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## Question Booklet Alpha Code



Total Number of Questions : 100
Time : 75 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.

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1. The ratio of the number of days the canal has actually run to the number of days of irrigation period
A) Time factor
B) Capacity factor
C) Outlet factor
D) Open discharge
2. The property of liquid by virtue of which liquid undergo a change in volume with the change in pressure is called
A) Viscosity
B) Compressibility
C) Capillarity
D) Surface tension
3. To make out an estimate for a work which datas are necessary
A) Drawing (Plan, Section etc.)
B) Specifications
C) Rates
D) All of the above
4. Maximum safe bearing capacity of hard rocks without defects and laminations
A) $330 \mathrm{t} / \mathrm{m}^{2}$
B) $330 \mathrm{~kg} / \mathrm{cm}^{2}$
C) $250 \mathrm{t} / \mathrm{m}^{2}$
D) $350 \mathrm{t} / \mathrm{m}^{2}$
5. The liquid medium used in oil paint
A) Linseed oil
B) Alcohol
C) Thinner
D) Turpentine oil
6. The water content at which plants can no longer extracts sufficient water from the soil for its growth
A) Available moisture
B) Readily available moisture
C) Field capacity
D) Wilting co-efficient
7. It is an impermeable formation which neither contains water nor transmits any water
A) Aquifer
B) Aquiclude
C) Aquifuge
D) Aqueduct

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8. A fresh detailed estimate of the additional works in addition to the original estimate is
A) Supplementary estimate
B) Revised estimate
C) Annual repair estimate
D) Maintenance estimate
9. Poise is the unit of viscosity in CGS system of units, therefore one poise is equal to
A) $1 \mathrm{Ns} / \mathrm{m}^{2}$
B) $0.1 \mathrm{Ns} / \mathrm{m}^{2}$
C) $10 \mathrm{Ns} / \mathrm{m}^{2}$
D) $100 \mathrm{Ns} / \mathrm{m}^{2}$
10. For work charge establishment provided in the percentage of estimated cost is
A) $11 / 2$ to $2 \%$
B) $3 \%$ to $5 \%$
C) $1 \%$ to $1 \frac{1}{2} \%$
D) $20 \%$
11. According to Indian Standard Specifications, the full strength of concrete is achieved after
A) 7 days
B) 14 days
C) 28 days
D) 21 days
12. The expansion in Portland cement can be tested by
A) Fineness test
B) Soundness test
C) Setting time test
D) Consistency test
13. Hydraulic lime generates $\qquad$ heat as compared to fat lime.
A) Same
B) Less
C) More
D) Equal
14. Unit of measurement of bending and binding of steel reinforcement in MKS system
A) Kgm
B) Tonne
C) Quintel
D) Metre
15. Density of mild steel is equal to
A) $7850 \mathrm{~kg} / \mathrm{Cu} . \mathrm{m}$
B) $7850 \mathrm{~kg} / \mathrm{m}$
C) $78.5 \mathrm{~g} / \mathrm{Cu} . \mathrm{m}$
D) $78.5 \mathrm{~kg} / \mathrm{Cu} . \mathrm{m}$
16. Find the approximate cost of a bridge of 3 spans, 50 metre each span @ 30,000 per running metre of span.
A) ₹ $3 \times 30,000$
B) ₹ $50 \times 30,000$
C) ₹ $3 \times 50 \times 30,000$
D) $₹ 3 \times 50$
17. In a straight bar the length of one hook may be taken as
A) 18 D
B) $L+18 D$
C) 9 D
D) $L+9 D$
18. For loose soil, Rankine's formula is $d=\frac{P}{W}\left(\frac{1-\sin \phi}{1+\sin \phi}\right)^{2}$, where $P$ is
A) Minimum depth of foundation
B) Load on soil in $\mathrm{kg} / \mathrm{m}^{2}$
C) Weight of soil
D) Angle of repose
19. The rate of hydration and hydrolysis of cement depends upon its
A) Soundness
B) Fineness
C) Setting time
D) Tensile strength
20. The lower end of a hip rafter is generally supported on a diagonal piece of wood which is laid across the corner of the wall. The diagonal piece is known as
A) Dragon beam
B) Dragon tie
C) Angle tie
D) All of the above
21. Wall thickness of garden wall bond is
A) 30 cm
B) 10 cm
C) 20 cm
D) 15 cm
22. In a vertical shore arranged in horizontal member and vertical members these are
A) Needles and Dead shores
B) Dog and Put log
C) Dead shores and Needles
D) Bracing and Transoms

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23. Which test is performed to find out the presence of soluble matter in sample stone ?
A) Crystallisation test
B) Attrition test
C) Smith's test
D) Acid test
24. The tiles are burnt in typical kiln, known as
A) Sialkote kiln
B) Cupola furnace
C) Hoffman's kiln
D) Clamps
25. A piezometer is the simplest form of manometers used for measuring
A) Moderate pressure of liquids
B) Vacuum pressure
C) High pressure of liquids
D) Gauge pressure
26. The ratio of the inertia force to the surface tension force
A) Reynold's number
B) Weber's number
C) Froude's number
D) Euler's number
27. The concrete as per BIS 456-1978 is designated in $\qquad$ grades namely $M_{15}, M_{20}$ etc.
A) 8
B) 5
C) 6
D) 7
28. Any structure constructed to regulate the discharge, full supply level or velocity in a canal is known as
A) Regulation work
B) Canal lining
C) Canal design
D) Cross drainage works
29. The total energy of a liquid particle in motion is equal to
A) Kinetic Energy - (Pressure Energy + Potential Energy)
B) Pressure Energy + Kinetic Energy + Potential Energy
C) Potential Energy - (Kinetic Energy - Pressure Energy)
D) Pressure Energy - (Kinetic Energy + Potential Energy)
30. The co-efficient of discharge for an external mouthpiece
A) 0.855
B) 0.755
C) 0.555
D) 0.655
31. Any hydraulic structure which supplies water to the off taking canal is called
A) Storage head works
B) Reservoir
C) Head works
D) Diversion head works
32. The hydraulic structure constructed across a river to store water on its upstream side
A) Reservoir
B) Head works
C) Storage tanks
D) Dams
33. The efficiency of power transmission through a pipe is ( $\mathrm{H}-$ specific weight, $\mathrm{hf}-$ head loss due to friction in the pipe)
A) $\frac{\mathrm{H}-\mathrm{hF}}{\mathrm{H}}$
B) $\frac{\mathrm{H}+\mathrm{hf}}{\mathrm{H}}$
C) $\frac{\mathrm{H}}{\mathrm{H}-\mathrm{hf}}$
D) $\frac{\mathrm{H}}{\mathrm{H}+\mathrm{hf}}$
34. The total cost of construction including all expenditure incurred from the beginning upto the end of completion of work is called
A) Book value
B) Capital cost
C) Prime cost
D) Approximate cost
35. A swing door is provided with special hinges known as
A) Garnet hinge
B) Rising butt hinge
C) Counter flap hinge
D) Double action spring hinge
36. The major problems of upper floors are
A) Strength
B) Stability
C) Both (A) and (B)
D) Dampness

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37. In a public building, the stair should be located near $\qquad$ of the building.
A) Corner
B) End
C) Inside
D) Entrance
38. If tempering is properly carried out, the good brick earth can be rolled without breaking in small threads of $\qquad$ diameter.
A) 5 mm
B) 3 mm
C) 7 mm
D) 2 mm
39. The determination of rate per unit of particular item of work, from the cost of quantities of materials, the cost of labourers and other miscellaneous petty expenses require for its completion is known as the
A) Rate
B) Schedule of rates
C) Analysis of rates
D) Cost
40. Painting upto 15 cm in width or in girth and not in conjunction with similar works shall be measured in
A) $\mathrm{cm}^{2}$
B) $\mathrm{m}^{2}$
C) $m$
D) $\mathrm{m}^{3}$
41. The co-efficient or multiplying factor of fully glazed or gauged doors is
A) 0.5 for each side
B) $11 / 8$ of each side
C) 1 for each side
D) $3 / 4$ for each side
42. In which type of CD works, the canal water and the drainage water are permitted to intermingle with each other?
A) Super passage
B) Canal syphon
C) Aqueduct
D) Level crossing
43. Which should give a clear picture or idea of the whole project or work?
A) Estimate
B) Specification
C) Report
D) Plan
44. The carpet area of an office building is $\qquad$ of plinth area.
A) $50 \%$ to $90 \%$
B) $90 \%$
C) $45 \%$
D) $60 \%$ to $75 \%$
45. In a building height is less than 10 m , the front open space width for building with front street
A) Minimum 3 m
B) Maximum 3 m
C) Minimum 7 m
D) Minimum 7.5 m
46. The value at the end of the utility period without being dismantled is called
A) Scrap value
B) Salvage value
C) Market value
D) Book value
47. The person who takes the loans is known as
A) Mortgager
B) Mortgagee
C) Freehold
D) Lessor
48. Unit of measurement of reinforced brick work in MKS system
A) Sq.m
B) $m$
C) Cu.m
D) Per number
49. The cost under item of work is calculated from quantities already computed at workable rate and the total cost is worked out in a prescribed form is called
A) Detailed estimate
B) Abstract estimate
C) Both (A) and (B)
D) None of the above
50. If street width is above or equal to 12 m , the height of the building should not be more than
A) 24 m
B) 12 m
C) 8 m
D) 16 m
51. The face of the pointing is kept vertical and it is pressed inside the wall surface by a suitable tool to a depth of about 5 mm or more is called
A) Recessed pointing
B) Flush pointing
C) Tuck pointing
D) Struck pointing
52. In which term is used to refer the effect derived from space of a room, i.e. its length, width and height?
A) Prospect
B) Aspect
C) Roominess
D) Orientation

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53. The coping between apex and skew corbel in case of a gable wall is known as
A) Stoolings
B) Springer
C) Finial
D) Kneeler
54. One $\mathrm{m}^{3}$ of brick earth is about
A) 1800 kg
B) 2200 kg
C) 1200 kg
D) 1500 kg
55. The perpendicular distance between the intrados and extrados of an arch is called
A) Depth of an arch
B) Pitch of an arch
C) Thickness of an arch
D) Width of an arch
56. T-square are designated by its
A) Breadth
B) Overall length
C) Blade length
D) Width of head
57. What is the minimum width of border on left side of $A_{0}$ and $A_{1}$ drawing sheet?
A) 26 mm
B) 24 mm
C) 22 mm
D) 20 mm
58. Inner details of an object not visible from outside are represented by
A) Visible outlines
B) Dimension lines
C) Dashed lines
D) Centre lines
59. How the dimensions can be read in aligned system of dimension technique ?
A) Left hand edge of drawing sheet
B) Right hand edge of drawing sheet
C) Top to bottom
D) All of the above
60. The length of arrow head is generally
A) Same as width
B) Greater than width
C) 3 times its width
D) Two times its width
61. Which type of scale is used when representive fraction of a scale is greater than unit ?
A) Reducing scale
B) Minimum scale
C) Enlarging scale
D) Maximum scale
62. Where the rear view is placed in first angle projection?
A) Right side of right side view
B) Bottom of elevation
C) Left side of right side view
D) Top of elevation
63. Where the plan is placed in third angle projection?
A) Below elevation
B) Above elevation
C) Left of elevation
D) Right of elevation
64. While cutting, if the plane is at an angle and it cuts all generators then the conic formed is called as
A) Circle
B) Ellipse
C) Parabola
D) Hyperbola
65. Which one is not belong to quadrilaterals ?
A) Square
B) Rectangle
C) Rhombus
D) Triangle
66. In a chain two consecutive links are connected by means of
A) Rivetted joint
B) Welded joint
C) Three rings
D) Two rings
67. The length of a line measured with a 20 m chain is 634.4 m . The chain is 5 cm too long. The true length of the line is
A) 635.99 m
B) 636.10 m
C) 636.20 m
D) 634.99 m

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68. In prismatic compass $90^{\circ}$ is marked on the graduated ring at
A) North end
B) South end
C) East end
D) West end
69. The direction of true meridian through a point can be established by
A) Astronomical observation
B) Theodolite
C) Magnetic compass
D) Box-sextant
70. Find the angle between the line $O A$ and $O B$, if their respective bearings are $126^{\circ} 00^{\prime}$ and $300^{\circ} 15^{\prime}$.
A) $174^{\circ} 15^{\prime}$
B) $185^{\circ} 45^{\prime}$
C) $173^{\circ} 45^{\prime}$
D) $147^{\circ} 15^{\prime}$
71. The much suitable plane table surveying on hilly country where it is difficult to measure the horizontal distance
A) Radiation
B) Intersection
C) Traversing
D) Resection
72. In plane tabling, the straight lines, angles and triangles are constructed by
A) Protractor
B) Divider
C) Graphical method
D) Planimeter
73. The number of fundamental lines for dumpy level is
A) 2
B) 3
C) 4
D) 5
74. The Backsight reading on B.M. of R.L. 500 m is 2.685 m . If foresight reading on a point is 1.345 m , the reduced level of the point is
A) 501.340 m
B) 501.43 m
C) 501.435 m
D) 504.030 m
75. The permissible closing error for rough levelling is $\qquad$ where ' $E$ ' the error in millimeters and ' $k$ ' the distance in kilometers.
A) $E= \pm 96 \sqrt{k}$
B) $E= \pm 64 \sqrt{k}$
C) $E= \pm 36 \sqrt{k}$
D) $E= \pm 24 \sqrt{k}$
76. The contour interval is inversely proportional to
A) Scale of the map
B) Fund available
C) Purpose of map
D) All of the above
77. In a theodolite the line of collimation is
A) Parallel to the axis of plate level
B) Parallel to the vertical axis
C) Perpendicular to the trunnion axis
D) Parallel to the horizontal axis
78. For railways and highway works, the angle measured for the setting out work is
A) Included angle
B) Exterior angle
C) Deflection angle
D) Horizontal angle
79. What is the use of optical plummet in total station?
A) Focussing
B) Orientation
C) Precise levelling
D) Precise centering
80. Who developed the GPS ?
A) USA
B) India
C) Russia
D) Italy
81. Auto CAD is a
A) Drafting software
B) Hardware
C) Input device
D) Antivirus software
82. Which mode is allowed the user to draw $90^{\circ}$ straight line ?
A) Osnap
B) Ortho
C) Linear
D) Polar
83. Which of the following file extensions cannot open in autocad?
A) $d w g$
B) $d x f$
C) $\operatorname{dot}$
D) $d w s$

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84. Which shortcut key does the work of ortho ?
A) F6
B) F7
C) F8
D) F9
85. $\qquad$ command allows to shrink or enlarge the already existing drawing about a base point.
A) Scale
B) Stretch
C) Mirror
D) Explode
86. The drawing area can be defined by using $\qquad$ command.
A) Layers
B) Limits
C) Dimension
D) Hatch
87. The shortcut key for copy is
A) $\mathrm{Ctrl}+\mathrm{C}$
B) $\mathrm{Ctrl}+\mathrm{Z}$
C) $\mathrm{Ctrl}+\mathrm{V}$
D) $\mathrm{Ctrl}+\mathrm{d}$
88. The printing characteristic 'dpi' stands for
A) Degree of printing
B) Dot printing index
C) Disc printing index
D) Dots per inch
89. What is the value of one Horse Power (HP) in Metric system?
A) 750 watts
B) 746 watts
C) 735.5 watts
D) 735 watts
90. Which is equivalent to one Pascal ?
A) $1 \mathrm{~N} / \mathrm{mm}^{2}$
B) $1 \mathrm{~N} / \mathrm{cm}^{2}$
C) $1 \mathrm{~N} / \mathrm{dm}^{2}$
D) $1 \mathrm{~N} / \mathrm{m}^{2}$
91. Kinetic energy K.E. $=$
A) $m V^{2}$
B) $1 / 2 m V^{2}$
C) mV
D) mgh
92. The surface area of a sphere is $36 \pi \mathrm{~cm}^{2}$ and then the volume of the sphere is
A) $12 \pi \mathrm{~cm}^{3}$
B) $18 \pi \mathrm{~cm}^{3}$
C) $72 \pi \mathrm{~cm}^{3}$
D) $36 \pi \mathrm{~cm}^{3}$
93. Find the volume of cube having a length of 60 mm .
A) $216 \mathrm{~cm}^{3}$
B) $260 \mathrm{~cm}^{3}$
C) $261 \mathrm{~cm}^{3}$
D) $206 \mathrm{~cm}^{3}$
94. The area of a square is 625 . Its perimeter is
A) 25
B) 100
C) 50
D) 625
95. A rectangular punch has a height of 18 mm and its area is $630 \mathrm{~mm}^{2}$. Calculate the length.
A) 50 mm
B) 45 mm
C) 40 mm
D) 35 mm
96. The ratio between the ultimate stress and the working stress is termed as
A) Shear stress
B) Tensile stress
C) Factor of safety
D) Compressive stress
97. A car moving with a velocity of $50 \mathrm{~km} / \mathrm{H}$ is brought to rest in 45 second the retardation ( $R$ ) is
A) $0.59 \mathrm{~m} / \mathrm{s}^{2}$
B) $0.48 \mathrm{~m} / \mathrm{s}^{2}$
C) $0.30 \mathrm{~m} / \mathrm{s}^{2}$
D) $0.28 \mathrm{~m} / \mathrm{s}^{2}$
98. The rate of change of displacement of a body is called
A) Velocity
B) Acceleration
C) Momentum
D) Force
99. The ratio between MA and VR is called
A) Flexibility
B) Efficiency
C) Diode
D) Lever
100. Which type of friction is known as limiting friction?
A) Sliding friction
B) Solid friction
C) Static friction
D) Rolling friction

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## Space for Rough Work

