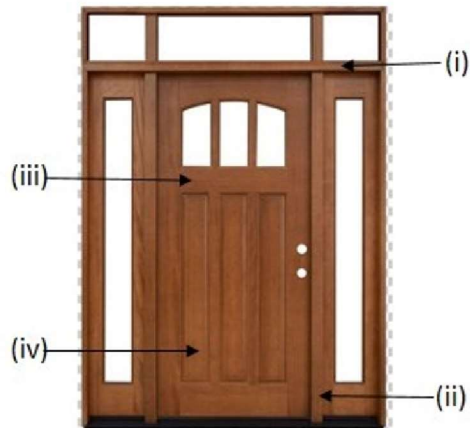


- (a) tongue and groove (b) dovetail
(c) butt joint (d) lap joint
38. The Architect who designed and advocated the geodesic dome for cities of tomorrow was?
(a) Mies van der Rohe (b) Le Corbusier
(c) Buckminster Fuller (d) Louis Kahn
39. Which of the following is an important technique of earthquake resistant design and construction?
(a) *flexible steel form* (b) *reinforced concrete*
(c) *base isolation* (d) *steel strengthening treatment*
40. What is the cement: sand: coarse aggregates mix for M20 grade of concrete?
(a) 1:1.5:3 (b) 1: 2: 4
(c) 1: 1 : 2 (d) 1: 3: 6
41. 'A house is a machine to live in' philosophy is coined by
(a) Le Corbusier (b) Peter Behrens
(c) Frank Lloyd Wright (d) Louis Sullivan
42. Marine ply as a building material has special use because of its
(a) strength (b) water resistance
(c) compressive properties (d) aesthetic quality
43. Slump test is done to test the
(a) strength of concrete (b) workability of concrete
(c) quality of cement (d) quality of aggregates
44. Which of the following is not a commonly used waterproofing material for buildings
(a) hydraulic lime (b) bituminous material
(c) liquid membrane (d) polyurethane membrane
45. PPGI sheet roofing should be fixed with
(a) SDSS screws (b) SDDS screws
(c) SDST screws (d) STSS screws

46. Asbestos sheets are no longer favoured in the building construction world today due to
- (a) its brittleness
 - (b) its lack of aesthetic appeal
 - (c) health hazards
 - (d) difficult to handle

47. What thickness of WPC board is appropriate for verandah ceiling?
- (a) 12mm
 - (b) 6mm
 - (c) 8mm
 - (d) 18mm

48. Which part of the door is the transom?



- (a) (i)
- (b) (ii)
- (c) (iii)
- (d) (iv)

49. Enamel paint is

- (a) water based
- (b) oil based
- (c) solvent based
- (d) none of these

50. Toughened glass is made by

- (a) laminating the glass
- (b) heating the glass
- (c) making it very thick
- (d) putting special coating on it

SECTION - B (Short answer type question)
(100 Marks)

All questions carry equal marks of 5 each.

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

1. What is daylight factor? How is it calculated?
2. What are the parameters that influences human Thermal Comfort?
3. Write about Brutalism in architecture.
4. Mention any five Passive Design strategies.
5. What are the important characteristics of 'Structuralism'?
6. Discuss the three types of Deep Foundation.
7. Match the Buildings in Group I with the Architect in Group II:

<u>Group I</u>	<u>Group II</u>
a) Alvar Alto	1) Farnsworth House
b) Mies Van Der Rohe	2) Unity Chapel
c) Frank Lloyd Wright	3) Wainwright Building
d) Louis Sullivan	4) Bauhaus Building
e) Walter Gropius	5) House of culture
	6) Villa Savoye
8. Match the Elements in Group I with their Application in Group II:

<u>Group I</u>	<u>Group II</u>
a) Bracket	1) Door
b) Baluster	2) Dome
c) Key stone	3) Cornice
d) Holdfast	4) Arch
e) Drum	5) Staircase
9. Match the Terminologies in Group I with their Meaning / Use in Group II:

<u>Group I</u>	<u>Group II</u>
a) Rebate	1) Fixing of frame to wall
b) Sill	2) Vertical division
c) Mullion	3) Depression inside door frame
d) Horn	4) External jamb of opening
e) Revel	5) Horizontal member at the bottom of window
	6) Molding
10. Match the Book Titles in Group I with their Writer in Group II

<u>Group I</u>	<u>Group II</u>
a) Form follows Climate	1) B.V Doshi
b) Architecture for the people	2) Arvind Krishan
c) Thinking Architecture	3) Le Corbusier
d) Climate Responsive Architecture	4) Charles Correa
e) Toward an Architecture	5) Peter Zumthor







6) J.A Stein

11. Match the Truss Type in Group I with their Figure in Group II:

Group I

- a) Scissors Truss
- b) King Post Truss
- c) Fink Truss
- d) Bow String
- e) Hip Truss

Group II

- 1) 
- 2) 
- 3) 
- 4) 
- 5) 
- 6) 

12. Match the Green rating System in Group I with their Country in Group II:

Group I

- a) LEED
- b) GRIHA
- c) HQE
- d) GBCA
- e) BRE

Group II

- 1) India
- 2) Australia
- 3) U.K
- 4) U.S.A
- 5) France
- 6) Canada

- 13. Where are expansion joints required in RCC building construction? Suggest a construction detail for the joint in an RCC roof using a sketch.
- 14. Write a short note on the advantages and disadvantages of using AAC blocks over traditional bricks.
- 15. What are the characteristics of good cement? How should it be stored safely?
- 16. What do you mean by workability of concrete? What affects workability?
- 17. What's the difference between veneer and laminate? What is the difference in area of application?
- 18. What are the different types of Masonry wall, explain each of them briefly.
- 19. What do you mean by the terms anodised and powdered in aluminium? What is the process?
- 20. Write a short note on distemper paint. Why is it also called cement paint?

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