Question Booklet Alpha Code

A

A

| Total Number of Questions : 100 | Time : 90 Minutes |

Maximum Marks : 100

A

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.

1. The designation of B2 drawing board is
   A) 700 × 500 × 15 mm
   B) 1000 × 500 × 15 mm
   C) 500 × 350 × 15 mm
   D) 1000 × 700 × 15 mm

2. Which part of a T-square is placed adjoining the working edge of the board and is made to slide ?
   A) Blade
   B) Working edge
   C) Ebony edge
   D) Stock

3. The title block of a drawing is drawn at the _____ of the drawing sheet.
   A) Left bottom
   B) Right bottom
   C) Middle top
   D) Middle bottom

4. Which line connect a note with the feature in an engineering drawing ?
   A) Section line
   B) Cutting plane line
   C) Leader line
   D) Extension line

5. In which type of drawings the lower case letters are usually used ?
   A) Sanction drawings
   B) Service drawings
   C) Architectural drawings
   D) Location drawings

6. What is the width of arrowhead in a dimension line compared to its length ?
   A) 1/3 of length
   B) 1/2 of length
   C) 1/4 of length
   D) 1/6 of length

7. Which scale is used to represent the same RF but graduated to read different units ?
   A) Plain scale
   B) Comparative scale
   C) Diagonal scale
   D) Vernier scale

8. In first angle projection the right side view is placed at the _____ side of drawing.
   A) Above
   B) Below
   C) Right side
   D) Left side

9. In addition to the doors and windows, ventilators should be provided having a total area of _____ of the floor area.
   A) 4%
   B) 10%
   C) 5%
   D) 20%

A

10. Which estimate is prepared when further development is required for the progress of a work ?
    A) Revised estimate
    B) Supplementary estimate
    C) Work charged establishment
    D) Annual repair estimate

11. The hospital buildings are belong to which group of classification ?
    A) Group C   B) Group B   C) Group D   D) Group H

12. For residential buildings the livable area should be _____ of the plinth area.
    A) 20 – 30%   B) 35 – 50%
    C) 5 – 10%   D) 50 – 65%

13. The scrap value of a building may be about _____ of its total cost of construction.
    A) 1%   B) 5%   C) 10%   D) 20%

14. The cost of charge when the engineering department takes up the work of other department is called as
    A) Contingencies   B) Work charged establishment
    C) Centage charges   D) Lump sum

15. The approximate quantity of work for brick work in cement mortar in foundation and plinth by an average artisan per day is
    A) 1.5 cu m   B) 1.25 cu m
    C) 1.85 cu m   D) 1.54 cu m

16. Which of the following is included in the plinth area of a building ?
    A) Courtyard   B) Balconies
    C) Open area   D) Bathrooms

17. The vertical circulation area of a building may be _____ of the plinth area.
    A) 4 – 5%   B) 10 – 15%
    C) 20%   D) 20 – 30%

A

18. Net annual letting value of a property obtained after deducting the amount of yearly repairs from gross income is called
    A) Salvage value
    B) Annuity
    C) Years Purchase
    D) Rateable value

19. For fire resistant construction the minimum thickness of timber door leaf should be
    A) 3 cm
    B) 4 cm
    C) 2 cm
    D) 1 cm

20. Which of the following area is included in the carpet area of a building ?
    A) Stores
    B) Kitchen
    C) Dining
    D) Staircase

21. Which of the following is the property of material to absorb water vapour from air ?
    A) Porosity
    B) Density
    C) Hygroscopicity
    D) Condensation

22. Which of the following is/are the incorrect statement about stones ?
     i. The dressing of stones proves to be tedious.
     ii. The stones of desired strength and Quality are easily available at moderate rate.
     iii. The alternatives to stones namely R.C.C. and steel have proved to be stronger.
     iv. The dressing of stones proves to be time consuming.
    A) Only i
    B) Only i and iv
    C) Only ii
    D) Only ii and iii

23. A good brick should not break when made to fall on another brick from a height of _____ m.
    A) 1.25
    B) 1.00
    C) 1.50
    D) 10.50

24. The property of lime by which it sets in thick masonry walls where there is no free circulation of air is termed as
    A) Setting
    B) Hydraulicity
    C) Hardening
    D) Slaking

A

25. Which of the following statement indicate the advantages of timber ?

  i. It does not require skilled supervision.

  ii. This method of seasoning is cheap and simple.

  iii. By this seasoning the moisture content of wood can be brought down to about 10 – 20%.

  iv. The process of seasoning is very slow.

  A) Only i   B) Only ii

  C) Only i and ii   D) Only i, ii and iii

26. Which of the following statement indicates the characteristics of good sand ?

  i. It should be strong and durable.

  ii. It should be chemically inert.

  iii. The grains should retain in 4.75 mm sieve.

  iv. The grains should pass through IS sieve 75 micron.

  A) Only i   B) Only i and ii

  C) Only ii   D) All of the above (i, ii, iii and iv)

27. Cement mortar recommended for reinforced brick work is

  A) 1 : 1 to 1 : 2   B) 1 : 2

  C) 1 : 3 to 1 : 4   D) 1 : 3

28. Bessemer pig is obtained from _____ ores.

  A) Limonite   B) Haematite   C) Magnetite   D) Pyrite

29. Which of the following statement is correct about Aluminium ?

  i. It is very soft.

  ii. It is a non-magnetic substance.

  iii. Its specific gravity is about 2.70.

  iv. It readily dissolves in hydrochloric acid.

  A) Only i   B) Only i and ii

  C) Only i, ii and iii   D) All of the above (i, ii, iii and iv)

30. The process of slow and homogeneous cooling of glass articles is known as the

  A) Annealing   B) Casting

  C) Blowing   D) Spinning

A

31. The most common material used as vehicle of a paint is

    A) Poppy oil   B) Nut oil   C) Linseed oil   D) Tung oil

32. Which is the slump of concrete used for road construction ?

    A) 40 to 50 mm   B) 20 to 40 mm   C) 70 to 80 mm   D) 25 to 50 mm

33. Depression or recess made inside the door frame, to receive the door shutter is known as

    A) Sill   B) Reveal   C) Architrave   D) Rebate

34. A pier is made monolithic with the walls to increase the stability of wall is called

    A) Buttress   B) Corbel   C) Template   D) Spalls

35. How to rectify if settlement of existing foundation has taken place ?

    A) Single scaffolding   B) Underpinning
    C) Timbering   D) Racking shore

36. Which piles are driven up to a hard stratum in the ground to act as pillars for super structure ?

    A) Bearing pile   B) Friction pile
    C) Sheet pile   D) Under reamed pile

37. Cutting a brick longitudinally in two equal parts is known as

    A) King closer   B) Queen closer
    C) Bevelled closer   D) Half bat

38. Inclined support provided to an unsafe existing structure externally is called

    A) Racking shore   B) Flying shore
    C) Dead shore   D) Underpinning

39. Vertical member of a frame, which is employed to subdivide a window or a door opening is called

    A) Transom   B) Mullion   C) Hold fast   D) Cross rail

A

40. Which window is provided near the top of main roof ?
    A) Panelled Window   B) Casement Window
    C) Clere-storey Window   D) Gable Window

41. Horizontal distance between faces of two consecutive risers is called
    A) Tread   B) Rise   C) Landing   D) Going

42. What is the weight/m of 12 mm diameter round bar ?
    A) 0.39 kg/m   B) 0.62 kg/m
    C) 0.89 kg/m   D) 1.58 kg/m

43. The distance between the centres of the rivets in adjacent rows of zig-zag riveted joint is known as
    A) Pitch   B) Back pitch
    C) Diagonal pitch   D) Marginal pitch

44. What is the excess length of the one side of the cranked bar ?
    A) 0.212 d   B) 0.414 d   C) 0.616 d   D) 0.818 d

45. The triangular upper part of a wall formed at the end of a pitched roof is called
    A) Gable   B) Valley   C) Eaves   D) Cleat

46. Inner curve of an arch is called
    A) Soffit   B) Extrados
    C) Intrados   D) Haunch

47. Which arch is constructed with two curves meeting at the apex of a triangle ?
    A) Flat arch   B) Pointed arch
    C) Segmental arch   D) Elliptical arch

48. The vertical joints separating the bricks in either length or cross direction is known as
    A) Lap joint   B) Bed joint
    C) Header   D) Perpends

A

49. Which bond the bricks are laid at 45° from the centre in both the direction ?
    A) Diagonal bond
    B) Zig-zag bond
    C) Dutch bond
    D) Herring bone bond

50. Which test is carried out for determining workability of concrete ?
    A) Slump test
    B) Attrition test
    C) Cube test
    D) Sieve test

51. Spread footing for a wall is known as
    A) Strip footing
    B) Pad footing
    C) Column footing
    D) Combined footing

52. Name the method of damp proofing water proofing compounds or materials are added during the process of mixing the materials.
    A) Surface treatment
    B) Integral treatment
    C) Membrane damp proofing
    D) Cavity wall construction

53. In a surveying telescope, cross hairs are fixed in
    A) Centre of the telescope
    B) Front of the telescope
    C) Optical centre of the telescope
    D) Front of the objective

54. When the angular and linear measurements are equally precise in traversing, the balancing of the traverse is done by
    A) Transit rule
    B) Empirical rule
    C) Bowditch's rule
    D) None of these

55. In levelling, the correction for refraction (in meter) is equal to
    A) $0.00785D^2$
    B) $0.0785D^2$
    C) $0.0112D^2$
    D) $0.0673D^2$

56. When the whole circle bearing of two lines AB and AC are 65° and 170° respectively. Then the included angle BAC will be
    A) 105°
    B) 235°
    C) 65°
    D) 190°

A

57. A series of closed contour line on the map represents a _____ if the higher values are inside.
    A) Pond   B) Uniform slope   C) Hill   D) Flat ground

58. The instrument which is the combination of electronic theodolite and electronic distance meter is
    A) Digital theodolite   B) Tacheometer
    C) Telemeter   D) Total station

59. The principle of chain surveying is
    A) Chaining   B) Orientation   C) Triangulation   D) Traversing

60. The error in measured length due to incorrect holding of the chain is
    A) Cumulative error   B) Compensating error
    C) Instrumental error   D) Negative error

61. The area enclosed in a contour may be found by
    A) Planimeter   B) Periscope
    C) Pentagraph   D) Elliptical tramme

62. Length of long chord is
    A) T tan $\phi/2$ B) 2R ϕ C) R Sin ϕ D) 2 R Sin $\phi/2$

63. The back sight reading on a benchmark of reduced level 100.00 is 2.350. If fore sight reading on the point is 1.520, the reduced level of the point is
    A) 100.830   B) 103.870
    C) 101.230   D) 102.350

64. Remote sensing technique are being usefully employed for the purpose of
    A) Improving natural resource management
    B) Land use
    C) Protection of environment
    D) All of these

A

65. Which method is used for plotting inaccessible objects, broken boundaries, rivers etc. ?
   A) Radiation method
   B) Traversing method
   C) Resection method
   D) Intersection method

66. The magnetic bearing of the line is 50°10′ and magnetic declination is 1°20′ east. The true bearing of the line will be
   A) 51°30′
   B) 49°50′
   C) 49°10′
   D) 52°

67. The irrigation engineering may be defined as
   i. The process of artificial supplying water to soil for raising crops.
   ii. The science of planning and designing an efficient and economic system.
   iii. The capillary water is utilised by the plants.
   A) Only (i and ii)
   B) All (i, ii and iii)
   C) Only (ii and iii)
   D) Only (i and iii)

68. What is the main advantage of irrigation ?
   A) Water logging
   B) Yield of crops
   C) Complex
   D) Damper climate

69. A groyne
   i. Trains the flow along a certain course.
   ii. Perpendicular to bank.
   iii. It constructed to protected the river banks.
   A) Only (ii and iii)
   B) Only (i and iii)
   C) All (i, ii and iii)
   D) Only (i and ii)

70. Which cross drainage work is constructed to cross the canal and drainage at the same level ?
   A) Aqueduct
   B) Super passage
   C) Canal syphon
   D) Level crossing

71. Which element of hydroelectric power plant reduce the water hammer pressure formed in the penstock ?
   A) Valves
   B) Surge tank
   C) Turbines
   D) Draft tubes

A

72. Which of the following statements is wrong ?
   i. Seepage drain reduce the chances of water logging.
   ii. The gravity water is harmful to the crops.
   iii. Water logging makes the land more productive.
   A) Only (i and iii)   B) All (i, ii and iii)
   C) Only (ii and iii)   D) Only (i and ii)

73. What is the name of the steel placed end to end to provide a level surface for the movement of trains ?
   A) Ballast   B) Sleepers
   C) Rails   D) Fish plates

74. What is the slope provided to transvers direction road ?
   i. Cross fall
   ii. Camber
   iii. Crown
   A) Only (i and ii)   B) All (i, ii and iii)
   C) Only (ii and iii)   D) Only (i and iii)

75. Which shape of the surface drain is most preferred for heavy discharge in road ?
   A) Rectangular   B) U shaped
   C) Semicircular   D) V shaped

76. What is the minimum width of shoulders provided in national highways ?
   A) 1m   B) 1.5 m   C) 2 m   D) 2.5 m

77. Which of the following statement is wrong ?
   i. Bearing plates are used in the case of hard sleepers.
   ii. Sleeper holds the gauge at proper rail.
   iii. Spacing of sleepers near the rail joint is closer.
   A) Only (i and ii)   B) All (i, ii and iii)
   C) Only (ii and iii)   D) Only (i and iii)

78. Which bridge is mostly used for railway bridges of small spans ?
    A) Steel girder
    B) Steel trough plate
    C) Suspension
    D) Steel truss

79. How a simple circular curve designated ?
    A) Curvature of the curve
    B) Radius of the curve
    C) Angle subtended by an arc
    D) Angle subtended by a chord

80. Which is used for joining the rail ?
    A) Spikes
    B) Rail chairs
    C) Fish plates
    D) Bearing plates

81. What is the dimensional formula for strain ?
    A) $M^1L^{-1}T^2$
    B) $M^0L^0T^0$
    C) $M^0L^0T^{-1}$
    D) None of the above

82. See saw is a _____ class lever.
    A) First
    B) Second
    C) Third
    D) None of the above

83. Following are the basic types of stress except
    A) Tensile stress
    B) Compressive stress
    C) Shear stress
    D) Volumetric stress

84. The length of a rectangle is 1 cm more than its width and its perimeter is 14 cm, then the area of the rectangle is
    A) 16 cm^2
    B) 12 cm^2
    C) 10 cm^2
    D) 14 cm^2

85. The slope of the stress-strain curve in the elastic deformation region is
    A) Elastic modulus
    B) Plastic modulus
    C) Poisson's ratio
    D) None of the above

A

86. An electric pole of 20 m height has casted a shadow of length $20\sqrt{3}$ m, on the ground, then the angle of elevation of the sun at that time is

    A) 60°　　　　　B) 90°　　　　　C) 30°　　　　　D) 45°

87. Activated carbon is used for

    A) Disinfection

    B) Removing hardness

    C) Removing odours

    D) Removing corrosiveness

88. Which of the following water treatment process is done after filtration of water ?

    A) Secondary sedimentation　　　　B) Flocculation

    C) Primary sedimentation　　　　　D) Disinfection

89. Which of the following indicates that the water body has been used for waste disposal ?

    A) Chlorides　　　　　　　　　　B) Nitrates

    C) Phosphates　　　　　　　　　D) Ammonia

90. When a sewer line dips below the hydraulic grade line the sewer appurtenance chosen is

    A) Inverted Siphons　　　　　　　B) Manholes

    C) Sewer Outlet　　　　　　　　　D) Inlet

91. The sewage treatment units in which anaerobic decomposition of organic matter is used, are called

    A) Imhoff tank　　　　　　　　　B) Trickling filters

    C) Both A) and B)　　　　　　　　D) Sludge sedimentation tank

92. Which of the following is the product obtained when a coagulant is mixed with waste water ?

    A) Floc　　　　　　　　　　　　B) Grit

    C) Acid　　　　　　　　　　　　D) Sediments

A　　　　　　　　　　　　　　　　　-14-

93. The basic software loaded from ROM chip is

    A) BIOS   B) Application Software

    C) System Software   D) Operating System

94. For replacing text from the file, short cut command is

    A) Ctrl + X   B) Ctrl + H   C) Ctrl + R   D) Ctrl + P

95. Which is the short cut keyboard command of quick calculation Auto CAD ?

    A) Ctrl + Shift + 8   B) Ctrl + 7

    C) Ctrl + Alt + 8   D) Ctrl + 8

96. _____ is the function key used to turn object Snap Toggle in '3D'.

    A) F2   B) F4   C) F3   D) F1

97. In which bar do you find the Ortho and Osnap icons ?

    A) Drew Toolbar

    B) Object properties

    C) Status bar

    D) Ribbon

98. Which command is used to make the curves in the corner of the object ?

    A) PILLET   B) CURVE

    C) ARC   D) CIRCLE

99. To Align object with other objects in 2D and 3D in Auto CAD, the command is

    A) MIX   B) TOBE MIX

    C) ALIGN   D) GAIN

100. Which option is used to print all objects with in the printable area of the paper ?

    A) Extents   B) Limits

    C) Display   D) Lay out

—————————————————

A

Space for Rough Work