

155/2025

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total No. of questions : 100

Time : 1 Hour 30 Minutes

Maximum : 100 Marks

INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the question booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball-Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

155/2025

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. _____ is the temporary frame work is useful in construction, demolition, maintenance or repair works.
(A) Cofferdam (B) Scaffolding
(C) Flying Shoring (D) Underpinning
2. To give protection to the building against rain, heat, snow, wind, which part of the building is constructed in the form of frame work :
(A) Lintels (B) Truss
(C) Plinth (D) Roof
3. Name the tool can be is used for cutting soft bricks :
(A) Hammer (B) Scutch
(C) Spirit level (D) Trowel
4. Which of the following types of walls is constructed to divide the space within the building?
(A) Partition Wall (B) Party Wall
(C) Solid Wall (D) Cavity Wall
5. Name the type of construction, the stones of irregular sizes are used :
(A) Rubble masonry (B) Ashlar masonry
(C) Dry masonry (D) Granite masonry
6. A _____ door essentially consists of a centrally placed mullion or pivot in a circular opening.
(A) Panelled (B) Swing
(C) Collapsible (D) Revolving
7. In either of stone masonry or Brick masonry, which of the following term used to denote the finishing of motor joints :
(A) Plastering (B) White washing
(C) Pointing (D) Grouting
8. Which type window is provided on a sloping roof of a building?
(A) Lantern window (B) Dormer window
(C) Louvered window (D) Glazed window

9. How many days required to remove the form work from the slabs excluding props?
 (A) 4 days (B) 7 days
 (C) 14 days (D) 1 day
10. The vertical members fixed between steps and hand rail, are known as _____.
 (A) Strings (B) Soffits
 (C) Newel posts (D) Balusters
11. In stone masonry works, through stones should be provided at :
 (A) 1.0 m distances (B) 1.5 m distances
 (C) 2.0 m distances (D) 2.5 m distances
12. Which term in Stair case is called outer projection on the tread?
 (A) Nosing (B) Newel
 (C) Baluster (D) Carriage
13. In which type of bond we can see 19 cm × 9 cm side of brick in the wall face?
 (A) Header (B) Stretcher
 (C) Face (D) Front
14. The function of _____ is to make the paint thin so that it can be easily applied on the surface.
 (A) Pigment (B) Base
 (C) Carrier (D) Solvent
15. _____ is constructed above doors, windows.
 (A) Joist (B) Purlin
 (C) Lintel (D) Arch
16. Which of the following is given Ultra Strength to Cement?
 (A) Tri-calcium silicate (B) Di-calcium silicate
 (C) Tri-calcium aluminate (D) Tetra calcium alumino ferrite
17. Name the type of cement that is suitable for canal lining :
 (A) Sulphate resisting cement (B) Rapid hardening cement
 (C) Quick setting cement (D) Pozzuolana cement
18. Slump test is carried out to determine _____ of the fresh concrete.
 (A) Strength (B) Durability
 (C) Workability (D) Water content
19. If water required for 1 bag of cement is 30 litres, the water cement ratio is :
 (A) 0.40 (B) 0.50
 (C) 0.60 (D) None of these

20. Name the members which support covering material of a sloping roof are :
 (A) Rafters (B) Purlins
 (C) Battens (D) Struts
21. _____ rock formed from the solidification of molten matter magma.
 (A) Sedimentary rock (B) Metamorphic rock
 (C) Igneous rock (D) None of the above
22. The piece of a brick cut along the centre of width in such a way that its length is equal to that of full brick, is called :
 (A) Half brick (B) King closer
 (C) Bevelled closer (D) Queen closer
23. _____ is fixed on the external doors where a padlock is to be used.
 (A) Aldrop Bolt (B) Barrel Bolt
 (C) Flush Bolt (D) Espangnolette bolt
24. Name the grade of sand if If Fineness modulus of sand is 2.5 :
 (A) Very Fine Sand (B) Fine Sand
 (C) Medium Sand (D) Coarse Sand
25. Choose the main function of alumina in brick earth :
 (A) To impart plasticity (B) To make the brick durable
 (C) To prevent shrinkage (D) To make the brick impermeable
26. The purpose of doing Seasoning of Timber is for _____.
 (A) To make it water proof (B) To paint its surface
 (C) To increase its temperature (D) To remove water
27. Which apparatus is used to test the Soundness of cement?
 (A) Vicat's apparatus
 (B) Le-chatelier apparatus
 (C) Compressive strength testing apparatus
 (D) None of these
28. The Initial setting time for ordinary Portland cement as per IS specifications should not less than _____.
 (A) 10 minutes (B) 30 minutes
 (C) 60 minutes (D) 600 minutes
29. The age of a tree can be known by examining :
 (A) Cambium layer (B) Heart wood
 (C) Medullary rays (D) Annular rings

30. What is the ratio of the component in grade M20 concrete?
- (A) 1 : 3 : 6 (B) 1 : 1.5 : 3
(C) 1 : 1 : 2 (D) 1 : 2 : 4
31. As per IS : 456 : 2000, the minimum grade of concrete for plain and reinforced concrete work is _____.
- (A) M_{30} (B) M_{20}
(C) M_{10} (D) M_{25}
32. The distance between the line of action of the resultant compression and the line of action of the resultant tension is _____.
- (A) Neutral axis (B) Lever arm
(C) Critical depth (D) Effective depth
33. Pick up the correct statement(s) :
- As per IS : 456 : 2000,
- (i) The cross-sectional area of longitudinal reinforcement shall not be less than 0.6 percent, of the gross cross-sectional area of the column.
(ii) The bars shall not be less than 12 mm in diameter.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
34. As per IS : 456 : 2000, Degree of workability required for the placing condition – Trench fill is _____.
- (A) Medium (B) High
(C) Low (D) Very low
35. Pick up the correct statement(s) :
- (i) Gravity retaining walls resist the back-fill pressure and remain stable by their own weight.
(ii) Gravity walls have to be massive to avoid tensile stresses.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
36. Pick up the correct statement(s) :
- (i) Distribution reinforcement is provided in the longer span of one way slab.
(ii) The distribution steel is kept above the main steel.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these

37. In ISMB 500, the number 500 refers to :
- (A) Depth of beam (B) Width of flange
(C) Thickness of web (D) None of the above
38. The distance of the centre of the bolt hole from the adjacent edge of the plate is :
- (A) End distance (B) Edge distance
(C) Gauge distance (D) Pitch
39. Pick up the correct statement(s) :
- (i) Battened columns have the same strength as laced columns but are uneconomical.
(ii) Battens are not recommended for a column subjected to an eccentric load.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
40. The failure of a tension member at the end connection along a path involving tension on one plane and shear on the perpendicular plane is called as :
- (A) Block shear failure (B) Shear lag
(C) Net section rupture (D) Yielding
41. Which water connection is provided before the water enters the water meter in the house?
- (A) Ferrule (B) Service pipe
(C) Stop cock (D) Goose neck
42. Pick up the correct statement(s) :
- (i) Slow sand filters are best suited for smaller plants.
(ii) The cleaning of slow sand filters is not done by back washing.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
43. The most predominant force acting on the underground sewer pipe is _____.
- (A) Tensile force (B) Impact force
(C) Compressive force (D) Bending force
44. Pick up the correct statement(s) :
- (i) Septic tanks work on the principle of anaerobic decomposition.
(ii) The detention period for septic tank generally varies between 2 – 6 hours.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these

45. The recommended spacing of manholes on sewers, having diameter upto 0.3 m, is :
- (A) 75 m (B) 45 m
(C) 90 m (D) 120 m
46. The area of land acquired for the road along its alignment is called :
- (A) Land width (B) Right of way
(C) Carriage way (D) Width of shoulder
47. The roads connecting important cities within the state is called :
- (A) National highway (B) State highway
(C) Major district road (D) Express way
48. Pick up the correct statement(s) :
- (i) A compound curve consists of a series of two or more simple curves that turn in same direction and join at common tangent points.
(ii) A reverse curve consists of two simple curves of opposite direction that join at the common tangent point.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
49. The longitudinal movement of rails in the track is known as _____.
- (A) Coning of wheels (B) Tilting of rails
(C) Creep of rails (D) Wear of rails
50. Pick up the correct statement(s) :
- (i) Flat footed rails have less strength and stiffness than Bull headed rails.
(ii) No chairs or keys are required in Flat footed rails.
- (A) Only (i) (B) Only (ii)
(C) Both (i) and (ii) (D) None of these
51. The important functions of a Marshalling yard are :
- (A) Reception (B) Sorting
(C) Departure (D) All the above
52. The medium to transfer loads from superstructure of the bridge to substructure is called :
- (A) Abutment (B) Bed block
(C) Bearing (D) Pier

53. Bandra – Worli Sea link is an example of :
 (A) Cantilever bridge (B) Suspension Bridge
 (C) Arch bridge (D) Cable stayed bridge
54. The type of loading recommended by IRC for temporary structures and for timber bridges is :
 (A) Class AA loading (B) Class A loading
 (C) Class B loading (D) Class C loading
55. The usual cross-sections adopted for tunnel are :
 (A) D-section (B) Horse shoe section
 (C) Circular section (D) All the above
56. Standard size of A2 drawing sheet is :
 (A) 594×841 (B) 210×297
 (C) 420×594 (D) 297×420
57. Fillet command is used to produce :
 (A) Sharp corners (B) Round corners
 (C) Both of the above (D) None of the above
58. Projection adopted for drawing building plan is :
 (A) First angle Projection (B) Third angle Projection
 (C) Second angle Projection (D) Fourth angle Projection
59. _____ indicate :
 (A) Line of Symmetry (B) Hidden outline
 (C) Visible Outline (D) Section line
60. Polyline can be broken into individual lines and arcs using which of the following command :
 (A) Break (B) Explode
 (C) Trim (D) Offset
61. Ratio of total built up area on all the floors to the total plot area is known as :
 (A) FAB (B) ISB
 (C) FSI (D) FRO
62. IS Code for building bye laws is :
 (A) BIS 1256-1967 (B) BIS 2440-1975
 (C) BIS 1038-1983 (D) BIS 962-1989

63. For Dimensioning, the length of arrow head be :
(A) Three times depth (B) 12 times depth
(C) 2.5 times depth (D) 1.5 times depth
64. According to NBC Key plan is never drawn to a scale of less than :
(A) 1 : 100 (B) 1 : 500
(C) 1 : 1000 (D) 1 : 10000
65. The minimum permissible covered area of plot between 201 m² to 500 m² as per building bye laws is :
(A) 40% (B) 33.5%
(C) 66.6% (D) 50%
66. Estimate prepared on the basis of Plinth area multiplied by the height of the building is :
(A) Plinth Area Estimate (B) Cubical Content Estimate
(C) Detailed Estimate (D) Abstract Estimate
67. For preparing rates of item percentage of contractors profit added is :
(A) 5% (B) 7.5%
(C) 10% (D) 16%
68. Revised Estimate is prepared when :
(A) Technical sanction is rejected
(B) Administrative sanction is rejected
(C) Cost of estimate exceed by 10% or more from actual sanctioned amount
(D) Cost of estimate less than 10% or more from actual sanctioned amount
69. The Damp Proof Course (DPC) is measured in :
(A) Sq.m. (B) Cu.m.
(C) Meters (D) None of these
70. Plinth area of a building does not includes :
(A) Area of the walls at the floor level
(B) Internal shaft for sanitary installations up to 2 sq.m. in area
(C) Lift and wall including landing
(D) Area of cantilevered porch

71. The method of Plane surveying can be used when the extent of area less than :
 (A) 2500 Sq.m. (B) 500 Sq.m.
 (C) 1000 Sq.m. (D) 250 Sq.m.
72. The survey carried out to fix the boundary of a building site is :
 (A) Engineering survey (B) Topographic survey
 (C) Cadastral survey (D) EDM survey
73. While Levelling in undulating terrain, it is preferable to setup the instrument on :
 (A) Top of summit (B) Bottom of valley
 (C) One side of the slope (D) None of these
74. Which one of the following is smallest scale?
 (A) 1 cm = 10 m (B) RF 1/5000
 (C) 1 : 10000 (D) 1 cm = 10 km
75. To determine the length of Bridge proposed to be built across a very wide river, the surveying method of choice will be :
 (A) Chain Surveying (B) Hydrographic surveying
 (C) Topographic surveying (D) Triangulation
76. Reciprocal ranging is adopted when the following is encountered :
 (A) A river (B) A Tall building
 (C) A dense forest (D) A hillock
77. The Reduction of level by line of collimation method does not provide a check on :
 (A) Reduced level (B) Backsight
 (C) Foresight (D) Intermediate sight
78. Horizontal angle between true meridian and the survey line is :
 (A) Dip (B) Declination
 (C) Bearing (D) Azimuth
79. If the quadrantal bearing of a line is S10°W then the whole circle bearing of the line is :
 (A) 170° (B) 350°
 (C) 190° (D) 280°
80. Sensitivity of a bubble tube increases when :
 (A) Increasing the radius
 (B) Decreases the viscosity of liquid
 (C) Increasing length and diameter of tube
 (D) All the above

81. Cross drainage work admitting the drainage water into the canal :
- (i) Aqueduct
 - (ii) Super passage
 - (iii) Siphon
 - (iv) Level crossing
 - (v) Inlet and outlet
- (A) Only (i) and (ii) (B) Only (ii) and (iii)
(C) Only (iii) and (iv) (D) Only (iv) and (v)
82. An impervious or fairly impervious barrier put across a natural stream so that a reservoir is formed :
- (A) Barrages (B) Dams
(C) Weir (D) Cross drainage
83. The canal which carries water to the agricultural fields :
- (A) Power canal (B) Feeder canal
(C) Carrier canal (D) Irrigation canal
84. If a crop requires 13 watering at an interval of 10 days and a water depth of 10 cm in every watering, then delta for that crop will be :
- (A) 1.30 m (B) 1.30 cm
(C) 13 m (D) 100 cm
85. A hydroelectric work comprises the following components :
- (i) Surge tank
 - (ii) Reservoir
 - (iii) Penstocks
 - (iv) Berm
- (A) Only (i) and (ii) (B) Only (ii) and (iii)
(C) Only (i) and (iii) (D) Only (ii) and (iv)
86. Intake structure conveys water to penstock from :
- (A) Surge tank (B) Forebay
(C) Canal (D) Dam
87. One hectare – metre = :
- (A) 10000 m³ (B) 1000 m³
(C) 10000 cm³ (D) 1000 cm³

88. In hydrograph, ordinate is :

- (i) Discharge
- (ii) Velocity
- (iii) Time

- (A) Only (i) and (ii)
- (B) Only (ii) and (iii)
- (C) Only (i)
- (D) Only (iii)

89. The canal which carries water directly from the river :

- (A) Main canal
- (B) Branch canal
- (C) Major distributory
- (D) Minor distributory

90. In siphon :

- (A) F.S.L. of the canal is below bed level of drainage trough
- (B) F.S.L. of the canal is much above bed level of drainage trough
- (C) Bed level of drainage trough is below F.S.L. of the canal
- (D) Bed level of drainage trough is much above F.S.L. of the canal

91. The resistance set up by the molecules of a material to the deformation due to the application of external force :

- (A) Strain
- (B) Elasticity
- (C) Stress
- (D) Modulus of elasticity

92. The radius of gyration is distance from :

- (A) Centroid
- (B) Centre of gravity
- (C) Axis of referene
- (D) Edge

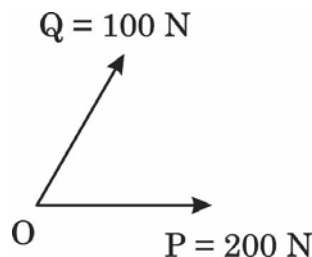
93. When the surface is on the point of motion, the force of friction is maximum and this maximum friction is called :

- (A) Limiting friction
- (B) Solid friction
- (C) Static friction
- (D) Dynamic friction

94. Process of finding components of forces in specified directions :

- (A) Resolution of force
- (B) Moment of a force
- (C) Moment of inertia
- (D) Analytical method

95. Moment of resultant of a number of forces about any point is equal to the algebraic sum of moments of all forces of system about that point :
- (i) Principle of Moments
 - (ii) Moment of Force
 - (iii) Lami's Theorem
 - (iv) Varignon's Principle
- (A) Only (i) and (ii) (B) Only (iii) and (iv)
(C) Only (i) and (iv) (D) Only (ii) and (iii)
96. In the absence of a definite yield point, the 0.2 percent 'proof stress' is taken as :
- (A) Ultimate stress (B) Modulus of elasticity
(C) Yield strength (D) Nominal stress
97. If a force acting at a point on a rigid body, is shifted to any other point which is on the line of action of the force, the external effect of the force on the body :
- (A) cannot be determined (B) is zero
(C) changes (D) remains unchanged
98. A force of 10 N is acting at a point making an angle of 30° with the horizontal. Determine the components of this force along Y direction :
- (A) 9 N (B) 5 N
(C) 6 N (D) 4 N
99. Coefficient of friction is :
- (A) $\sin \phi$ (B) $\cos \phi$
(C) $\tan \phi$ (D) $\sec \phi$
100. Two forces of magnitude 100 N and 200 N acting at a point O. If angle between the forces is 60° , determine the magnitude of resultant force :



- (A) 265 N (B) 245 N
(C) 224 N (D) 291 N

SPACE FOR ROUGH WORK

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