Question Booklet Alpha Code



Total Number of Questions : 100

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.
- The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
- 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.
- 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.



Time: 75 Minutes

- 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 t/m²
 B) 330 kg/cm²

 C) 250 t/m²
 D) 350 t/m²
- 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
- Α

| 8. | A fresh detailed estimate of the additional w | orks | 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 | n of i | units, therefore one poise is equal to |
| | A) 1 Ns/m ² | B) | 0.1 Ns/m ² |
| | C) 10 Ns/m ² | D) | 100 Ns/m ² |
| 10. | For work charge establishment provided in | n the | e percentage of estimated cost is |
| | A) 1½ to 2% | B) | 3% to 5% |
| | C) 1% to 1½% | D) | 20% |
| 11. | According to Indian Standard Specification after | ns, th | e full strength of concrete is achieved |
| | A) 7 days | B) | 14 days |
| | C) 28 days | D) | 21 days |
| 12. | The expansion in Portland cement can be | test | ed by |
| | A) Fineness test | B) | Soundness test |
| | C) Setting time test | D) | Consistency test |
| 13. | Hydraulic lime generates hea | at as | compared to fat lime. |
| | A) Same | B) | Less |
| | C) More | D) | Equal |
| 14. | Unit of measurement of bending and bind | ing c | of steel reinforcement in MKS system |
| | A) Kgm | B) | Tonne |
| | C) Quintel | D) | Metre |
| 15. | Density of mild steel is equal to | | |
| | A) 7850 kg/Cu.m | B) | 7850 kg/m |
| | C) 78.5 g/Cu.m | D) | 78.5 kg/Cu.m |
| Α | -4 | 4- | |

- 16. Find the approximate cost of a bridge of 3 spans, 50 metre each span @ 30,000 per running metre of span.
 - A) ₹ 3 × 30,000
 B) ₹ 50 × 30,000

 C) ₹ 3 × 50 × 30,000
 D) ₹ 3 × 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 kg/m²
- 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

Α

| . Which test is performed to find out the presence of soluble matter in sample stone ? | | | |
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| D) 7 | | | |
| D) 7 oply level or velocity in a | | | |
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-6-

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 (H specific weight, hf head loss due to friction in the pipe)

| A) | $\frac{H-hF}{H}$ | B) $\frac{H+hf}{H}$ |
|----|------------------|---------------------|
| C) | $\frac{H}{H-hf}$ | D) H H+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
- Α

| 37. | 37. In a public building, the stair should be located near of the building | | | | of the building. |
|-----|---|---|--------|-----------------------------|---------------------|
| | A) Corner | | B) | End | |
| | C) Inside | | D) | Entrance | |
| 38. | If tempering is proper in small threads of | ly carried out, the good diame | | ck earth can be roll | ed without breaking |
| | A) 5 mm | B) 3 mm | C) | 7 mm | D) 2 mm |
| 39. | • | rate per unit of partic s, the cost of laboure its completion is know | rs ar | nd other miscellan | |
| | A) Rate | | B) | Schedule of rates | 6 |
| | C) Analysis of rates | | D) | Cost | |
| 40. | Painting upto 15 cm i be measured in | n width or in girth and | not i | n conjunction with | similar works shall |
| | A) cm ² | B) m ² | C) | m | D) m ³ |
| 41. | 41. The co-efficient or multiplying factor of fully glazed or gauged doors is | | | | oors is |
| | A) 0.5 for each side | | B) | $1\frac{1}{8}$ of each side |) |
| | C) 1 for each side | | D) | $\frac{3}{4}$ for each side | |
| 42. | In which type of CD v intermingle with each | | anc | I the drainage wat | er are permitted to |
| | A) Super passage | | B) | Canal syphon | |
| | C) Aqueduct | | D) | Level crossing | |
| 43. | Which should give a | clear picture or idea c | of the | e whole project or | work ? |
| | A) Estimate | | B) | Specification | |
| | C) Report | | D) | Plan | |
| 44. | The carpet area of ar | n office building is | | of plinth | area. |
| | A) 50% to 90% | | B) | 90% | |
| | C) 45% | | D) | 60% to 75% | |
| Α | | -8 | }- | | |

| 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 v | 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 | n as | | | |
| | A) Mortgager | B) Mortgagee | | | |
| | C) Freehold | D) Lessor | | | |
| 48. | Unit of measurement of reinforced brick v | 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 rate and the total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part of total cost is worked out in a part | om quantities already computed at workable 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, th than | ne height of the building should not be more | | | |
| | A) 24 m B) 12 m | C) 8 m D) 16 m | | | |
| 51. | The face of the pointing is kept vertical an suitable tool to a depth of about 5 mm or | nd it is pressed inside the wall surface by a 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 de width and height ? | erived from space of a room, i.e. its length, | | | |
| | A) Prospect | B) Aspect | | | |
| | C) Roominess | D) Orientation | | | |

| 53. | Th | e coping between a | apex and skew corb | el in | case of a gable wa | all is known as |
|-----|-----|----------------------------------|-----------------------|--------|--|----------------------|
| | A) | Stoolings | | B) | Springer | |
| | C) | Finial | | D) | Kneeler | |
| - 4 | • | 3 (1) 1 | | | | |
| 54. | | ne m ³ of brick earth | | | | |
| | A) | 1800 kg | B) 2200 kg | C) | 1200 kg | D) 1500 kg |
| 55. | Th | e perpendicular dis | stance between the | intrac | los and extrados d | of an arch is called |
| | A) | Depth of an arch | | B) | Pitch of an arch | |
| | C) | Thickness of an a | rch | D) | Width of an arch | |
| 56. | T-s | square are designa | ted bv its | | | |
| | | Breadth | , , | B) | Overall length | |
| | , | Blade length | | | Width of head | |
| | •, | g | | _, | | |
| 57. | Wł | nat is the minimum | width of border on I | eft si | de of A ₀ and A ₁ dr | rawing sheet ? |
| | A) | 26 mm | B) 24 mm | C) | 22 mm | D) 20 mm |
| 58. | Inr | ner details of an obj | ject not visible from | outsi | de are represente | d by |
| | A) | Visible outlines | | B) | Dimension lines | |
| | C) | Dashed lines | | D) | Centre lines | |
| 50 | | | | | | |
| 59. | | | can be read in align | ed sy | stem of dimensior | n technique ? |
| | | Left hand edge of | - | | | |
| | - | Right hand edge o | of drawing sheet | | | |
| | , | Top to bottom | | | | |
| | D) | All of the above | | | | |
| 60. | Th | e length of arrow h | ead is generally | | | |
| | A) | Same as width | | B) | Greater than wid | th |
| | C) | 3 times its width | | D) | Two times its wid | lth |
| Α | | | - | 10- | | |
| | | | | . • | | |

| 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 | prc | ojection ? | |
| | 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 pro | ject | ion ? | |
| | A) Below elevation | B) | Above elevation | |
| | C) Left of elevation | D) | Right of elevation | |
| 64. | While cutting, if the plane is at an angle a formed is called as | and | it cuts all generators then the conic | |
| | 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 conne | cteo | 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 long. The true length of the line is | cha | ain is 634.4 m. The chain is 5 cm too | |
| | A) 635.99 m | B) | 636.10 m | |
| | C) 636.20 m | D) | 634.99 m | |
| Α | -11 | - | | |

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68. In prismatic compass 90° 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 OA and OB, if their respective bearings are 126° 00' and 300° 15'.
 - A) 174° 15′ B) 185° 45′ C) 173° 45′ D) 147° 15′
- 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 ______ 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) $E = \pm 24\sqrt{k}$ |

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° straight line ? A) Osnap B) Ortho C) Linear D) Polar 83. Which of the following file extensions cannot open in autocad ? A) dwg B) dxf C) dot D) dws

76. The contour interval is inversely proportional to

| 84. | . Which shortcut key does the work of ortho ? | | | | | | |
|-----|---|--------------------------|---------|-----------------------------------|------|------------------------|----------------------|
| | A) | F6 | B) F | 7 | C) | F8 | D) F9 |
| 85. | | com out a base point. | nmano | d allows to shrink | or | enlarge the alread | dy existing drawing |
| | A) | Scale | | | B) | Stretch | |
| | C) | Mirror | | | D) | Explode | |
| 86. | The | e drawing area ca | n be d | defined by using | | comn | nand. |
| | A) | Layers | | | B) | Limits | |
| | C) | Dimension | | | D) | Hatch | |
| 87. | The | e shortcut key for | сору | is | | | |
| | A) | Ctrl + C | | | B) | Ctrl + Z | |
| | C) | Ctrl + V | | | D) | Ctrl + d | |
| 88. | The | e printing characte | eristic | 'dpi' stands for | | | |
| | A) | Degree of printing | g | | B) | Dot printing index | x |
| | C) | Disc printing inde | X | | D) | Dots per inch | |
| 89. | Wh | nat is the value of | one H | lorse Power (HP |) in | Metric system ? | |
| | A) | 750 watts | | | B) | 746 watts | |
| | C) | 735.5 watts | | | D) | 735 watts | |
| 90. | Wh | iich is equivalent t | to one | Pascal ? | | | |
| | A) | 1N/mm ² | B) 1 | IN/cm ² | C) | 1N/dm ² | D) 1N/m ² |
| 91. | Kin | etic energy K.E. = | = | | | | |
| | A) | mV ² | B) 1 | ∕₂mV ² | C) | mV | D) mgh |
| 92. | The | e surface area of a | a sphe | ere is 36 π cm ² a | nd t | then the volume o | f the sphere is |
| | A) | $12 \pi cm^3$ | | | B) | $18 \pi \text{cm}^3$ | |
| | C) | $72 \pi \text{cm}^3$ | | | D) | $36 \ \pi \text{cm}^3$ | |
| Α | | | | -14 | | | |

A) 216 cm³ B) 260 cm³ D) 206 cm³ C) 261 cm³ 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 mm². 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 km/H is brought to rest in 45 second the retardation (R) is B) 0.48 m/s² A) 0.59 m/s² C) 0.30 m/s² D) 0.28 m/s² 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

93. Find the volume of cube having a length of 60 mm.

Space for Rough Work