

78/26

Question Booklet Alpha Code

A

Question Booklet Sl. No.

A

Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

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/her 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.

A

1. An instrument made of lead bar enclosed in rubber and can be bent into any shape to draw smooth curve passing through any given points
 - A) French curve
 - B) Flexible curve
 - C) Planimeter
 - D) Pentagraph
2. The length to width ratio of drawing sheet is
 - A) 1 : 3
 - B) 3 : 1
 - C) 1 : $\sqrt{2}$
 - D) $\sqrt{2}$: 1
3. Which type lines are used for drawing diagonal lines, hatching etc. ?
 - A) Type A
 - B) Type B
 - C) Type C
 - D) Type D
4. In a drawing, the letters and numbers are designated by their
 - A) Height
 - B) Top width
 - C) Bottom width
 - D) Thickness
5. Which of the following statements are correct for Rhomboid ?
 - i. Opposite sides are equal and parallel
 - ii. All sides are equal
 - iii. Angles are not right angle
 - iv. Angles are right angle
 - A) i, iii
 - B) i, iv
 - C) ii, iii
 - D) ii, iv
6. Actual length of a room is 10 m and is represented by 200 mm in the drawing. Then the scale of the drawing is
 - A) 1 : 100
 - B) 1 : 50
 - C) 100 : 1
 - D) 50 : 1
7. In first angle projection
 - i. Top view comes below front view
 - ii. Front view comes below top view
 - iii. Right side view drawn to the left side of front view
 - iv. Right side view drawn to the right side of front view
 - A) i, iii
 - B) i, iv
 - C) ii, iii
 - D) ii, iv
8. The length to height ratio of closed filled arrow head is
 - A) 1 : 3
 - B) 3 : 1
 - C) 1 : $\sqrt{2}$
 - D) $\sqrt{2}$: 1

9. Which of the following standard should be considered in planning ?

A) IS codes for planning	B) ISI
C) NBC 2005	D) Local building – Bye laws
10. Which of the following is used as escape elements in building for fire safety ?

A) Lobbies	B) Strong room	C) Floors	D) Outer walls
------------	----------------	-----------	----------------
11. Which is an item rate estimate ?

A) Plinth area	B) Annual repair
C) Cubical content	D) Preliminary
12. Which estimate is prepared while the original sanctioned estimate is exceeded by more than 5% ?

A) Supplementary	B) Extension and improvement
C) Revised	D) Plinth area
13. While calculating the quantity of brick work, no deduction or addition shall be made for the following
 - i. Opening upto 1 sq m in section
 - ii. Ends of joints, beams, lintels, posts, rafter, corbel, steps etc.
 - iii. Opening upto 0.1 sq m in section
 - iv. Wall plates and bed plates, bearing of slab, chajjah where the thickness does not exceed 10 cm

A) i, ii, iii	B) i, ii, iv
C) ii, iii, iv	D) All of the above
14. While preparing estimate, plastering bands of 30 cm or below are measured in

A) Running meter	B) Square meter
C) Cubic meter	D) Number
15. Which of the following cost is not included in rate analysis of an item ?
 - A) Contractor's profit
 - B) Overhead cost
 - C) Land cost
 - D) Stationary, Printing, Travelling expenses etc.

16. Quantity of dry materials required for one cu m of finished concrete in M 15 grade is
 A) Cement – 0.22 cu m, Sand – 0.44 cu m, Aggregate – 0.88 cu m
 B) Cement – 0.50 cu m, Sand – 1.00 cu m, Aggregate – 2.00 cu m
 C) Cement – 1.00 cu m, Sand – 2.00 cu m, Aggregate – 4.00 cu m
 D) Cement – 0.10 cu m, Sand – 0.20 cu m, Aggregate – 0.40 cu m
17. Unit of measurement for DPC
 A) Running meter
 B) Square meter
 C) Cubic meter
 D) Number
18. What is printed list of rates of various items of work maintained by the engineering department ?
 A) Schedule of rates
 B) Analysis of rates
 C) Item rates
 D) Market rates
19. The total cost of construction including land or the original total amount required to possess a property
 A) Capitalized value
 B) Market value
 C) Book value
 D) Capital cost
20. The gradual exhaustion of the usefulness of a property due to structural deterioration, use, life, wear and tear, decay and obsolescence.
 A) Sinking fund
 B) Depreciation
 C) Scrap value
 D) Market value
21. The test is done to find out the rate of wear of stones which are used in road construction
 A) Attrition test
 B) Acid test
 C) Crystallisation test
 D) Hardness test
22. The slump value for normal RCC work
 A) 20-40 mm B) 40-50 mm C) 70-80 mm D) 80-150 mm
23. Which lime used for plastering and whitewashing ?
 A) Fat lime
 B) Poor lime
 C) Hydraulic lime
 D) None of these

24. Harmful ingredients in brick earth
A) Vegetation and organic matter B) Pebbles
C) Alkalies D) All of these
25. Who was the inventor of artificial cement ?
A) John Smeaton B) Karl Terzaghi
C) Thomas Telford D) Joseph Aspidin
26. The quantity of gypsum added in cement to
A) Initiate the setting B) Accelerate the setting
C) Retard the setting D) No role in setting action
27. Period of natural seasoning of timber in presence of air
A) 3-6 months B) 6-12 months C) 1-2 year D) 2-4 year
28. The liquid substance which hold the ingredients of a paint in liquid suspension
A) Base B) Vehicle C) Drier D) Solvent
29. Cast iron manufacture in
A) Cupola furnace B) Blast furnace
C) Both A) and B) D) None of these
30. Which steel is used for manufacture of structural steel ?
A) Mild steel B) Medium carbon steel
C) High carbon steel D) All of these
31. Brass is an alloy of
A) Copper and tin B) Copper and zinc
C) Tin and lead D) Copper and lead
32. When cement is added to lime mortar to improve quality and achieve early strength
A) Gypsum mortar B) Lime mortar
C) Gauged mortar D) All of these

33. The horizontal course of masonry project from the face of wall at every floor or sill level
 A) Frieze B) Cornice
 C) Corbel D) String course
34. The cut underside of a projected course of masonry which is provided to check the creepage of rain water on the underside of projected portion
 A) Throating B) Weathering C) Coping D) Gutter
35. A wooden headed hammer used for wooden headed chisel
 A) Claw hammer B) Mallet
 C) Iron hammer D) Spalling hammer
36. The type of bond in which the bricks are laid in course inclined at 45° in two directions from the center
 A) Diagonal bond B) Garden wall bond
 C) Dutch bond D) Herring bone bond
37. The transverse member used in bricklayer scaffolding one end of which is placed into the hole on the wall
 A) Standard B) Putlog C) Brace D) Ledger
38. The minimum load which may cause the failure of foundation is called
 A) Improving bearing capacity
 B) Safe bearing capacity
 C) Ultimate bearing capacity
 D) Factor of safety
39. Provision of a layer of water repellent material between the source of dampness and part of structure adjacent to it is called
 A) Cavity wall B) Integral treatment
 C) Surface treatment D) Membrane damp proofing
40. The space between the back of the arch ring and the horizontal plane tangent to the crown
 A) Spandril B) Haunch C) Intrados D) Skewback
41. The tool used for pulling out nails, tack from wood
 A) Wheel brace B) Sash cramp
 C) Pincer D) Gimlet

51. A combined footing is commonly used when
- A) Under a set of walls
 - B) Under a set of columns
 - C) Two columns are spaced close to each other
 - D) Two columns are spaced far apart
52. For cantilever beam main reinforcement is placed at
- A) Bottom
 - B) Center
 - C) Support
 - D) Top
53. Which of the following statements is/are correct ?
- i. Crop period is the total time that elapses between the sowing of the crop and its harvesting.
 - ii. Crop period represents the total time during which the crop remains in the field.
 - iii. Crop period is the total time between the first watering done for the preparation of the land for sowing of a crop and the last watering done before its harvesting.
 - iv. Crop period is essential for determining the total water requirement of a crop.
- A) Only i and ii
 - B) Only ii and iii
 - C) Only i and iv
 - D) Only i and iii
54. Capillary water in soil refers to
- A) Water held very tightly by soil particles and unavailable to plants
 - B) Water present in excess of hygroscopic water, held in soil pores by molecular attraction
 - C) Water that drains freely through the soil due to gravity
 - D) Water vapor present in the atmosphere around soil particles
55. The volume of water that is temporarily stored in the permeable bank of a reservoir when the reservoir fills and drains out as the water level in the reservoir is lowered is known as
- A) Valley storage
 - B) Surcharge storage
 - C) Dead storage
 - D) Bank storage
56. Groynes (spurs) are primarily constructed to
- A) Increase river velocity
 - B) Protect banks from erosion
 - C) Store flood water
 - D) Divert groundwater flow

57. The canal, which is aligned along the ridge
- | | |
|--------------------|---------------------|
| A) Contour canal | B) Side slope canal |
| C) Watershed canal | D) Perennial canal |
58. The main purpose of providing a surge tank in a hydroelectric power plant is
- | |
|---|
| A) To store excess water for irrigation |
| B) To reduce the water hammer pressure formed in the penstock |
| C) To increase the velocity of water in the penstock |
| D) To regulate the temperature of water in the reservoir |
59. The purpose of applying the principle of working from whole to part in surveying is
- | |
|---|
| A) To reduce the cost of survey work |
| B) To prevent the accumulation of errors |
| C) To complete the survey quickly |
| D) To avoid the use of advanced instruments |
60. Which of the following statements is/are correct ?
- The direction of true meridian through a point can be established by astronomical observations.
 - True bearing of a line is the horizontal angle that it makes with the magnetic meridian.
 - The direction of the magnetic meridian can be established with the help of a magnetic compass.
 - The magnetic bearing of a line is measured using a magnetic compass.
- | | |
|-----------------------|-----------------------|
| A) Only i and ii | B) Only i, ii and iii |
| C) Only i, iii and iv | D) Only i, ii and iv |
61. GPS measurements are referenced to which geodetic system ?
- | | | | |
|----------|----------|----------|-----------------|
| A) NAD27 | B) WGS72 | C) WGS84 | D) Indian Datum |
|----------|----------|----------|-----------------|
62. The resection method in plane table surveying is used to
- | |
|---|
| A) Locate new points from a known station |
| B) Determine the position of station by sighting known points |
| C) Measure distances by radiation |
| D) Traverse along a polygonal path |

63. In a Total Station, measurement of distance is accomplished by
- A) Using a steel tape directly
 - B) Modulated microwave or infrared carrier signal
 - C) Observing astronomical directions
 - D) Magnetic compass readings
64. Elimination of parallax in a levelling instrument is achieved by
- A) Focusing the eyepiece only
 - B) Focusing the objective only
 - C) Focusing both the eyepiece and the objective
 - D) Adjusting the tripod legs
65. In differential levelling, the arithmetic check is given by
- A) $\sum B.S - \sum F.S = \text{Last R.L} - \text{First R.L}$
 - B) $\sum B.S + \sum F.S = \text{Last R.L} - \text{First R.L}$
 - C) $\sum B.S - \sum F.S = \text{First R.L} - \text{Last R.L}$
 - D) $\sum B.S + \sum F.S = \text{First R.L} - \text{Last R.L}$
66. Which of the following is considered the most accurate method of interpolation of contours ?
- A) Estimation method
 - B) Graphical method
 - C) Arithmetical method
 - D) Direct method
67. The degree of precision in calculating irregularly shaped areas using Simpson's rule and the Trapezoidal rule can be increased by
- A) Decreasing the number of ordinates
 - B) Increasing the intervals
 - C) Increasing the length of ordinates
 - D) Increasing the number of ordinates
68. Rankine's method of deflection angle is particularly useful for setting out
- A) A circular curve of small radius
 - B) A circular curve of long length and large radius
 - C) A transition curve only
 - D) A vertical curve in road design

69. A non-circular curve introduced between a straight and a circular curve or between two branches of a compound curve or a reverse curve is known as
- A) Compound curve
 - B) Reverse curve
 - C) Horizontal curve
 - D) Transition curve
70. Turning the telescope about its vertical axis in the horizontal plane in a theodolite is known as
- A) Transiting
 - B) Plunging
 - C) Reversing
 - D) Swinging
71. The angle between the preceding line and the succeeding line is called
- A) Deflection angle
 - B) Direct angle
 - C) Ordinary angle
 - D) Vertical angle
72. The space between two lines in a double-line field book is reserved for
- A) Entering offsets
 - B) Entering chainages
 - C) Entering angles
 - D) Entering area
73. Which of the following 'Function Key' can be used for 'Toggles between grid on and off' ?
- A) F10
 - B) F6
 - C) F7
 - D) F8
74. Function defined for 'Ctrl + Y' key stroke is
- A) Undo
 - B) Ortho on/off
 - C) Co-ordinate display on/off
 - D) Redo
75. What is the full form of UCS system ?
- A) User CAD System
 - B) User Co-ordinate System
 - C) User CADD System
 - D) User Co-operative System
76. What is the primary purpose of using layers in 2D drafting ?
- A) To organise and manage complex drawing
 - B) To create 3D models
 - C) To change background
 - D) To add text to drawing

77. Which command is used to customize your shortcut keys in Auto CAD ?
 A) CSK B) CCS C) CUI D) CIU
78. Which of the following is a way to add a viewport to a layout in Auto CAD ?
 A) Using MVIEW command
 B) Using VVIEW command
 C) Using LAYOUT command
 D) Using MPORT command
79. In which tool bar we can find erase, trim in Auto CAD ?
 A) Title bar B) Standard tool bar
 C) Draw area D) Modify tool bar
80. Which short key is used to close the currently active program in Auto CAD ?
 A) Ctrl + X B) Alt + F4 C) ARU D) ATE
81. If efficiency of a lifting machine is kept constant, its velocity ratio is directly proportional to its
 A) Friction B) Mechanical advantage
 C) Efficiency D) Effort
82. The temperature of a substance is 28°C . What is the temperature of same substance in Kelvin scale ?
 A) 28 K B) 401 K C) 301 K D) 0.28 K
83. A body of mass 2 kg is thrown upward with an initial velocity of 20 m/s. After 2 seconds, its kinetic energy will be (take $g = 10 \text{ m/s}^2$)
 A) 0 J B) 1600 J C) 40 J D) 16 J
84. Two vertical poles are standing on a same horizontal line at a distance apart. One is 36 m height and other is 62 m, in height. If the smaller pole make a shadow of length 20.5 m. What will be the length of shadow of larger pole ?
 A) 108.87 m B) 11.9 m C) 35.3 m D) 34.44 m
85. Which is more elastic ?
 A) Rubber B) Glass C) Wood D) Steel

86. Find the perimeter of sector of circle with radius 7 cm and sector angle 120° .
A) 14.67 cm
B) 28.67 cm
C) 51.33 cm
D) 21.67 cm
87. The curve having its radius varying gradually from an infinite to a finite value equal to that of the circular curve to be connected or vice versa is
A) Transition curve
B) Spiral curve
C) Casement curve
D) All of these
88. The gradient on which a motor vehicle moving with a constant speed, continues to descend with the same speed without any application of power or breaks is
A) Ruling gradient
B) Floating gradient
C) Limiting gradient
D) Average gradient
89. The main highways running through the length breadth of the country connecting major ports, foreign highways and capital of states, etc. are known as
A) National highway
B) State highway
C) Major district roads
D) Village road
90. The road pavement which can change their shape to some extent without rupture are known as
A) Rigid pavements
B) Flexible pavements
C) Both A) and B)
D) None of these
91. The art of providing an outward slope of 1 in 20 to the treads of wheels of rolling stock, is
A) Tilting of rails
B) Creep of rails
C) Coning of wheels
D) Wear of wheels
92. The plates which are used to rail joints to maintain the continuity of rails in a track
A) Fish plates
B) Bearing plates
C) Covering plates
D) Base plate
93. The end supports of a bridge superstructure is
A) Pier
B) Abutment
C) Wing wall
D) Retaining wall

Space for Rough Work

