

182/2024

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Which element of art that refers to the sense of touch?
(A) Value (B) Pattern
(C) Texture (D) Shape
2. According to National building code of India Business buildings are categorized under of occupancy?
(A) Group E (B) Group C
(C) Group A (D) Group D
3. Which design principle refers as a point of focus or attention in a design?
(A) Contrast (B) Movement
(C) Symmetry (D) Emphasis
4. Which type window allow free passage of air and sufficient light even when closed position?
(A) Bay window (B) Louvered window
(C) Double hung window (D) Dormer window
5. Which colors that are next to each other on the colour wheel?
(A) Tertiary colours (B) Secondary colours
(C) Analogous colours (D) Complementary colours
6. Which planning of room is the maximum benefits of a space from minimum dimension?
(A) Flexibility (B) Aspect
(C) Prospect (D) Roominess
7. Which of the following is the most basic architectural elements?
(A) Form (B) Line
(C) Shape (D) Colour
8. Which climate factor is most important in designing energy efficient heating system for buildings?
(A) Humidity level (B) Precipitation
(C) Solar radiation (D) Wind speed

9. What refers to a colour scheme that is comprised of variations of one colour?
 (A) Analogous colours (B) Primary colours
 (C) Monochromatic colour (D) Complementary colours
10. What is the study refers to the measurement of the size and proportion of human body?
 (A) Proportion (B) Anthropometry
 (C) Scale (D) Ratio
11. The difference between two or more objects in a design is referred to :
 (A) Contrast (B) Emphasis
 (C) Rhythm (D) Balance
12. What is the minimum floor area of a WC in National building code of India?
 (A) 1.8 m² (B) 2 m²
 (C) 2.8 m² (D) 1.1 m²
13. What is a thermally massive equator-facing wall with vents provided at the top and bottom called?
 (A) Cavity wall (B) Trombe wall
 (C) Curtain wall (D) Trans wall
14. FAR stands for :
 (A) Floor Area Ratio (B) Floor Alternative Ratio
 (C) Front Area Ratio (D) Floor And Ratio
15. Which of balance is also known as Formal balance?
 (A) Geometrical (B) Radial
 (C) Asymmetrical (D) Symmetrical
16. Which element that refers to the lightness and darkness of a colour?
 (A) Hue (B) Intensity
 (C) Value (D) Brightness
17. What is the recommended dimensions of the window frame for 10 WT 13 in mm?
 (A) 1190 × 1190 (B) 990 × 1190
 (C) 590 × 1290 (D) 990 × 1290
18. What interior design principle is the repetition or movements of various elements with in space?
 (A) Harmony (B) Proportion
 (C) Emphasis (D) Rhythm

19. What is the preliminary steps of a building design process?
(A) Planning (B) Site analysis
(C) Bubble diagram (D) Block diagram
20. Which one is a secondary colour?
(A) Orange (B) Red
(C) Blue (D) Yellow
21. Which size trimmed drawing sheets is designed by A2?
(A) 330 mm × 450 mm (B) 420 mm × 594 mm
(C) 210 mm × 297 mm (D) 240 mm × 330 mm
22. The recommended symbol for indicating the angle of projection shows two views of the frustum of a :
(A) Cone (B) Square Pyramid
(C) Triangular Pyramid (D) None
23. Which of the following scale is used to measure angle?
(A) Comparative scale (B) Plain Scale
(C) Diagonal Scale (D) Scale of Chords
24. In which system, all dimensions are so placed that they may be read from the bottom and right hand side of the drawing?
(A) Aligned Dimensioning system (B) Parallel Dimensioning system
(C) Unidirectional Dimensioning system (D) Chain Dimensioning system
25. In Orthographic projection, the projectors are _____ to the plane of projection.
(A) Inclined (B) Parallel
(C) Perpendicular (D) None of these
26. Name the part of drawing board on which the Stock/Head of the T-Square slides?
(A) Strip (B) Blade
(C) Batten (D) Ebony edge
27. The angle between the isometric axes is :
(A) 30° (B) 120°
(C) 60° (D) 45°
28. Which function key is used to draw isometric views?
(A) F2 (B) F1
(C) F3 (D) F5

29. A polyline can be broken into individual lines and arcs using which of the following command?
- (A) BREAK (B) TRIM
(C) EXPLODE (D) BLOCK
30. To create 3D solid in AutoCAD, which of the following command should be used?
- (A) EXTEND (B) BLOCK
(C) REGION (D) EXTRUDE
31. The method of levelling adopted to determine the difference of levels between two points when it is not possible to set up the level midway between them is :
- (A) Reciprocal levelling (B) Profile levelling
(C) Precise levelling (D) Simple levelling
32. _____ is a single set of observations made for measuring a horizontal angle between any two points at a station.
- (A) Repetition method (B) Reiteration method
(C) Deflection method (D) Ordinary method
33. The projection of a traverse line on a line perpendicular to the meridian is known as :
- (A) Latitude of the line
(B) Departure of the line
(C) Bearing of the line
(D) Co-ordinate of the line
34. The instrument which is the combination of electronic theodolite and electronic distance meter is :
- (A) Digital theodolite (B) Tacheometer
(C) Telemeter (D) Total station
35. The back sight reading on a bench mark of reduced level 100.00 is 1.150. If fore sight reading on the point is 2.450, the reduced level of the point is :
- (A) 101.300 (B) 103.600
(C) 98.700 (D) 97.800
36. Cumulative errors that occur in chaining are proportional to :
- (A) L (B) 2L
(C) 1/L (D) 1/2L

37. In the system of dimensioning, the dimension is placed perpendicular to the dimension line in such a way that it may be read from the bottom edge or the right hand edge of the drawing sheet is called :
- (A) Unidirectional system
 - (B) Progressive dimensional system
 - (C) Aligned system
 - (D) Continuous dimensioning system
38. The two point and three point problems are typical case of :
- (A) Radiation method
 - (B) Intersection method
 - (C) Traversing method
 - (D) Resection method
39. All offsets which are not right angles to the main survey lines according to direction are known as :
- (A) Perpendicular offset
 - (B) Long offset
 - (C) Short offset
 - (D) Oblique offset
40. What is ENH in input parameters of total station?
- (A) Easting, Northing, RL of the instrument
 - (B) Easting, Northing, Height of the instrument
 - (C) Easting, Northing, Height of collimation
 - (D) Easting, Northing, Height of the reflector
41. Relative Density for Sandstone Ranges from :
- (A) 2.65 – 2.95
 - (B) 3 – 3.5
 - (C) 1.5 – 2
 - (D) 1.65 – 2.35
42. The stone coming under the type of hypabyssal igneous rocks :
- (A) Rhyolite
 - (B) Dolerite
 - (C) Andesite
 - (D) Granite
43. The test done for soundness of cement :
- (A) Vicats apparatus test
 - (B) Setting time test
 - (C) Le-Chatelier test
 - (D) Ferric oxide test
44. The type of cement used in the construction of refineries and acidic structures :
- (A) Low Heat Cement
 - (B) Rapid Hardening Cement
 - (C) High Alumina Cement
 - (D) Expansive Cement

45. The ratio of cement mortar for doing plastering work is normally :
- (A) 1 : 8 (B) 1 : 4
(C) 1 : 3 (D) 1 : 6
46. Which type of lime is used for making strong mortar lime?
- (A) Quick lime (B) Free lime
(C) Hydraulic lime (D) Calcium oxide lime
47. White lead is used as a coating for preventing mainly :
- (A) Rusting (B) Shrinking
(C) For white colour (D) For polymering
48. Base material for distemper is :
- (A) Chalk (B) Snowcem
(C) Red lead (D) Cement
49. Compound form of Lead with sulphide is called :
- (A) Zinc blende (B) Galena
(C) Turpentine (D) Red lead
50. Specific gravity of plastic generally lies in b/w :
- (A) 1.3– 1.4 (B) 3.0– 3.75
(C) 0.5 – 0.75 (D) 2.1 – 2.5
51. Safe bearing capacity for black cotton soil is :
- (A) 50 – 100 kN/m² (B) 150 – 200 kN/mm²
(C) 25 – 60 kN/m² (D) 10 – 50 kN/m²
52. Inclined pile driven to resist inclined force is called :
- (A) Friction pile (B) Raft pile
(C) Battered Pile (D) Machine pile
53. Damp proof course is measured in :
- (A) Cubic meter (B) Meter
(C) Square meter (D) Running meter
54. Minimum depth of foundation below the ground surface level is :
- (A) 100 cm (B) 150 cm
(C) 80 cm (D) 1.2 cm

55. Portion of lintel which is extended to the wall is :
(A) Soffit (B) Haunch
(C) Crown (D) Bearing
56. Minimum number of steps in one flight of a stair case is :
(A) 15 no. (B) 12 no.
(C) 7 no. (D) 9 no.
57. Unit measurement of steel work in truss and its parts :
(A) Kilogram (B) Running meter
(C) Square meter (D) Number
58. The number of vertical post of a king post truss :
(A) 2 no. (B) 3 no.
(C) 1 no. (D) 5 no.
59. Span of a couple close roof is upto :
(A) 3 m (B) 3.8 m
(C) 3.5 m (D) 5 m
60. The stair all the steps are constructed in same direction is called :
(A) Straight stair (B) Bifurcated
(C) Open well (D) Doglegged stair
61. What does the 'LEED' rating system stand for?
(A) Leadership in Energy and Environmental Design
(B) Leadership in Environmental and Economic Design
(C) Legal and Environmental Engineering Development
(D) Local Environmental Engineering Department
62. Which of the following gases is most responsible for the greenhouse effect?
(A) Oxygen (O₂) (B) Nitrogen (N₂)
(C) Carbon dioxide (CO₂) (D) Helium (He)
63. Which green building certification system is widely used in India?
(A) BREEAM (B) LEED
(C) GRIHA (D) WELL
64. Which international agreement aims to reduce greenhouse gas emissions worldwide?
(A) Kyoto Protocol (B) Montreal Protocol
(C) Geneva Convention (D) Basel Convention

65. Which of these materials has the highest insulation value?
(A) Concrete (B) Wood
(C) Brick (D) Glass
66. Which appliance label indicates energy efficiency in India?
(A) Star Rating (B) Energy Label
(C) Green Mark (D) Power Saver
67. LEED certification evaluates buildings based on :
(A) Cultural significance (B) Environmental performance
(C) Cost of construction (D) Size of the building
68. Which practice helps in conserving water in sustainable development?
(A) Deforestation (B) Rainwater harvesting
(C) Fossil fuel usage (D) Industrial dumping
69. Which term describes the phenomenon where urban areas become significantly warmer than their rural surroundings?
(A) Heat island effect (B) Urban cooling
(C) Coastal warming (D) Atmospheric inversion
70. The principle of “cradle-to-cradle” in sustainable design refers to :
(A) Using products until they break
(B) Disposing of products after a single use
(C) Designing products to be recycled or repurposed at the end of their lifecycle
(D) Burning waste products for energy
71. What aesthetic principle did Mies van der Rohe champion in architecture?
(A) Ornamentation and decoration
(B) Emphasis on functionality over form
(C) Simplicity and minimalism
(D) Use of natural materials
72. What movement is Louis Sullivan associated with?
(A) Bauhaus (B) Art Nouveau
(C) Futurism (D) Brutalism
73. Which of the following was NOT one of Louis Sullivan’s buildings?
(A) Walker ware House (B) Guaranty Building
(C) Chrysler Building (D) National Farmer’s Bank

74. What is the height of the main tower (Deul) of the Sun Temple?
 (A) 39 meters (B) 69 meters
 (C) 80 meters (D) 54 meters
75. What is the other name for the Sun Temple of Konark?
 (A) White Pagoda (B) Black Pagoda
 (C) Golden Temple (D) Red Temple
76. What is the time period of Early Chalukyan Architecture?
 (A) 400-600 A.D. (B) 450-650 A.D.
 (C) 500-700 A.D. (D) 600-800 A.D.
77. What is the name of the dome above the central hall of the Golden Temple?
 (A) Fluted Dome (B) Lotus Dome
 (C) Gold Dome (D) Silver Dome
78. What were Viharas primarily used for in Buddhist culture?
 (A) Meditation and retreats
 (B) Residential places for Buddhist priests
 (C) Storage of religious artifacts
 (D) Public gatherings and festivals
79. The Chaitya hall at Kondane belongs to which architectural style?
 (A) Mahayana (B) Hinayana
 (C) Vajrayana (D) Theravada
80. What symbolic structure is erected at the entrance of the Chaitya hall at Karli?
 (A) A Torana gate
 (B) A Lat with four addorsed lions
 (C) A pagoda
 (D) A Pillar with a lotus
81. In which case the number of forces acting at a point will be in equilibrium?
 (A) Sum of all the forces is zero (B) $\epsilon V = 0$
 (C) $\epsilon H = 0$ (D) (B) and (C) are correct
82. Where the centre of gravity of a uniform rod is located?
 (A) Middle point (B) It may depends on its weight
 (C) All the ends (D) None of these

83. What is the formula to find moment of inertia of a thin disc of mass 'm' and radius 'r', about its diameter?
- (A) $0.75 mr^2$ (B) $0.25 mr^2$
 (C) mr^2 (D) $2 mr$
84. How much iron content (%) in the iron ore of Siderite?
- (A) 23-26 (B) 60-65
 (C) 93 (D) 48
85. What should be the total elongation of a bar fixed at its upper end, and hanging by its own weight?
- (A) $\delta l = wl^2 / 2E$ (B) $\delta l = wl^2 E / 2$
 (C) $\delta l = wl^2 / E$ (D) $\delta l = wl^2 / 1E$
86. When a bar of length (l) is subjected to increase in temperature (t), then the increase in length when bar is free to expand will be :
- (A) $\delta l = l\alpha t$ (B) $\delta l = 1/2 l\alpha t$
 (C) $\delta l = 2l\alpha t$ (D) $\delta l = l\alpha 2t$
87. The natural frequency of a free torsional vibrations of shaft will be _____.
 (Where q =torsional stiffness, l = mass moment of inertia).
- (A) $f_n = \frac{1}{2} \pi \sqrt{(2q/l)}$ (B) $f_n = \frac{1}{2} \pi \sqrt{(q/2l)}$
 (C) $f_n = \frac{1}{2} \pi \sqrt{(q/l)}$ (D) $f_n = 2\pi \sqrt{(q/l)}$
88. In simple bending theory one of the assumption is that the material of is isotropic. The assumption means that the :
- (A) Elastic constants are same in all the directions
 (B) Normal stress remains constant in all the directions
 (C) Normal stress varies linearly in the material
 (D) Elastic constants varies linearly in the material

89. The bending moment diagram for a simply supported beam loaded in its centre is :
- (A) A equilateral triangle
 - (B) A right angle triangle
 - (C) An isosceles triangle
 - (D) A rectangle
90. A beam extending beyond the supports is called :
- (A) Fixed beam
 - (B) Overhanging beam
 - (C) Cantilever beam
 - (D) Continuous beam
91. The full form of PERT is :
- (A) Program Evaluation and Review Technique
 - (B) Project Evaluation and Review Technique
 - (C) Project Evaluation and Rate Technology
 - (D) Program Evaluation and Rate Technology
92. Free Float Refers to :
- (i) Slackness concerned with the completion time of entire project
 - (ii) The extent of time by which an activity may be delayed in its start
 - (iii) The difference between its EFT and EPO of the mode at which an activity terminate
 - (iv) The slackness in relation to the completion time of any stage of the project
- (A) Both (i) and (ii)
 - (B) Both (iii) and (iv)
 - (C) (iv) only
 - (D) Both (i) and (iv)
93. A dummy activity in a net work :
- (A) is represented by dotted line
 - (B) requires no time direction
 - (C) depends of one activity on another
 - (D) all the above
94. The symbol shown here in work study means :
- (A) Operation
 - (B) Inspection
 - (C) Transportation
 - (D) Temporary stage of delay

95. The final technical authority of a project is :
- (A) Superintending Engineer (B) Executive Engineer
(C) Chief Engineer (D) Asst. Engineer
96. The type of contract in which measurement of executed item are not required to keep :
- (A) Item rate contract (B) Lumpsum contract
(C) Percentage rate contract (D) Piece work
97. Usually security deposit is _____ % of the estimated cost of work to be deposited by the contractor.
- (A) 2 (B) 5
(C) 2.5 (D) 10
98. The quality control starts with the :
- (A) Detailed specification
(B) Supervisor
(C) Designer
(D) Tender agreement
99. The detailed estimate prepared for additional works :
- (A) AR or AM estimate
(B) Revised estimate
(C) Supplementary estimate
(D) Detailed estimate
100. For projects a percentage of _____ of estimated cost is provided for purchase of tools and plants.
- (A) 1.5 – 2 % (B) 10 – 15 %
(C) 1 – 1.5 % (D) 3 – 5 %

SPACE FOR ROUGH WORK

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