

Question Booklet No. :

CEAR/2021

Register
Number

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2021

**ARCHITECTURAL ASSISTANTSHIP
(Diploma Standard)**

Duration : Three Hours]

[Total Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. You will be supplied with this question booklet 15 minutes prior to the commencement of the examination.
2. This question booklet contains **200** questions. Before answering the questions, you are requested to check whether all the questions are printed serially and ensure that there are no blank pages in the question booklet. **If any defect is noticed in the question booklet, it shall be reported to the invigilator within the first 10 minutes and get it replaced with a complete question booklet. If the defect is reported after the commencement of the examination, it will not be replaced.**
3. Answer **all** the questions. All the questions carry equal marks.
4. You must write your register number in the space provided on the top right side of this page. Do not write anything else on the question booklet.
5. An answer sheet will be supplied to you separately by the room invigilator to shade the answers. Instructions regarding filling of answers etc., which are to be followed mandatorily, are provided in the answer sheet and in the memorandum of admission (Hall Ticket).
6. You shall write and shade your question booklet number in the space provided on page one of the answer sheet with **BLACK INK BALL POINT PEN**. If you do not shade correctly or fail to shade the question booklet number, your answer sheet will be invalidated.
7. Each question comprises of five responses (answers) : i.e. (A), (B), (C), (D) and (E). You have to select **ONLY ONE** correct answer from (A) or (B) or (C) or (D) and shade the same in your answer sheet. If you feel that there are more than one correct answer, shade the one which you consider the best. **If you do not know the answer, you have to mandatorily shade (E).** In any case, choose **ONLY ONE** answer for each question. If you shade more than one answer for a question, it will be treated as a wrong answer-even if one of the given answers happens to be correct.
8. You should not remove or tear off any sheet from this question booklet. You are not allowed to take this question booklet and the answer sheet out of the examination room during the time of the examination. After the examination, you must hand over your answer sheet to the invigilator. You are allowed to take the question booklet with you only after the examination is over.
9. **You should not make any marking in the question booklet except in the sheets before the last page of the question booklet, which can be used for rough work. This should be strictly adhered to.**
10. Failure to comply with any of the above instructions will render you liable for such action as the Commission may decide at their discretion.

SEAL

SPACE FOR ROUGH WORK

1801000S

1. The total area of windows and ventilators of a room shall not be less than
- (A) $1/2^{\text{nd}}$ of its floor area (B) $1/3^{\text{rd}}$ of its floor area
(C) $1/4^{\text{th}}$ of its floor area (D) $1/5^{\text{th}}$ of its floor area
(E) Answer not known
2. The width of the exit doors of buildings other than assembly and institutional categories shall not be less than
- (A) 0.9 m (B) 1.0 m
(C) 1.5 m (D) 2.0 m
(E) Answer not known
3. Which programme was aimed to improve infrastructure in selected towns to make them act as regional centres for economic growth and arrest migration to bigger cities?
- (A) Integrated Development of small and medium towns
(B) National Commission of Urbanization
(C) Environmental improvement of slums
(D) Housing and Urban Development Corporation
(E) Answer not known
4. Population of a Rural Town ranges from
- (A) 3,000 to 4,000 souls (B) 2,000 to 3,000 souls
(C) 1,000 to 2,000 souls (D) 4,000 to 5,000 souls
(E) Answer not known

5. Which one of the following is a housing finance agency run by private sector?
- (A) GRIHA (B) LEED
 (C) HDFC (D) ECBC
 (E) Answer not known
6. The building activity expands in a natural way along the sides of main road, this type of development is called
- (A) Concentric spread (B) Ribbon development
 (C) Satellite growth (D) Scattered growth
 (E) Answer not known
7. A street open at only one end with sufficient space at the closed end for turning back vehicles
- (A) Side walks (B) Local street
 (C) Street (D) Cul-de-sac
 (E) Answer not known
8. A _____ is one intended for collecting and distributing the traffic to and from local streets and also providing access to arterial streets
- (A) Express ways (B) Sub-Arterial streets
 (C) Arterial streets (D) Collector streets
 (E) Answer not known
9. (i) It is a town with its own local government and corporate life.
 (ii) It is connected to the parent city by local trains, buses, etc.
 (iii) It is mainly a residential area having only shops and schools.
 The above list are the features of a
- (A) Ribbon development (B) Scattered growth
 (C) Census town (D) Satellite town
 (E) Answer not known

10. The vertical distances between any two consecutive contours is known as
- (A) Contour line (B) Contour gradient
(C) Contour interval (D) Horizontal equivalent
(E) Answer not known
11. _____ lines represents the presence of valley in a contour map.
- (A) U shaped (B) V shaped
(C) L shaped (D) S shaped
(E) Answer not known
12. It indicates a line lying on the surface of the ground with uniform inclinations to the horizontal at all points on it
- (A) Contour line (B) Contour interval
(C) Contour gradient (D) Contour equivalent
(E) Answer not known
13. A _____ surface or line is any arbitrarily assumed level surface or line from which the vertical distances are measured.
- (A) Elevation (B) Station
(C) Datum (D) Bench Mark
(E) Answer not known
14. In theodolite survey, the unequal expansion of parts of telescopes and circles due to temperature changes is due to
- (A) Instrumental errors (B) Personal errors
(C) Natural errors (D) Instant errors
(E) Answer not known

15. Gunter's chain consist of
(A) 100 equal links (B) 100 unequal links
(C) 500 equal links (D) 500 unequal links
(E) Answer not known
16. If a wooded area obstructs the chain line, then it is crossed by the
(A) Profile line (B) Tie line
(C) Random line (D) Projection line
(E) Answer not known
17. In chain surveying, the biggest of the main survey line is called as
(A) Base line (B) Tie line
(C) Check line (D) Subsidiary line
(E) Answer not known
18. Which of the following is an obstacle in chaining but not in ranging?
(A) River (B) Hill
(C) Building (D) Road
(E) Answer not known
19. A well conditioned triangle in chain surveying, no angle should be less than
(A) 30° (B) 60°
(C) 90° (D) 45°
(E) Answer not known
20. When the water is conveyed through pipes by gravity only denotes the system as
(A) Gravity system (B) Pumping system
(C) Pressure system (D) Gravity and pumping system
(E) Answer not known

21. A permeable stratum which is capable of yielding appreciable quantities of ground water under gravity is known as
- (A) River (B) Stream
(C) Aquiclude (D) Aquifer
(E) Answer not known
22. The structure which is constructed for drawing of water from the sources of water is called
- (A) Aquifers (B) Aqua privies
(C) Intakes (D) Invert
(E) Answer not known
23. _____ wastes can be used to produce industrial wax.
- (A) Tannery wastes (B) Banana stem
(C) Banyan stem (D) Sugarcane waste
(E) Answer not known
24. A water supply pipe vests in the administrative authority for the use of public or community is known as
- (A) Water Main (B) Water Outlet
(C) Warning Pipe (D) Residual Head
(E) Answer not known
25. 1985, Vienna Convention deals with the protection of the
- (A) Natural Heritage (B) Ozone layer
(C) Underground resources (D) Water resources
(E) Answer not known

26. _____ is an underground conduit through which the sewage is conveyed.
- (A) Sewer (B) Drainer
(C) Depressor (D) Inter ceptor
(E) Answer not known
27. This treatment method is restricted to the disinfection of water of villages and rural areas.
- (A) Silver treatment
(B) Potassium permanganate treatment
(C) Boiling method
(D) Excess lime treatment
(E) Answer not known
28. The hardness is normally expressed in terms of
- (A) Calcium carbonate (B) Hydro carbonate
(C) Magnesium carbonate (D) Sodium carbonate
(E) Answer not known
29. Water meters are installed to measure the
- (A) quality of water (B) quantity of water
(C) pressure of water (D) turbidity of water
(E) Answer not known
30. Identify the types of displacement pumps from the given list below :
- (A) Reciprocating pumps and rotary pumps
(B) Centrifugal pumps and motor pumps
(C) Air lift pumps and motor pumps
(D) Impulse pumps and air lift pumps
(E) Answer not known

31. Which of the following architect is famous for his design principle "Less is More"?
- (A) Ludwig Mies Van de Rohe (B) Robert Ventury
(C) Walter Gropius (D) F.L. Wright
(E) Answer not known
32. Which of the following is not a characteristic feature of Islamic buildings
- (A) Minarets (B) Dome
(C) Arches (D) Shikara
(E) Answer not known
33. Which one of the following is 'not' an example of Rock-cut Hindu temple architecture?
- (A) Gupta caves at Udayagiri (B) Ravalaphandi, Aihole
(C) Dilwara, Mount Abu (D) Rameshvara, Ellora
(E) Answer not known
34. Which of the following column capital from Sarnath was used as the emblem of Republic India.
- (A) The Tiger (B) The Lion
(C) The Bull (D) The Yalli
(E) Answer not known
35. The stone railing around the "Stupa" is known as
- (A) Medhi (B) Pratika
(C) Torana (D) Vedica
(E) Answer not known

36. The plan of the colosseum, Rome is approximately
- (A) 188 m × 156 m (B) 150 m × 120 m
(C) 80 m × 120 m (D) 170 m × 280 m
(E) Answer not known
37. The construction of Roman architecture was based on
- (A) Arches and vaults (B) Post and beam construction
(C) Trabeated style (D) Verticality
(E) Answer not known
38. Who are the Architects of Parthenon, Greek?
- (A) Delphi and Phidias (B) Phidias and Libon of Elis
(C) Ictinus and Callicrates (D) Libon of Elis and Delphi
(E) Answer not known
39. The term _____ is used to describe the early Greek's Civilization.
- (A) HELLENIC (B) HITIATE
(C) MACEDONIA (D) CYPRUS
(E) Answer not known
40. The corinthian column has
- (A) a volute scroll capital (B) a decorative inverted bell capital
(C) a abacus capital (D) a simple circular capital
(E) Answer not known

41. The relationship between the moment of inertia's according to the perpendicular axis theorem
- (A) $I_{zz} = I_{xx} + I_{yy}$ (B) $I_{zz} = I_{xx} + Ay^2$
- (C) $I_{zz} = I_{xx} - I_{yy}$ (D) $I_{zz} = I_{xx} - Ay^2$
- (E) Answer not known
42. What is the centroidal distance of a right angled triangle with respect to its base?
- (A) $1/3^{rd}$ from its base (B) $1/2^{nd}$ from its base
- (C) $1/4^{th}$ from its base (D) $1/5^{th}$ from its base
- (E) Answer not known
43. The algebraic sum of the moments of the forces on either side of a section of a loaded beam is termed as
- (A) Torque (B) Turning moment
- (C) Couple (D) Bending moment
- (E) Answer not known
44. Which one of the following is statically indeterminate beam?
- (A) Cantilever beam (B) Simply supported beam
- (C) Fixed beam (D) Over hanging beam
- (E) Answer not known

45. The property of material to resist fracture due to heavy shock loads or impact loads is
- (A) Hardness (B) Stiffness
(C) Brittleness (D) Toughness
(E) Answer not known
46. The product of modulus of rigidity and polar moment of inertia of the shaft is
- (A) Flexural rigidity (B) Torsional modulus
(C) Torsional rigidity (D) Shear modulus
(E) Answer not known
47. Poisson's ratio for concrete is
- (A) 0.200 (B) 0.100
(C) 0.300 (D) 0.288
(E) Answer not known
48. The unit of strain is given by
- (A) N/mm^2 (B) Cu^2/Pa
(C) M/cm (D) It has no units
(E) Answer not known
49. Stress acting on an object is equal to external force or load divided by
- (A) Cross-sectional area (B) Length of the object
(C) Width of the object (D) Weight
(E) Answer not known

50. Patch grid in 3Ds Max are
- (A) Hatching surfaces
 - (B) Bezier surfaces
 - (C) Exploding surfaces
 - (D) Panning surfaces
 - (E) Answer not known
51. In which process, we can find 'Nth Frame' command?
- (A) Boolean process
 - (B) Super black process
 - (C) Rendering process
 - (D) Ranging point process
 - (E) Answer not known
52. The command aliases for DIMORDINATE is
- (A) DIM
 - (B) DOR
 - (C) DOR DIM
 - (D) DIM DOR
 - (E) Answer not known
53. Scale command is used for
- (A) Rendering
 - (B) Extruding
 - (C) Reducing
 - (D) Exploding
 - (E) Answer not known
54. _____ divides lines into equal number of sections
- (A) EQDIV
 - (B) DIVIDE
 - (C) BREAK
 - (D) DIVEQ
 - (E) Answer not known

55. _____ function waits for you to enter the real number distance.
- (A) REAL TO (B) GET REAL
(C) GET DIST (D) DIST REAL
(E) Answer not known
56. The command aliases 'SN' means
- (A) SNOOP (B) SNOP
(C) SNAPPER (D) SNAP
(E) Answer not known
57. _____ command allows to select various material available in the library
- (A) RENDER (B) MAD MAX
(C) MAT LIB (D) MAT
(E) Answer not known
58. The command aliases for TORUS is
- (A) TOR (B) TSR
(C) TUS (D) TORS
(E) Answer not known
59. _____ command allows to cut the 3D objects in two parts.
- (A) SLICE (B) BREAK
(C) DIVIDE (D) CAKE
(E) Answer not known

60. A building was constructed 15 years back at a cost of Rs. 10,00,000. If the present rate of material and labour increased by 30% over the original cost, and the rate of depreciation is 2%, what is the present value of the building?
- (A) Rs. 8,60,140/- (B) Rs. 10,60,140/-
(C) Rs. 9,60,140/- (D) Rs. 11,60,140/-
(E) Answer not known
61. Identify the methods used for valuation of open Land from the following
1. Comparative method
 2. Abstractive method
 3. Belting method
 4. Rental method
- (A) 1, 2 and 3 (B) 2, 3 and 4
(C) 1, 2, 3 and 4 (D) 1 and 4
(E) Answer not known
62. The rights and privileges which one owner of a property enjoys through or over the property of another is called
- (A) Easement (B) Prescriptive easement
(C) Property right (D) Right to transfer
(E) Answer not known
63. A form of contract by which a land or building is given by its owner to any other person to use it for a term of period is called as
- (A) Mortgage (B) Lease
(C) Annuity (D) Amortization
(E) Answer not known
64. The Approximate cost for the flooring work in the total cost varies.
- (A) 1% to 3% (B) 3% to 5%
(C) 5% to 7% (D) 7% to 10%
(E) Answer not known

65. For glazing each pane of glass shall be measured to the nearest
- (A) 0.01 cm (B) 0.10 cm
(C) 0.50 cm (D) 1.0 cm
(E) Answer not known
66. After estimating the quantities of brickwork and plastering in a wall 4m long, 3m high and 30cm thick, calculate its cost, if the rate of brickwork is Rs. 320.00 per Cu.m and of plastering is Rs. 8.50 per sq.m.
- (A) Rs. 204 (B) Rs. 1152
(C) Rs. 1356 (D) Rs. 1660
(E) Answer not known
67. The provision for miscellaneous petty items, unforeseen items, etc as contingencies varies from
- (A) 1% to 10% (B) 2% to 5%
(C) 3% to 5% (D) 5% to 10%
(E) Answer not known
68. Which one of the measurement is not made in m²?
- (A) Skirting (B) Plastering
(C) Form works (D) Damp proof course
(E) Answer not known
69. Volume of cement required for 1m³ cement concrete with 1:5:10 mix using 40 mm aggregate is
- (A) 0.95 m³ (B) 0.095 m³
(C) 0.116 m³ (D) 0.475 m³
(E) Answer not known

70. It is defined as the number of cycles or vibrations per second
- (A) Intensity of sound (B) Measurement of sound
(C) Pitch (D) Speed
(E) Answer not known
71. Dead spots in Auditorium are removed by installing
- (A) Adsorbers (B) Absorbers
(C) Diffusers (D) Retarders
(E) Answer not known
72. Select the incorrect statement, The velocity of sound is _____ than that of air.
- (A) 4 times in water (B) 10 times in wood
(C) 12 times in Brick (D) 15 times in vacuum
(E) Answer not known
73. Select the incorrect statement with respect to fire protection
- (A) A staircase should be arranged round a lift shaft
(B) An interior staircase should be of non combustible material
(C) No gas piping shall be laid in the stairway
(D) Hollow combustible construction shall not be permitted
(E) Answer not known
74. The standard design guide line for the escalator Inclination in commercial space not to exceed
- (A) 15° (B) 20°
(C) 25° (D) 30°
(E) Answer not known

75. It is defined as the measure of light falling on a surface
- (A) Luminous intensity (B) Illuminance
(C) Efficacy (D) Luminous flux
(E) Answer not known
76. Output of incandescent lamps with Quartz Halogen Lamp used in Auditoriums is
- (A) 55 Lumen per Watt (B) 45 Lumen per Watt
(C) 35 Lumen per Watt (D) 25 Lumen per Watt
(E) Answer not known
77. Derived ventilation to be achieved in a space ranges from
- (A) 12 to 28 cu. metre of fresh air per hour per person
(B) 14 to 38 cu. metre of fresh air per hour per person
(C) 14 to 28 cu. metre of fresh air per hour per person
(D) 12 to 38 cu. metre of fresh air per hour per person
(E) Answer not known
78. Electrical Load Requirements for Window or Split Air conditioners in a building are
- (A) 1500 Watts per 10 sq. Mtr. floor area to be air conditioned
(B) 2500 Watts per 10 sq. Mtr. floor area to be air conditioned
(C) 1600 Watts per 10 sq. Mtr. floor area to be air conditioned
(D) 2600 Watts per 10 sq. Mtr. floor area to be air conditioned
(E) Answer not known

79. It is a pipe which is installed in the house drainage to preserve the water seal of traps
- (A) Soil pipe (B) Vent pipe
(C) Anti-Siphonage pipe (D) Waste pipe
(E) Answer not known
80. Formula for sizing the total capacity of the Septic Tank is
- (A) $C = (180 P + 2000)$ (B) $C = (160 P + 3000)$
(C) $C = (170 P + 2000)$ (D) $C = (170 P + 3000)$
(E) Answer not known
81. A single angle section with bolted connection will produce eccentricity about
- (A) both the planes (B) one plane only
(C) uni-axial only (D) bi-axial only
(E) Answer not known
82. Euler's column theory is suitable for
- (A) Short columns only
(B) Long columns only
(C) Both Short and Long columns
(D) Short and slender columns
(E) Answer not known

83. The ultimate strain in concrete at the Limit state of collapse is generally
- (A) 0.0025 (B) 0.0035
(C) 0.0045 (D) 0.0015
(E) Answer not known
84. In singly reinforced beam, the reinforcement is provided in
- (A) tensile zone (B) compression zone
(C) neutral zone (D) any where
(E) Answer not known
85. Coulomb's wedge theory for active earth pressure is based on the concept of
- (A) Sliding wedge itself acts as a rigid body
(B) Sliding wedge itself acts as a flexible body
(C) Sliding wedge itself acts as a homogeneous body
(D) Back of the wall is smooth
(E) Answer not known
86. _____ structures are normally constructed in order to support a vertical or near - vertical face of Soil or Rock.
- (A) Pre-Tensioned (B) Retaining
(C) Tensile (D) Pneumatic
(E) Answer not known

87. In fixed beam, the slope at the both ends is
- (A) Zero (B) One
 (C) Infinity (D) Negative
 (E) Answer not known
88. A cantilever beam 2.5 m long is loaded with UDL of 10 kN/m over a length of 1.5m from fixed end. Taking $EI = 1.9 \times 10^{12}$ N-mm² then the maximum slope at free end of beam is
- (A) 0.0003 radians (B) 0.003 radians
 (C) 0.03 radians (D) 0.3 radians
 (E) Answer not known
89. A simply supported beam of span ' l ' is carrying a UDL of ' w ' per unit length. If the beam is propped at its mid span, then slope at the ends are
- (A) $\frac{wl^3}{192 EI}$ (B) $\frac{wl^3}{384 EI}$
 (C) $\frac{wl^4}{192 EI}$ (D) $\frac{wl^4}{384 EI}$
 (E) Answer not known
90. The vertical distance between a point on the elastic curve and the unloaded neutral axis is called
- (A) Radius of Curvature (B) Deflection
 (C) Slope (D) Moment of beam
 (E) Answer not known

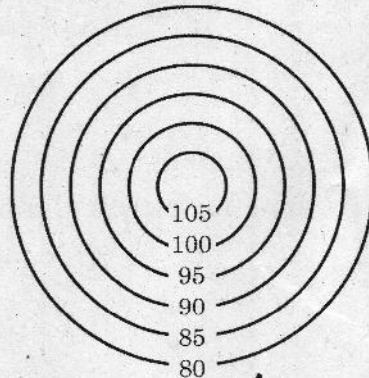
91. _____ is added to the paint to make it thin, so that it can be easily applied on Surfaces.
- (A) Base (B) Solvent
(C) Binder (D) Drier
(E) Answer not known
92. _____ is a defect found in painting work where a small portion of the painted surface is sometimes seen lose
- (A) Fading (B) Flaking
(C) Bloom (D) Grinning
(E) Answer not known
93. _____ is a substance which is used to join two or more parts so as to form a single unit.
- (A) Abrasive (B) Adhesive
(C) Rubber (D) Bitumen
(E) Answer not known
94. Which of the following is NOT a commonly used Thermo-plastic resins?
- (A) Alkyd (B) Cellulose
(C) Styrene (D) Casein
(E) Answer not known
95. In this type of glass, the steel wire mesh is placed in glass during rolling operation
- (A) Structural Glass (B) Wired Glass
(C) Perforated Glass (D) Obscured Glass
(E) Answer not known
96. Which of the following is not an ore of Copper?
- (A) Azurite (B) Bauxite
(C) Cuprite (D) Malachite
(E) Answer not known

97. _____ if present in bricks, will cause efflorescence on the surface of bricks.
- (A) Soluble Salts (B) Soluble Sugar
(C) High Porosity (D) High Silt
(E) Answer not known
98. A _____ is a large oven which is used to burn bricks
- (A) Clamp (B) Kiln
(C) Furnace (D) Culm
(E) Answer not known
99. The most important purpose of frog in a brick is to
- (A) Emboss manufacturer's name
(B) Form a key joint between brick and mortar
(C) Reduce the weight of the brick
(D) Reduce the raw material
(E) Answer not known
100. Identify the test for store from the following :
- (I) Hardness test
(II) Crushing test
(III) Microscopic test
(IV) High Alumina test
- (A) (I), (II), (III) and (IV) (B) (I), (II), (III)
(C) (IV) (D) (II), (III) and (IV)
(E) Answer not known
101. Which of the following is not an example of Artificial Stone?
- (A) Precast Concrete blocks (B) Mosaic tiles
(C) Terrazo (D) Granite
(E) Answer not known

102. FAR stands for
- (A) Floor Allowable Ratio (B) Floor Area Ratio
(C) Floor Area Rate (D) Floor Allowable Rate
(E) Answer not known
103. Residential or commercial buildings located as a block of blocks within a particular site are called as
- (A) group development (B) site layout
(C) multi-storey buildings (D) special buildings
(E) Answer not known
104. Which of the following situations indicate the absence of town planning?
- (A) Presence of squatter settlements
(B) Adequate open spaces for parks and play grounds
(C) Absence of formation of narrow streets and lanes
(D) Less traffic congestion during the working hours of the day
(E) Answer not known
105. The Urban Land Ceiling and Regulation Act was introduced in the year
- (A) 1979 (B) 1978
(C) 1977 (D) 1976
(E) Answer not known
106. A location in a building to hold the occupants during a fire or other emergency, when evacuation may not be safe is known as
- (A) Refuge area (B) Podium
(C) Stack area (D) Buffer zone
(E) Answer not known

107. EIS refers to
- (A) Environmental Impact Assessment Statement
 - (B) Environmental Impact Statement
 - (C) Ecological Impact Study
 - (D) Energy Intensity Study
 - (E) Answer not known
108. A survey that collects information on the characteristics of human population is called as
- (A) Density survey
 - (B) Land utilization survey
 - (C) Traffic survey
 - (D) Socio-Economic surveys
 - (E) Answer not known
109. The Special Economic Zone policy was announced in
- (A) April 2000
 - (B) July 1990
 - (C) April 1960
 - (D) July 1970
 - (E) Answer not known
110. According to the National Building Code, the area of the opening excluding doors, inclusive of frames for a room in hot-humid climate shall not be less than
- (A) $1/6^{\text{th}}$ of the floor area
 - (B) $1/8^{\text{th}}$ of the floor area
 - (C) $1/10^{\text{th}}$ of the floor area
 - (D) $1/12^{\text{th}}$ of the floor area
 - (E) Answer not known
111. The percentage of housing units to be allotted by private developers mandatorily is _____ for EWS/L/G.
- (A) 20%
 - (B) 25%
 - (C) 10%
 - (D) 15%
 - (E) Answer not known

112. Identify the incorrect statement from the following list
- (A) The approach road shall be 20 m for multi-storeyed group housing schemes on one plot
 - (B) The width of the main street on which buildings abut shall be less than 12.0 m
 - (C) The turning circle shall be at least 9.0 m of radius
 - (D) The height of the archway shall be more than 5.0 m
 - (E) Answer not known
113. Convert the following reduced bearing to whole circle bearing - N 25° 35' W.
- (A) 25° 35'
 - (B) 334° 25'
 - (C) 154° 25'
 - (D) 64° 35'
 - (E) Answer not known
114. The conventional colour code to denote items like temple, mosque and church is
- (A) Crinson lake
 - (B) Sap green
 - (C) Prussian blue
 - (D) Burnt Siunna
 - (E) Answer not known
115. Which type of the surface does the given contour map represents?



- (A) Valley surface
 - (B) Hill surface
 - (C) Plain surface
 - (D) Combination Hill and Valley surface
 - (E) Answer not known
116. Which of the following is not a form of indirect levelling?
- (A) Barometric Levelling
 - (B) Hypsometry
 - (C) Trigonometrical levelling
 - (D) Fly levelling
 - (E) Answer not known

117. The principle of a box sextant works on
(A) Reflection (B) Refraction
(C) Intersection (D) Resection
(E) Answer not known
118. In a surveyor's compass, the ring is graduated
(A) From 0° to 360° (B) From 0° to 180°
(C) In quadrants of 90° (D) In parts of 45°
(E) Answer not known
119. Which one is not the standard metric chain length
(A) 5 m (B) 10 m
(C) 15 m (D) 20 m
(E) Answer not known
120. The most essential feature of magnetic needle in a magnetic compass is
(A) To right the other end of the line
(B) To establish the magnetic meridian
(C) To house all the parts
(D) To read the directions of the lines
(E) Answer not known
121. One hectare of an area is equal to
(A) 10^2 m^2 (B) 10^4 m^2
(C) 10^6 m^2 (D) 10^8 m^2
(E) Answer not known

122. The lower values of pH starts _____ in pipes.
- (A) Corrossion (B) Strengthening
(C) Improvement (D) Lengthening
(E) Answer not known
123. In this system of layout, there are chances of water getting polluted
- (A) Dead end method (B) Grid iron method
(C) Circular method (D) Radial method
(E) Answer not known
124. The amount of free ammonia potable water should not exceed
- (A) 0.15 p.p.m. (B) 0.25 p.p.m.
(C) 0.35 p.p.m. (D) 0.45 p.p.m.
(E) Answer not known
125. Aeration of water is done to remove
- (A) Odour (B) Bacteria
(C) Turbidity (D) Hardness
(E) Answer not known
126. The ratio of the actual rainfall in a given particular year at a given place to its average annual rainfall is
- (A) Average Annual Rainfall (B) Maximum Annual Rainfall
(C) Index of wetness (D) Index of rainfall
(E) Answer not known

127. The abbreviation 'CBD' in International Environmental Law stands for
- (A) Civil Bureau of Displacement
 - (B) Convention on Biological Diversity
 - (C) Central Business District
 - (D) Chief Biological Demonstrator
 - (E) Answer not known
128. BOD refers to
- (A) Biochemical Oxygen Demand
 - (B) Biological Oxygen Demand
 - (C) Billing Operation Development
 - (D) Beneficial Oxygen Demand
 - (E) Answer not known
129. In an one pipe system of plumbing the diameter of the separate vent pipe should not be less than
- (A) 15 mm
 - (B) 25 mm
 - (C) 100 mm
 - (D) 50 mm
 - (E) Answer not known
130. All sundry solid waste as paper, broken furnitures, pottery, waste building materials etc. are known as
- (A) Garbage
 - (B) Sewage
 - (C) Sullage
 - (D) Rubbish
 - (E) Answer not known

131. _____ refers to the measurement of the size and proportions of the human body.
- (A) Anthropometry (B) Ergonomics
(C) Scale (D) Proportion
(E) Answer not known
132. _____ is an example for golden section.
- (A) The Parthenon (B) Bilbao Museum
(C) Otto building (D) Pompie du center
(E) Answer not known
133. The shape and structure of objects is called
- (A) Forum (B) Form
(C) From (D) Futile
(E) Answer not known
134. The projecting slab like member of a classical cornice and crowned by cymatium is called
- (A) Corbel (B) Cortile
(C) Corona (D) Cupola
(E) Answer not known
135. _____ is the principal aspect by which we identify and categorize forms.
- (A) Shape (B) Visual Inertia
(C) Colour (D) Texture
(E) Answer not known

136. The arches used during the Harappan civilization were termed as
- (A) True arch (B) Corbelled arches
(C) Ogival arches (D) Segmental arches
(E) Answer not known
137. The plan of St. Peters Cathedral is
- (A) Latin cross plan (B) Greek-cross plan
(C) Square plan (D) Circular plan
(E) Answer not known
138. The structure that facilitated the transfer of load from roof to floor without the use of walls during gothic period is termed as
- (A) Domes (B) Pendentive system
(C) Ribbed Vault (D) Flying buttress
(E) Answer not known
139. One of the salient architectural features of Gothic architecture is
- (A) Pendentives (B) Tracery work in stone
(C) Double shell domes (D) Rusticated masonry
(E) Answer not known
140. The buildings that were modified and adapted as churches during Early Christian period were
- (A) The Stoas (B) The Roman Basilicas
(C) The Steve (D) The Roman Mausoleums
(E) Answer not known

141. The word "Hieroglyph" means

- (A) Coffin (B) Necklace
(C) Sacred Carving (D) Triats
(E) Answer not known

142. A shaft revolving at r.p.m. transmits torque (T) in kg.m. The power developed is

- (A) $2\pi NT$ (B) $\frac{2\pi NT}{30}$
(C) $\frac{2\pi NT}{60}$ (D) $\frac{2\pi NT}{120}$
(E) Answer not known

143. A frame in which the number of members is less than $(2j-3)$ is known as

- (A) Reduntant frame (B) Deficient frame
(C) Perfect frame (D) Efficient frame
(E) Answer not known

144. A member, which is under compression, is called

- (A) Tie (B) Strut
(C) Sling (D) Truss
(E) Answer not known

145. The bending moment at the mid span of simply supported beam of length L, carrying a point load of W at its mid span is

(A) $\frac{WL}{2}$

(B) $\frac{WL}{3}$

(C) $\frac{WL}{4}$

(D) $\frac{WL}{6}$

(E) Answer not known

146. A beam of rectangular section of breadth 100 mm and depth 200 mm is subjected to a bending moment of 20 KNm stress developed at a distance of 100 mm from top face is

(A) 30 Mpa

(B) 20 Mpa

(C) 15 Mpa

(D) 10 Mpa

(E) Answer not known

147. The property of a material with which, it undergoes deformation without rupture, when external force is applied is called

(A) Ductility

(B) Brittleness

(C) Malleability

(D) Porosity

(E) Answer not known

148. The circular Bar of length (l) uniformly tapers from diameter (d₁) at one end to diameter (d₂) at the other. If the bar is subjected to an axial Tension load (p) then its Elongation is equal to

(A) $\frac{pl}{AE}$

(B) $\frac{pl}{A_1 A_2 E}$

(C) $\frac{4pl}{\pi E d_1 d_2}$

(D) $\frac{pl}{4\pi E d_1 d_2}$

(E) Answer not known

149. A rectangular wooden column of length 3m and size 300mm × 200mm carries an axial load of 300kN. Find the stress value in column.

- (A) $4 N/mm^2$ (B) $6 N/mm^2$
(C) $5 N/mm^2$ (D) $7 N/mm^2$
(E) Answer not known

150. The ratio between the stress and strain is

- (A) Hook's law (B) Pascal's law
(C) Elastic constant (D) Modulus of Elasticity
(E) Answer not known

151. The ratio of lateral strain to the Linear strain is called

- (A) Modulus of elasticity (B) Modulus of rigidity
(C) Both modulus (D) Poisson's ratio
(E) Answer not known

152. The torsional equation is written as

- (A) $\frac{I_p}{T} = \frac{\tau}{R} = \frac{l}{c\theta}$ (B) $\frac{T}{I_p} = \frac{\tau}{R} = \frac{c\theta}{l}$
(C) $\frac{T}{I_p} = \frac{R}{\tau} = \frac{l}{c\theta}$ (D) $\frac{I_p}{T} = \frac{R}{\tau} = \frac{l}{c\theta}$
(E) Answer not known

153. _____ command moves the view screen without changing viewing scale.

- (A) PLOT (B) PROSCALE
(C) PAN (D) VIEWSCALE
(E) Answer not known

154. _____ command increases or decreases the scale of figure.

- (A) RFD (B) SCALE
(C) INCSCA (D) DIMSCA
(E) Answer not known

155. By which of the following command you can draw rectangle in Auto CAD?

- (A) ARC (B) POL
(C) REC (D) REG
(E) Answer not known

156. _____ command is used to load types of lines.

- (A) LINE TYPE (B) LOAD LINE
(C) LOAD TYPE (D) CRET TYPE
(E) Answer not known

157. Which one of the following is an input device?

- (A) Monitor (B) Printer
(C) Plotter (D) Keyboard
(E) Answer not known

158. In Auto CAD usage of polar Array will result in the formation of drawing in _____ form.
- (A) Rectangular (B) Square
(C) Circular (D) Triangular
(E) Answer not known
159. In VPOINT, the values -1,0,0 means
- (A) Bottom view (B) Left view
(C) Right view (D) Top view
(E) Answer not known
160. _____ function is used to print some message on the screen
- (A) PROMP (B) PRINE
(C) PRINC (D) PRAC
(E) Answer not known
161. _____ command lets you to insert various blocks
- (A) Format (B) Block
(C) Insert (D) Tools
(E) Answer not known
162. The command aliases 'MS' means
- (A) MSOFFICE (B) MSWIND
(C) MSPACE (D) MSAC
(E) Answer not known

163. Provision for sanitary works the Approximate cost is
- (A) 2 to 4% of the Estimated cost of the Building works
 - (B) 4 to 5% of the Estimated cost of the Building works
 - (C) 6 to 8% of the Estimated cost of the Building works
 - (D) 8 to 10% of the Estimated cost of the Building works
 - (E) Answer not known
164. The method of rating certain small items for which detailed quantities cannot be taken easily is
- (A) Junk value
 - (B) Extra items
 - (C) Contingencies
 - (D) Lump-sum
 - (E) Answer not known
165. In which method, the following formula is used?
- The cost of a project = cost per unit \times number of units in the structure
- (A) Carpet area method
 - (B) Plinth area method
 - (C) Cubical content method
 - (D) Unit cost method
 - (E) Answer not known
166. The capacity of brickwork in super structure, ground floor per day per mason is
- (A) 0.5 Cu.m
 - (B) 1.0 Cu.m
 - (C) 1.1 Cu.m
 - (D) 1.5 Cu.m
 - (E) Answer not known
167. For 10 sq.m of half brick work (with metric brick), the number of bricks required will be
- (A) 300
 - (B) 400
 - (C) 500
 - (D) 550
 - (E) Answer not known

168. Identify the item of work whose area shall be included in the carpet area estimate
- (A) Verandah area (B) Entrance hall area
(C) Kitchen area (D) Dining room area
(E) Answer not known
169. If the total cost of a building is 3.5 lakhs and its plinth area is 50 sq.m. Then the rate of the plinth area is
- (A) 6,000/- (B) 7,000/-
(C) 8,000/- (D) 5,000/-
(E) Answer not known
170. The time saving is achieved in the following system
- (A) Group system (B) Trade system
(C) Combined system (D) Both (A) and (B)
(E) Answer not known
171. The main factors to be considered while preparing a detailed estimate are
- (A) Quantity of materials
(B) Quantity and availability of materials
(C) Transportation and labour charges
(D) Quantity, availability and transportation of materials including the labour charges
(E) Answer not known
172. The usable floor area less for staircase, toilets, kitchen, store, verandah, etc is
- (A) Parapet Area (B) Carpet Area
(C) Floor Area (D) Plinth Area
(E) Answer not known

173. What is meant by RTT in Elevator planning and system?
(A) Round Trip Time (B) Revolve Travel Time
(C) Rotate Trip time (D) Reverse Travel Time
(E) Answer not known
174. A thermal comfort index which combines the effects of air movements, humidity and temperature with regard to the human comfort is
(A) Effective temperature (B) Bioclimatic chart
(C) Relative humidity (D) Comfort zone
(E) Answer not known
175. The role of Dampers in Air conditioning system is
(A) Controls direction, velocity and volume of air
(B) Carries conditioned air
(C) Discharge conditioned air
(D) Re-circulate the return air
(E) Answer not known
176. The supply of outside air into a building through window or other openings due to wind outside is called
(A) Air conditioning (B) Mechanical ventilation
(C) Natural ventilation (D) Positive ventilation
(E) Answer not known
177. In an office building, where people are working, there has to be _____ to cause proper ventilation of the premises.
(A) Air change (B) Humidity
(C) Quality of air (D) Temperature
(E) Answer not known

178. What is the recommended air changes for Bathroom?
- (A) 20 – 30 air changes / hour (B) 6 – 10 air changes / min
(C) 20 – 30 air changes / min (D) 6 – 10 air changes / hour
(E) Answer not known
179. Which of the following activity is considered as the highest contributor to the domestic water consumption?
- (A) Bathing (B) Cooking
(C) Washing the house (D) Washing of clothes
(E) Answer not known
180. The system carrying sanitary sewage in one sewer and storm water in another set of sewer is called
- (A) Partially separate system (B) Combined system
(C) Separate system (D) Partially combined system
(E) Answer not known
181. What is meant by W.C. in sanitary Fitment?
- (A) Water Closet (B) Water Cup
(C) Water Cubide (D) Water Container
(E) Answer not known

182. The minimum quantity of main longitudinal reinforcement required in column is
- (A) 0.6% (B) 0.7%
(C) 0.8% (D) 6.0%
(E) Answer not known
183. Slabs, grids, shells are example for
- (A) One dimensional elements (B) Two dimensional elements
(C) Three dimensional elements (D) Dimensionless elements
(E) Answer not known
184. In one way slabs, the loads are carried in
- (A) One direction only (B) Both directions
(C) All the four corners (D) Centre or slab
(E) Answer not known
185. I.S. 456 : 2000 recommends that maximum shear stress should not exceed
- (A) $0.631\sqrt{f_{ck}}$ (B) $0.3\sqrt{f_{ck}}$
(C) $0.2\sqrt{f_{ck}}$ (D) $0.1\sqrt{f_{ck}}$
(E) Answer not known
186. The reinforcement bar is to be anchored or two bars have to be given an overlap is known as
- (A) Shear Reinforcement (B) Curtailment of rod
(C) Torsion Reinforcement (D) Development length
(E) Answer not known

187. For a rectangular section, subjected to a eccentric load, there will be no tensile stress if the load is on either axis within the

- (A) Middle third of the section (B) Middle of the section
(C) Middle half of the section (D) Middle quarter of the section
(E) Answer not known

188. The value of Rankine's constant for mild steel is

- (A) $\frac{1}{9000}$ (B) $\frac{1}{7500}$
(C) $\frac{1}{1600}$ (D) $\frac{1}{750}$
(E) Answer not known

189. Stiffness factor for a beam fixed at one end and freely supported at the other end is

- (A) $\frac{3EI}{l}$ (B) $\frac{4EI}{l}$
(C) $\frac{6EI}{l}$ (D) $\frac{8EI}{l}$
(E) Answer not known

190. A fixed beam is a beam whose end supports are such that the end slopes are

- (A) Maximum (B) Minimum
(C) Zero (D) 1
(E) Answer not known

191. A Cantilever beam of span 'l' carries a UDL of 'w' per unit length over the entire span. The maximum deflection at the free end of beam is

(A) $\frac{wl^3}{6EI}$

(B) $\frac{wl^4}{8EI}$

(C) $\frac{wl^3}{8EI}$

(D) $\frac{wl^4}{6EI}$

(E) Answer not known

192. Which of the following is NOT a non-chemical method for preservation of Bamboo?

(A) Smoking

(B) White Washing

(C) Elevated Construction

(D) Acid Washing

(E) Answer not known

193. _____ method is used, when exposed pointing and plasterings are treated using water proofing agents like sodium/pottasium silicates.

(A) Integral damp proofing

(B) Guniting

(C) Surface treatment

(D) Cavity wall construction

(E) Answer not known

194. _____ is used for painting moter cars, aeroplanes etc.,

(A) Asbestos paints

(B) Emulsion paints

(C) Colloidal paints

(D) Cellulose paints

(E) Answer not known

195. Which of the following is not a property of PIG-IRON?
- (A) It can be hardened but not tempered
 (B) It can be welded for Riveted
 (C) It cannot be magnetised
 (D) It does not rust
 (E) Answer not known
196. When connect is fresh, it should have enough _____ so that it can be placed in the formwork economically.
- (A) Workability (B) Density
 (C) Melleability (D) Ductility
 (E) Answer not known
197. Which of the following is NOT a softwood?
- (A) Chir (B) Deodar
 (C) Oak (D) Pine
 (E) Answer not known
198. The setting action of Quick Setting Cement starts within _____ minutes after addition of water and becomes hard in less than _____ minutes.
- (A) 2, 15 (B) 5, 15
 (C) 5, 30 (D) 2, 30
 (E) Answer not known
199. The commoly used lime for white washing is
- (A) Fat lime (B) Hydraulic lime
 (C) Lean lime (D) Intermediate lime
 (E) Answer not known
200. _____ lime slakes vigorously and its volume is increased to about 2 to 2½ times the volume of quick lime.
- (A) Hydraulic lime (B) Fat lime
 (C) Poor lime (D) Slake lime
 (E) Answer not known

SPACE FOR ROUGH WORK

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SEAL