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PSSSB
Draftsman

Previous Year Paper
25 Sept 2022

Booklet Sr. No.

Question Booklet Set

A

Candidate's Name _____

Father's Name _____

Date of Birth :

D	D		M	M		Y	Y	Y	Y

OMR Response Sheet No. _____ **Roll No.** _____

Candidate's Signature :
(Please sign in the box)

Total Questions : **120**]
Time Allowed : **2** Hours]

D-2022　　　　　　　　　(A – 1)

SECTION A

1. For which projection method is the following graphical symbol applicable ?
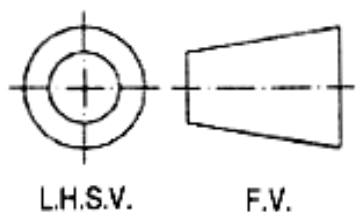
L.H.S.V.   F.V.

   (a) 1st Angle Projection

   (b) 2nd Angle Projection

   (c) 3rd Angle Projection

   (d) 4th Angle Projection

2. How many times is the isometric length shorter than the true length ?

   (a) 0·615

   (b) 0·715

   (c) 0·815

   (d) 0·915

3. What is the inclined angle of letters in case of inclined lettering ?

   (a) 45°

   (b) 55°

   (c) 65°

   (d) 75°

4. The specific gravity of sandstone is

   (a) 1·65 to 1·95

   (b) 2·65 to 2·95

   (c) 3·65 to 3·95

   (d) 4·65 to 4·95

5. In case of brick manufacturing, if the amount of silica in clay is in excess quantity, then excessiveness of silica will

   (a) Make the brick brittle and weak

   (b) Change the colour from red to yellow

   (c) Improve permeability and durability

   (d) Make the brick crack and warp on drying

6. Right proportion of SiO$_2$ in chemical composition of Portland cement helps in controlling strength but if it gets excess then what will happen ?

   (a) Reduces strength

   (b) Setting time increases

   (c) Discolouration effect occurs

   (d) Unsoundness occurs

7. What type and composition of mortar is required for RCC tanks and other retaining structures ?

   (a) 1 : 1 2 1 Cement Sand Mortar

   (b) 1 : 1 2 1 Lime Surkhi Mortar

   (c) 1 : 1 2 1 Lime Sand Mortar

   (d) 1 : 1 2 1 Surkhi Sand Mortar

8. What is the proportion of cement : fine aggregate : coarse aggregate in case of M25 grade of concrete ?

(a) 1 : 3 : 6

(b) 1 : 2 : 4

(c) $1 : 1\frac{1}{2} : 3$

(d) 1 : 1 : 2

9. The most effective process of repairing concrete work to provide impervious layer is usually done by pouring a mixture of cement and sand (1 : 3) in a cement gun and deposit it on the inferior work by pressure of 20 N/cm^2 to 30 N/cm^2, is called

(a) Grouting

(b) Shotcreting

(c) Guniting

(d) Trimming

10. What is the name of the defect when exposed surface of timber dries very rapidly and as a result it shrinks, remains under compression and simultaneously the interior surface has not completely dried, remains under tension ?

(a) Cup hardening

(b) Case hardening

(c) Split hardening

(d) Twist hardening

11. The paint having metal oxides such as Fe_2O_3, PbO, ZnO, etc. is called

(a) Distemper

(b) Enamel

(c) Oil

(d) Emulsion

12. In case of varnish, what type of solvent provides long lasting bright surface ?

(a) Oil

(b) Turpentine

(c) Water

(d) Spirit

13. Name the type of the following stone masonry :
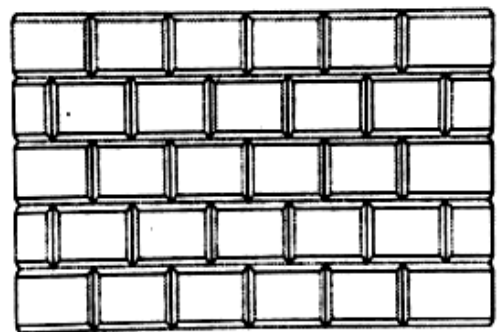
(a) Ashlar Rough tooled

(b) Ashlar Quarry faced

(c) Ashlar Chamfered

(d) Ashlar Fine

14. Name the type of the following brick masonry :
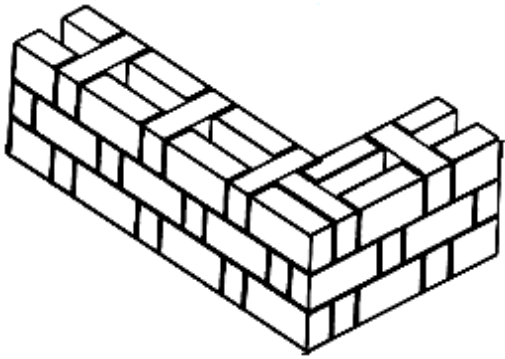
- (a) Brick on Edge Bond
- (b) Rat Trap Bond
- (c) Facing Bond
- (d) Backing Bond

15. For strengthening the corner of a wall, what type of brick bond is used where alternate courses of headers and stretchers are set, including the quoin of stretcher course is $\frac{3}{4}^{\text{th}}$ brick bat and also a header is introduced next to the $\frac{3}{4}^{\text{th}}$ brick bat in every alternate stretcher course ?

- (a) English Cross Bond
- (b) Flemish Garden Wall Bond
- (c) Dutch Bond
- (d) Monk Bond

16. Which one of the following is the most economical foundation when heavy structural loads from columns are required to be transferred to a soil of low bearing capacity ?

- (a) Grillage
- (b) Deep
- (c) Raft
- (d) Shallow

17. In case of foundation, the net loading intensity at which neither the soil fails in shear nor is there excessive settlement detrimental to the structure is known as

- (a) Foundation bearing capacity
- (b) Safe bearing capacity
- (c) Allowable bearing capacity
- (d) Ultimate bearing capacity

18. The best position for damp proof course (D.P.C.) in buildings without basement lies at

- (a) Ground level
- (b) Plinth level
- (c) 150 mm above ground level
- (d) 150 mm above plinth level

19. A semi-rigid material which forms an excellent impervious layer for damp proofing course is called

   (a) Tar felt

   (b) Bituminous felt

   (c) Mastic asphalt

   (d) Bitumen

20. The roughly curved triangular space above or on either side of the arch bounded by the curved extrados, a line running horizontally through the apex of the arch and a line rising vertically from the springing of the arch is called

   (a) Haunch

   (b) Skewback

   (c) Spandrel

   (d) Voussoir

21. For comfortable ascent and descent, what should be the value of "Tread + 2 x Riser" ?

   (a) 400 mm

   (b) 500 mm

   (c) 600 mm

   (d) 700 mm

22. In a contour plan, if contour lines are drawn with a contour interval of 2 m and if the gradient is 1 in 30, then the horizontal distance required between successive points on consecutive contours will be

   (a) 15 m

   (b) 30 m

   (c) 45 m

   (d) 60 m

23. When the telescope of a theodolite is rotated clockwise then it is called

   (a) Face right

   (b) Left swing

   (c) Face left

   (d) Right swing

24. The distance between individual pixels in a visual display technology calculated by measuring the closeness of individual pixels to one another is called the

   (a) Pix Pitch

   (b) Bit Pitch

   (c) Dot Pitch

   (d) Byte Pitch

25. A strip of land permanently left open for drainage purposes, neither used as an access way nor like a street and never included as a part of setbacks is known as

(a) Jhamp

(b) Ledge

(c) Jhot

(d) Loft

26. When the angle of splay becomes 90^0 then the wing walls are known as

(a) Straight Wing Walls

(b) Splayed Wing Walls

(c) Return Wing Walls

(d) Trestle Wing Walls

27. Which grade of pencil is used for drawing arrowheads ?

(a) 2H

(b) 2B

(c) 7H

(d) H

28. If top view of a line is a point, its front view is _____.

(a) parallel to xy line and of true length

(b) parallel to xy line and of apparent length

(c) perpendicular to xy line and of true length

(d) perpendicular to xy line and of apparent length

29. Oblique sections are useful to show the _____.

(a) Interior shapes

(b) Oblique lines

(c) Foreshortened features

(d) Projected features

30. Which of the following defects occur in the seasoning process of wood ?

(a) Bow

(b) Brown rot

(c) Sap stain

(d) Blue stain

31. Which of the following cement is used in sewage and water treatment plants ?

(a) Sulphate Resisting Cement

(b) Quick Setting Cement

(c) Low Heat Cement

(d) Rapid Hardening Cement

32. The maximum limit of weight of fibreboards is _____.

(a) 960 kg/m^3

(b) 1960 kg/m^3

(c) 2460 kg/m^3

(d) 2960 kg/m^3

33. Which of the following is *not* a variety of industrial timber ?

 (a) Veneers

 (b) Plywood

 (c) Fibreboard

 (d) Baulk

34. The term _____ is used to indicate the solution of resins or resinous substances prepared either in alcohol, oil or turpentine.

 (a) Turpentine

 (b) Varnish

 (c) Oil

 (d) Distemper

35. Plastics are divided into thermoplastic and thermosetting on the basis of their _____.

 (a) Behaviour with respect to heating

 (b) Structure

 (c) Physical properties

 (d) Mechanical properties

36. The height of the plinth should *not* be less than _____.

 (a) 45 cm

 (b) 20 cm

 (c) 1 m

 (d) 500 cm

37. A _____ is a projecting stone which is usually provided to serve as support for roof truss, beam, weather shed, etc.

 (a) Course

 (b) Cornice

 (c) Corbel

 (d) Coping

38. In _____ type of construction, the square or rectangular blocks of stones are used.

 (a) Brick masonry

 (b) Rubble masonry

 (c) Rock Masonry

 (d) Ashlar masonry

39. A _____ junction is formed when two continuous walls cross or intersect each other.

 (a) Squint

 (b) Cross

 (c) Obtuse squint

 (d) Right angle

40. The usual concrete mix for RCC lintel is _____ (cement : sand : aggregate).

 (a) 1 : 2 : 3

 (b) 1 : 2 : 4

 (c) 1 : 4 : 8

 (d) 1 : 3 : 6

41. Which of the following is the first principle of surveying ?

(a) Whole to whole

(b) Part to part

(c) Part to whole

(d) Whole to part

42. Which of the following *cannot* be done with the help of theodolite in surveying ?

(a) Measuring horizontal distances

(b) Prolonging survey lines

(c) Laying off horizontal angles

(d) Locating points on lines

43. Which command converts discrete object in polyline ?

(a) Merge

(b) Union

(c) Join

(d) Add

44. What is the minimum allowable number of layers in a drawing ?

(a) 0

(b) 1

(c) 2

(d) 10

45. Which key is used to obtain properties palette in AutoCAD ?

(a) Control + 1

(b) Control + 2

(c) Control + 3

(d) Control + 4

46. Scale command can be accessed easily by typing

(a) SL

(b) S

(c) SC

(d) C

47. _____ refers to the effect produced by deriving the maximum benefits from the minimum dimensions off a room.

(a) Compactness

(b) Roominess

(c) Grouping

(d) Privacy

48. A _____ is a set of rules that specify the standards for constructed objects such as buildings and non-building structures.

(a) Building code

(b) Building bye-laws

(c) IS code

(d) Procedure

49. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds

    (a) 2·0%

    (b) 2·5%

    (c) 4·0%

    (d) 5·0%

50. Railway rails are made of which of the following ?

    (a) Cast iron

    (b) Mild steel

    (c) High carbon steel

    (d) Wrought iron

51. At what angle should a railway line cross a road ?

    (a) 45°

    (b) 60°

    (c) 30°

    (d) 90°

52. Slab culverts are suitable for maximum span of

    (a) 3 m

    (b) 6 m

    (c) 9 m

    (d) 12 m

53. Which foundation is suitable for the construction of bridge ?

    (a) Pile

    (b) Shallow

    (c) Grillage

    (d) Inverted arch

54. Which of the following is the other name of perennial irrigation system ?

    (a) Flood Irrigation

    (b) Controlled Irrigation

    (c) Direct Irrigation

    (d) Storage Irrigation

55. The maximum permissible total solid content in water for domestic purposes should *not* exceed

    (a) 300 ppm

    (b) 400 ppm

    (c) 500 ppm

    (d) 1000 ppm

56. The minimum diameter of manhole cover should be

    (a) 25 cm

    (b) 50 cm

    (c) 75 cm

    (d) 100 cm

57. For a city or town with roads of rectangular pattern, the type of layout used for the distribution of pipes is

(a) dead end system

(b) ring system

(c) radial system

(d) grid iron system

58. Closed contours of decreasing values towards their centre, represent a

(a) Hill

(b) Depression

(c) Saddle or Pass

(d) River bed

59. Ultimate strength to cement is provided by

(a) Tricalcium silicate

(b) Dicalcium silicate

(c) Tricalcium aluminate

(d) Tetracalcium aluminoferrite

60. Beams composed of more than one material, rigidly connected together so as to behave as one piece, are known as

(a) Compound beams

(b) Indeterminate beams

(c) Determinate beams

(d) Composite beams

61. The imaginary line passing through points having equal magnetic declination is termed as

(a) Isogon

(b) Agonic line

(c) Isoclinic line

(d) None of the above

62. The steel generally used in RCC work is

(a) stainless steel

(b) mild steel

(c) high carbon steel

(d) high tension steel

63. The type of surveying in which curvature of the Earth is taken into account is called

(a) Geodetic surveying

(b) Plane surveying

(c) Preliminary surveying

(d) Topographical surveying

64. If the length of the chain is found to be short on testing, it can be adjusted by

(a) straightening the links

(b) removing one or more small circular rings

(c) closing the joints of the rings if opened up

(d) tapping the chain on the ground

65. The maximum tolerance in a 20 m chain is

(a) ± 2 mm

(b) ± 3 mm

(c) ± 5 mm

(d) ± 8 mm

66. Size of a theodolite is specified by

(a) Length of the telescope

(b) Diameter of the vertical circle

(c) Diameter of the lower plate

(d) Diameter of the upper plate

67. For cereal crops the most commonly adopted method of irrigation is

(a) Free flowing method

(b) Check method

(c) Furrow method

(d) Sprinkler method

68. A canal which is aligned at right angles to the contour is called

(a) Contour canal

(b) Watershed canal

(c) Branch canal

(d) Side slope canal

69. Bituminous materials are commonly used in highway construction because of their good

(a) Tensile and compressive properties

(b) Binding and waterproofing properties

(c) Shear strength and tensile properties

(d) Bond and tensile properties

70. The total thickness of pavement by CBR method depends on CBR value of

(a) Base course

(b) Surface course

(c) Subgrade

(d) All layers

71. Equivalent factor of Passenger Car Unit (PCU) for a passenger car as per IRC is

(a) 1·0

(b) 2·0

(c) 0·5

(d) 10

72. The science which deals with the sound insulation in a building is known as _____.

(a) Reverberation

(b) Transmission

(c) Acoustic

(d) Airborne

73. The pipe in buildings, through which human excreta flows is called

(a) Soil pipe

(b) Waste pipe

(c) Vent pipe

(d) Anti-siphonage pipe

74. A nahani trap is provided

(a) At the head of each house drain

(b) At the outfall end of each house drain

(c) At the junction of two house drains

(d) None of the above

75. The most important purpose of frog in brick is to

(a) emboss manufacturer's name

(b) reduce the weight of brick

(c) form keyed joint between brick and mortar

(d) improve insulation by providing 'hollows'

76. The lime used for finishing coat in plastering is

(a) Semi-hydraulic lime

(b) Kankar lime

(c) Magnesium lime

(d) Eminently hydraulic lime

77. Surkhi is added to lime mortar to

(a) Prevent shrinkage

(b) Decrease setting time

(c) Increase bulk

(d) Impart hydraulicity

78. Gypsum is added to cement for

(a) Colour

(b) Strength

(c) Controlling setting time

(d) None of the above

79. The optimum number of revolutions over which concrete is required to be mixed in a mixer machine is

(a) 10

(b) 20

(c) 50

(d) 100

80. The age of trees can be predicted by

    (a) length of medulary rays

    (b) counting the number of rings

    (c) measuring the diameter of pith

    (d) the thickness of bark

81. Seasoning of timber is necessary to

    (a) Increase fire resistance

    (b) Increase vermin resistance

    (c) Reduce microbial substances

    (d) Expel moisture present in timber

82. Plywood is specified by

    (a) Weight

    (b) Volume

    (c) Thickness

    (d) Number of layers

83. Which of the following is caused by fungus in timber ?

    (a) Upsets

    (b) Foxiness

    (c) Dry rot

    (d) Wet rot

84. The function of base in paint is to

    (a) provide a film on the surface

    (b) hide imperfections of the surface

    (c) reduce shrinkage cracks in paint film

    (d) bring down the overall cost

85. In fireproof paints, the main constituent is

    (a) Aluminium powder

    (b) Red lead

    (c) Copper powder

    (d) Asbestos fibers

86. In plastic paint, thinner used is

    (a) Oil

    (b) Spirit

    (c) Water

    (d) Naphtha

87. Which of following is an example of spirit varnish ?

    (a) French polish

    (b) Asphalt varnish

    (c) Oil varnish

    (d) Spar varnish

88. Measurement of flooring is done in

    (a) Cubic meter

    (b) Square meter

    (c) Meter

    (d) Number

89. The structure which allows the water to pass under roads, railways is known as

(a) Bridge

(b) Drainage

(c) Tunnel

(d) Culvert

90. To obtain parallel line and concentric circle or parallel curve, what command is used in AutoCAD ?

(a) Offset

(b) Array

(c) Fillet

(d) Copy

91. A regular cone is placed on a horizontal plane on its base, the top view is

(a) Circle

(b) Rectangle

(c) Square

(d) Triangle

92. The placing of various rooms or units of a structure in proper correlation of their functions is known as

(a) Aspect

(b) Grouping

(c) Prospect

(d) Circulation

93. Which mode allows the user to draw perpendicular straight lines ?

(a) OSNAP

(b) Ortho

(c) Linear

(d) Polar tracking

94. A type of bond in brick masonry in which each course consists of alternate headers and stretchers is

(a) English bond

(b) Flemish bond

(c) Stretching bond

(d) Heading bond

95. The type of stone masonry commonly adopted in construction of residential buildings is

(a) Uncoursed rubble

(b) Coursed rubble

(c) Random rubble

(d) Dry rubble

96. A covering of stone, concrete, brick on the exposed top of an external wall of a building is called

(a) Jamb

(b) Coping

(c) Cornice

(d) Corbel

97. For DPC at plinth level, the commonly adopted material is

(a) Bitumen sheet

(b) Plastic sheet

(c) Mastic Asphalt

(d) Cement Concrete

98. The cavity wall is generally provided for

(a) Preventing dampness

(b) Heat insulation

(c) Sound insulation

(d) All of the above

99. The projection part of tread beyond the face of riser is called

(a) Pitch

(b) Baluster

(c) Nosing

(d) Rail

100. The lower part of a structure which transmits the load to the soil is known as

(a) Basement

(b) Foundation

(c) Plinth

(d) Superstructure

SECTION B

101. Shaheed Bhagat Singh is associated with

(a) Republican Party of India

(b) Ghadar Party

(c) Hindustan Socialist Republican Association

(d) Congress Socialist Party

102. Where is Baba Banda Singh Bahadur War Memorial located ?

(a) Chappar Chiri

(b) Sirhind

(c) Kartarpur

(d) Samana

103. The characteristic of sound by which we can distinguish between a shrill sound and a grave sound is known as

(a) quality

(b) intensity

(c) loudness

(d) pitch

104. GPS, or the Global Positioning System, is a global navigation satellite system that provides location, velocity and time synchronization. The satellites meant for GPS are placed in

(a) Low Earth Orbits

(b) Medium Earth Orbits

(c) Geostationary Orbits

(d) Geosynchronous Orbits

105. The major source of energy generation in India is

(a) Nuclear

(b) Non-conventional

(c) Thermal

(d) Hyde

106. Which of the following is the best heat and corrosion-resistant material ?

(a) Polymer

(b) Metal

(c) Ceramic

(d) Semiconductor

107. The pollutant responsible for ozone hole is

(a) CO_2

(b) SO_2

(c) CO

(d) CFC

108. Who among the following won the 57th Jnanpith Award ?

(a) Nilmani Phookan

(b) Damodar Mauzo

(c) Akkitham Achuthan Namboothiri

(d) Amitav Ghosh

109. Which one of the following river drains into the Arabian Sea ?

(a) Indravati

(b) Narmada

(c) Godavari

(d) Cauvery

110. Supertech's twin towers which were demolished in Noida were

(a) AXA and Capital Plaza

(b) Richfield and Windsor

(c) Apex and Ceyane

(d) Ocean Tower and Landmark Tower

111. In a certain code language, if the word 'REJECTION' is coded as SGMIHZPWW, then how is the word 'MECHANIC' coded in that language ?

(a) NGFLFTPK

(b) NGPLFTIK

(c) NGFKFTPK

(d) NGPTPKIL

112. Total time taken by a person in going to a place by walking, and returning on cycle is 5 hours 45 minutes. He would have gained 2 hours by cycling both ways. The time taken by him to walk both ways is

(a) 6 hours 45 minutes

(b) 7 hours 45 minutes

(c) 8 hours 15 minutes

(d) 8 hours 30 minutes

113. Consider the following matrix.

3	8	10	2	?	1
6	56	90	2	20	0

What is the missing number at "?" in the matrix ?

(a) 5

(b) 0

(c) 7

(d) 3

114. Raju has ₹ 9000 with him and he wants to buy a mobile handset; but he finds that he has only 75% of the amount required to buy the handset. Therefore, he borrows ₹ 2000 from a friend. Then

(a) Raju still does not have enough amount to buy the handset

(b) Raju has exactly the same amount as required to buy the handset

(c) Raju has enough amount to buy the handset and he will have ₹ 500 with him after buying the handset

(d) Raju has enough amount to buy the handset and he will have ₹ 1000 with him after buying the handset

115. In a month of 31 days, the third Wednesday falls on the 15th. What will be the last day of that month ?

(a) 4th Sunday

(b) 5th Wednesday

(c) 5th Thursday

(d) 5th Friday

116. There are twenty people working in an office. The first group of five works between 8.00 A.M. and 2.00 P.M. The second group of ten works between 10.00 A.M. and 4.00 P.M. And the third group of five works between 12 noon and 6.00 P.M. There are three computers in the office which all the employees frequently use. During which of the following hours are the computers likely to be used most ?

(a) 12 noon – 2·00 pm

(b) 1·00 pm – 3·00 pm

(c) 10·00 am – 12 noon

(d) 2·00 pm – 4·00 pm

117. A hall $200 \text{ m} \times 50 \text{ m}$ is to be paved with square tiles. If the price of one tile of $10 \text{ cm} \times 10 \text{ cm}$ is ₹ 3·50, then find the cost of paving the hall.

(a) ₹ 35 lakh

(b) ₹ 30 lakh

(c) ₹ 45 lakh

(d) ₹ 25 lakh

118. In a row of trees, a tree is 7th from left end and 14th from right end. How many trees are there in a row ?

(a) 20

(b) 21

(c) 18

(d) 19

119. A scores more runs than B but less than C. D scores more than B but less than A. Who is the lowest scorer ?

(a) B

(b) A

(c) D

(d) C

120. P is the husband of Q. S is the daughter of R. P is the father of R. How is Q related to S ?

(a) Mother

(b) Grandmother

(c) Aunt

(d) Cousin

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

Booklet Sr. No.

Candidate's Name _____

Father's Name _____

Date of Birth :

| D D | M M | Y Y Y Y |

OMR Response Sheet No. _____ **Roll No.** _____

Candidate's Signature :
(Please sign in the box)

Total Questions : **120**]
Time Allowed : **2** Hours]

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time he/she is told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.

2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in the OMR sheet. Use of ink pen or any other pen is not allowed.

3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.

4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.

5. The question paper booklet has **20** pages.

6. The candidates, <u>when allowed to open</u> the question paper booklet, <u>must first check the entire booklet</u> to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.

7. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.

8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the <u>MOST APPROPRIATE</u> answer on the OMR response sheet.

9. There is negative marking (1 mark for each question) for questions wrongly answered by the candidate.

10. Use of Electronic/Manual Calculator is prohibited.

11. The candidate **MUST READ INSTRUCTIONS BEHIND THE OMR SHEET** before answering the questions and check that two carbon copies attached to the OMR sheet are intact.

D-2022 (B – 1)

SECTION A

1. A strip of land permanently left open for drainage purposes, neither used as an access way nor like a street and never included as a part of setbacks is known as
   (a) Jhamp
   (b) Ledge
   (c) Jhot
   (d) Loft

2. When the angle of splay becomes 90° then the wing walls are known as
   (a) Straight Wing Walls
   (b) Splayed Wing Walls
   (c) Return Wing Walls
   (d) Trestle Wing Walls

3. Which grade of pencil is used for drawing arrowheads ?
   (a) 2H
   (b) 2B
   (c) 7H
   (d) H

4. If top view of a line is a point, its front view is _____.
   (a) parallel to xy line and of true length
   (b) parallel to xy line and of apparent length
   (c) perpendicular to xy line and of true length
   (d) perpendicular to xy line and of apparent length

5. Oblique sections are useful to show the _____.
   (a) Interior shapes
   (b) Oblique lines
   (c) Foreshortened features
   (d) Projected features

6. Which of the following defects occur in the seasoning process of wood ?
   (a) Bow
   (b) Brown rot
   (c) Sap stain
   (d) Blue stain

7. Which of the following cement is used in sewage and water treatment plants ?
   (a) Sulphate Resisting Cement
   (b) Quick Setting Cement
   (c) Low Heat Cement
   (d) Rapid Hardening Cement

8. The maximum limit of weight of fibreboards is _____.
   (a) 960 kg/m^3
   (b) 1960 kg/m^3
   (c) 2460 kg/m^3
   (d) 2960 kg/m^3

9. Which of the following is **not** a variety of industrial timber ?

(a) Veneers

(b) Plywood

(c) Fibreboard

(d) Baulk

10. The term _____ is used to indicate the solution of resins or resinous substances prepared either in alcohol, oil or turpentine.

(a) Turpentine

(b) Varnish

(c) Oil

(d) Distemper

11. Plastics are divided into thermoplastic and thermosetting on the basis of their _____.

(a) Behaviour with respect to heating

(b) Structure

(c) Physical properties

(d) Mechanical properties

12. The height of the plinth should **not** be less than _____.

(a) 45 cm

(b) 20 cm

(c) 1 m

(d) 500 cm

13. A _____ is a projecting stone which is usually provided to serve as support for roof truss, beam, weather shed, etc.

(a) Course

(b) Cornice

(c) Corbel

(d) Coping

14. In _____ type of construction, the square or rectangular blocks of stones are used.

(a) Brick masonry

(b) Rubble masonry

(c) Rock Masonry

(d) Ashlar masonry

15. A _____ junction is formed when two continuous walls cross or intersect each other.

(a) Squint

(b) Cross

(c) Obtuse squint

(d) Right angle

16. The usual concrete mix for RCC lintel is _____ (cement : sand : aggregate).

(a) 1 : 2 : 3

(b) 1 : 2 : 4

(c) 1 : 4 : 8

(d) 1 : 3 : 6

17. Which of the following is the first principle of surveying ?

   (a) Whole to whole

   (b) Part to part

   (c) Part to whole

   (d) Whole to part

18. Which of the following *cannot* be done with the help of theodolite in surveying ?

   (a) Measuring horizontal distances

   (b) Prolonging survey lines

   (c) Laying off horizontal angles

   (d) Locating points on lines

19. Which command converts discrete object in polyline ?

   (a) Merge

   (b) Union

   (c) Join

   (d) Add

20. What is the minimum allowable number of layers in a drawing ?

   (a) 0

   (b) 1

   (c) 2

   (d) 10

21. Which key is used to obtain properties palette in AutoCAD ?

   (a) Control + 1

   (b) Control + 2

   (c) Control + 3

   (d) Control + 4

22. Scale command can be accessed easily by typing

   (a) SL

   (b) S

   (c) SC

   (d) C

23. _____ refers to the effect produced by deriving the maximum benefits from the minimum dimensions off a room.

   (a) Compactness

   (b) Roominess

   (c) Grouping

   (d) Privacy

24. A _____ is a set of rules that specify the standards for constructed objects such as buildings and non-building structures.

   (a) Building code

   (b) Building bye-laws

   (c) IS code

   (d) Procedure

25. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds

(a) 2·0%

(b) 2·5%

(c) 4·0%

(d) 5·0%

26. Railway rails are made of which of the following ?

(a) Cast iron

(b) Mild steel

(c) High carbon steel

(d) Wrought iron

27. At what angle should a railway line cross a road ?

(a) 45°

(b) 60°

(c) 30°

(d) 90°

28. Slab culverts are suitable for maximum span of

(a) 3 m

(b) 6 m

(c) 9 m

(d) 12 m

29. Which foundation is suitable for the construction of bridge ?

(a) Pile

(b) Shallow

(c) Grillage

(d) Inverted arch

30. Which of the following is the other name of perennial irrigation system ?

(a) Flood Irrigation

(b) Controlled Irrigation

(c) Direct Irrigation

(d) Storage Irrigation

31. The maximum permissible total solid content in water for domestic purposes should *not* exceed

(a) 300 ppm

(b) 400 ppm

(c) 500 ppm

(d) 1000 ppm

32. The minimum diameter of manhole cover should be

(a) 25 cm

(b) 50 cm

(c) 75 cm

(d) 100 cm

33. For a city or town with roads of rectangular pattern, the type of layout used for the distribution of pipes is

(a) dead end system

(b) ring system

(c) radial system

(d) grid iron system

34. Closed contours of decreasing values towards their centre, represent a

(a) Hill

(b) Depression

(c) Saddle or Pass

(d) River bed

35. Ultimate strength to cement is provided by

(a) Tricalcium silicate

(b) Dicalcium silicate

(c) Tricalcium aluminate

(d) Tetracalcium aluminoferrite

36. Beams composed of more than one material, rigidly connected together so as to behave as one piece, are known as

(a) Compound beams

(b) Indeterminate beams

(c) Determinate beams

(d) Composite beams

37. The imaginary line passing through points having equal magnetic declination is termed as

(a) Isogon

(b) Agonic line

(c) Isoclinic line

(d) None of the above

38. The steel generally used in RCC work is

(a) stainless steel

(b) mild steel

(c) high carbon steel

(d) high tension steel

39. The type of surveying in which curvature of the Earth is taken into account is called

(a) Geodetic surveying

(b) Plane surveying

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(d) Topographical surveying

40. If the length of the chain is found to be short on testing, it can be adjusted by

(a) straightening the links

(b) removing one or more small circular rings

(c) closing the joints of the rings if opened up

(d) tapping the chain on the ground

41. The maximum tolerance in a 20 m chain is

(a) ± 2 mm

(b) ± 3 mm

(c) ± 5 mm

(d) ± 8 mm

42. Size of a theodolite is specified by

(a) Length of the telescope

(b) Diameter of the vertical circle

(c) Diameter of the lower plate

(d) Diameter of the upper plate

43. For cereal crops the most commonly adopted method of irrigation is

(a) Free flowing method

(b) Check method

(c) Furrow method

(d) Sprinkler method

44. A canal which is aligned at right angles to the contour is called

(a) Contour canal

(b) Watershed canal

(c) Branch canal

(d) Side slope canal

45. Bituminous materials are commonly used in highway construction because of their good

(a) Tensile and compressive properties

(b) Binding and waterproofing properties

(c) Shear strength and tensile properties

(d) Bond and tensile properties

46. The total thickness of pavement by CBR method depends on CBR value of

(a) Base course

(b) Surface course

(c) Subgrade

(d) All layers

47. Equivalent factor of Passenger Car Unit (PCU) for a passenger car as per IRC is

(a) 1·0

(b) 2·0

(c) 0·5

(d) 10

48. The science which deals with the sound insulation in a building is known as _____.

(a) Reverberation

(b) Transmission

(c) Acoustic

(d) Airborne

49. The pipe in buildings, through which human excreta flows is called

(a) Soil pipe

(b) Waste pipe

(c) Vent pipe

(d) Anti-siphonage pipe

50. A nahani trap is provided

(a) At the head of each house drain

(b) At the outfall end of each house drain

(c) At the junction of two house drains

(d) None of the above

51. The most important purpose of frog in brick is to

(a) emboss manufacturer's name

(b) reduce the weight of brick

(c) form keyed joint between brick and mortar

(d) improve insulation by providing 'hollows'

52. The lime used for finishing coat in plastering is

(a) Semi-hydraulic lime

(b) Kankar lime

(c) Magnesium lime

(d) Eminently hydraulic lime

53. Surkhi is added to lime mortar to

(a) Prevent shrinkage

(b) Decrease setting time

(c) Increase bulk

(d) Impart hydraulicity

54. Gypsum is added to cement for

(a) Colour

(b) Strength

(c) Controlling setting time

(d) None of the above

55. The optimum number of revolutions over which concrete is required to be mixed in a mixer machine is

(a) 10

(b) 20

(c) 50

(d) 100

56. The age of trees can be predicted by

(a) length of medulary rays

(b) counting the number of rings

(c) measuring the diameter of pith

(d) the thickness of bark

57. Seasoning of timber is necessary to

(a) Increase fire resistance

(b) Increase vermin resistance

(c) Reduce microbial substances

(d) Expel moisture present in timber

58. Plywood is specified by

(a) Weight

(b) Volume

(c) Thickness

(d) Number of layers

59. Which of the following is caused by fungus in timber ?

(a) Upsets

(b) Foxiness

(c) Dry rot

(d) Wet rot

60. The function of base in paint is to

(a) provide a film on the surface

(b) hide imperfections of the surface

(c) reduce shrinkage cracks in paint film

(d) bring down the overall cost

61. In fireproof paints, the main constituent is

(a) Aluminium powder

(b) Red lead

(c) Copper powder

(d) Asbestos fibers

62. In plastic paint, thinner used is

(a) Oil

(b) Spirit

(c) Water

(d) Naphtha

63. Which of following is an example of spirit varnish ?

(a) French polish

(b) Asphalt varnish

(c) Oil varnish

(d) Spar varnish

64. Measurement of flooring is done in

(a) Cubic meter

(b) Square meter

(c) Meter

(d) Number

65. The structure which allows the water to pass under roads, railways is known as

(a) Bridge

(b) Drainage

(c) Tunnel

(d) Culvert

66. To obtain parallel line and concentric circle or parallel curve, what command is used in AutoCAD ?

(a) Offset

(b) Array

(c) Fillet

(d) Copy

67. A regular cone is placed on a horizontal plane on its base, the top view is

(a) Circle

(b) Rectangle

(c) Square

(d) Triangle

68. The placing of various rooms or units of a structure in proper correlation of their functions is known as

(a) Aspect

(b) Grouping

(c) Prospect

(d) Circulation

69. Which mode allows the user to draw perpendicular straight lines ?

(a) OSNAP

(b) Ortho

(c) Linear

(d) Polar tracking

70. A type of bond in brick masonry in which each course consists of alternate headers and stretchers is

(a) English bond

(b) Flemish bond

(c) Stretching bond

(d) Heading bond

71. The type of stone masonry commonly adopted in construction of residential buildings is

(a) Uncoursed rubble

(b) Coursed rubble

(c) Random rubble

(d) Dry rubble

72. A covering of stone, concrete, brick on the exposed top of an external wall of a building is called

(a) Jamb

(b) Coping

(c) Cornice

(d) Corbel

73. For DPC at plinth level, the commonly adopted material is

(a) Bitumen sheet

(b) Plastic sheet

(c) Mastic Asphalt

(d) Cement Concrete

74. The cavity wall is generally provided for

(a) Preventing dampness

(b) Heat insulation

(c) Sound insulation

(d) All of the above

75. The projection part of tread beyond the face of riser is called

(a) Pitch

(b) Baluster

(c) Nosing

(d) Rail

76. The lower part of a structure which transmits the load to the soil is known as

(a) Basement

(b) Foundation

(c) Plinth

(d) Superstructure

77. For which projection method is the following graphical symbol applicable ?
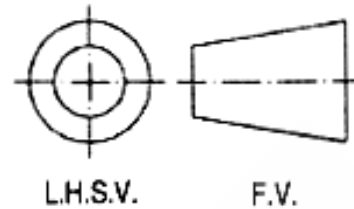
L.H.S.V.   F.V.

(a) 1st Angle Projection

(b) 2nd Angle Projection

(c) 3rd Angle Projection

(d) 4th Angle Projection

78. How many times is the isometric length shorter than the true length ?

(a) 0·615

(b) 0·715

(c) 0·815

(d) 0·915

79. What is the inclined angle of letters in case of inclined lettering ?

(a) 45°

(b) 55°

(c) 65°

(d) 75°

80. The specific gravity of sandstone is

(a) 1·65 to 1·95

(b) 2·65 to 2·95

(c) 3·65 to 3·95

(d) 4·65 to 4·95

81. In case of brick manufacturing, if the amount of silica in clay is in excess quantity, then excessiveness of silica will

(a) Make the brick brittle and weak

(b) Change the colour from red to yellow

(c) Improve permeability and durability

(d) Make the brick crack and warp on drying

82. Right proportion of SiO_2 in chemical composition of Portland cement helps in controlling strength but if it gets excess then what will happen ?

(a) Reduces strength

(b) Setting time increases

(c) Discolouration effect occurs

(d) Unsoundness occurs

83. What type and composition of mortar is required for RCC tanks and other retaining structures ?

(a) 1 : 1 2 1 Cement Sand Mortar

(b) 1 : 1 2 1 Lime Surkhi Mortar

(c) 1 : 1 2 1 Lime Sand Mortar

(d) 1 : 1 2 1 Surkhi Sand Mortar

84. What is the proportion of cement : fine aggregate : coarse aggregate in case of M25 grade of concrete ?

(a) 1 : 3 : 6

(b) 1 : 2 : 4

(c) $1 : 1\frac{1}{2} : 3$

(d) 1 : 1 : 2

85. The most effective process of repairing concrete work to provide impervious layer is usually done by pouring a mixture of cement and sand (1 : 3) in a cement gun and deposit it on the inferior work by pressure of 20 N/cm^2 to 30 N/cm^2, is called

(a) Grouting

(b) Shotcreting

(c) Guniting

(d) Trimming

86. What is the name of the defect when exposed surface of timber dries very rapidly and as a result it shrinks, remains under compression and simultaneously the interior surface has not completely dried, remains under tension ?

(a) Cup hardening

(b) Case hardening

(c) Split hardening

(d) Twist hardening

87. The paint having metal oxides such as Fe_2O_3, PbO, ZnO, etc. is called

(a) Distemper

(b) Enamel

(c) Oil

(d) Emulsion

88. In case of varnish, what type of solvent provides long lasting bright surface ?

(a) Oil

(b) Turpentine

(c) Water

(d) Spirit

89. Name the type of the following stone masonry :
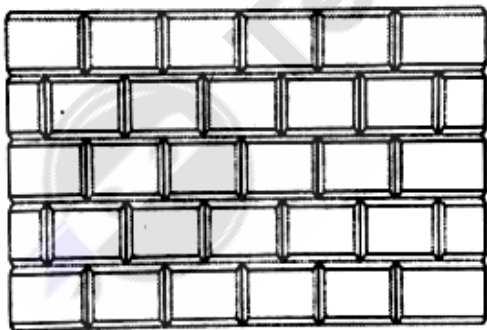
(a) Ashlar Rough tooled

(b) Ashlar Quarry faced

(c) Ashlar Chamfered

(d) Ashlar Fine

90. Name the type of the following brick masonry :
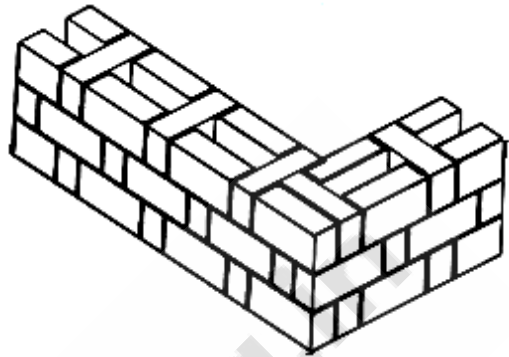
(a) Brick on Edge Bond

(b) Rat Trap Bond

(c) Facing Bond

(d) Backing Bond

91. For strengthening the corner of a wall, what type of brick bond is used where alternate courses of headers and stretchers are set, including the quoin of stretcher course is $\frac{3}{4}^{th}$ brick bat and also a header is introduced next to the $\frac{3}{4}^{th}$ brick bat in every alternate stretcher course ?

(a) English Cross Bond

(b) Flemish Garden Wall Bond

(c) Dutch Bond

(d) Monk Bond

92. Which one of the following is the most economical foundation when heavy structural loads from columns are required to be transferred to a soil of low bearing capacity ?

(a) Grillage

(b) Deep

(c) Raft

(d) Shallow

93. In case of foundation, the net loading intensity at which neither the soil fails in shear nor is there excessive settlement detrimental to the structure is known as

(a) Foundation bearing capacity

(b) Safe bearing capacity

(c) Allowable bearing capacity

(d) Ultimate bearing capacity

94. The best position for damp proof course (D.P.C.) in buildings without basement lies at

(a) Ground level

(b) Plinth level

(c) 150 mm above ground level

(d) 150 mm above plinth level

95. A semi-rigid material which forms an excellent impervious layer for damp proofing course is called

(a) Tar felt

(b) Bituminous felt

(c) Mastic asphalt

(d) Bitumen

96. The roughly curved triangular space above or on either side of the arch bounded by the curved extrados, a line running horizontally through the apex of the arch and a line rising vertically from the springing of the arch is called

(a) Haunch

(b) Skewback

(c) Spandrel

(d) Voussoir

97. For comfortable ascent and descent, what should be the value of "Tread + 2 x Riser" ?

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 700 mm

98. In a contour plan, if contour lines are drawn with a contour interval of 2 m and if the gradient is 1 in 30, then the horizontal distance required between successive points on consecutive contours will be

   (a) 15 m

   (b) 30 m

   (c) 45 m

   (d) 60 m

99. When the telescope of a theodolite is rotated clockwise then it is called

   (a) Face right

   (b) Left swing

   (c) Face left

   (d) Right swing

100. The distance between individual pixels in a visual display technology calculated by measuring the closeness of individual pixels to one another is called the

   (a) Pix Pitch

   (b) Bit Pitch

   (c) Dot Pitch

   (d) Byte Pitch

SECTION B

101. Which one of the following river drains into the Arabian Sea ?

   (a) Indravati

   (b) Narmada

   (c) Godavari

   (d) Cauvery

102. Supertech's twin towers which were demolished in Noida were

   (a) AXA and Capital Plaza

   (b) Richfield and Windsor

   (c) Apex and Ceyane

   (d) Ocean Tower and Landmark Tower

103. In a certain code language, if the word 'REJECTION' is coded as SGMIHZPWW, then how is the word 'MECHANIC' coded in that language ?

   (a) NGFLFTPK

   (b) NGPLFTIK

   (c) NGFKFTPK

   (d) NGPTPKIL

104. Total time taken by a person in going to a place by walking, and returning on cycle is 5 hours 45 minutes. He would have gained 2 hours by cycling both ways. The time taken by him to walk both ways is

   (a) 6 hours 45 minutes

   (b) 7 hours 45 minutes

   (c) 8 hours 15 minutes

   (d) 8 hours 30 minutes

105. Consider the following matrix.

3	8	10	2	?	1
6	56	90	2	20	0

What is the missing number at "?" in the matrix ?

(a) 5

(b) 0

(c) 7

(d) 3

106. Raju has ₹ 9000 with him and he wants to buy a mobile handset; but he finds that he has only 75% of the amount required to buy the handset. Therefore, he borrows ₹ 2000 from a friend. Then

(a) Raju still does not have enough amount to buy the handset

(b) Raju has exactly the same amount as required to buy the handset

(c) Raju has enough amount to buy the handset and he will have ₹ 500 with him after buying the handset

(d) Raju has enough amount to buy the handset and he will have ₹ 1000 with him after buying the handset

107. In a month of 31 days, the third Wednesday falls on the 15th. What will be the last day of that month ?

(a) 4th Sunday

(b) 5th Wednesday

(c) 5th Thursday

(d) 5th Friday

108. There are twenty people working in an office. The first group of five works between 8.00 A.M. and 2.00 P.M. The second group of ten works between 10.00 A.M. and 4.00 P.M. And the third group of five works between 12 noon and 6.00 P.M. There are three computers in the office which all the employees frequently use. During which of the following hours are the computers likely to be used most ?

(a) 12 noon – 2·00 pm

(b) 1·00 pm – 3·00 pm

(c) 10·00 am – 12 noon

(d) 2·00 pm – 4·00 pm

109. A hall $200\,m \times 50\,m$ is to be paved with square tiles. If the price of one tile of $10\,cm \times 10\,cm$ is ₹ 3·50, then find the cost of paving the hall.

(a) ₹ 35 lakh

(b) ₹ 30 lakh

(c) ₹ 45 lakh

(d) ₹ 25 lakh

110. In a row of trees, a tree is 7th from left end and 14th from right end. How many trees are there in a row ?

(a) 20

(b) 21

(c) 18

(d) 19

111. A scores more runs than B but less than C. D scores more than B but less than A. Who is the lowest scorer ?

(a) B

(b) A

(c) D

(d) C

112. P is the husband of Q. S is the daughter of R. P is the father of R. How is Q related to S ?

(a) Mother

(b) Grandmother

(c) Aunt

(d) Cousin

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113. Shaheed Bhagat Singh is associated with

   (a) Republican Party of India

   (b) Ghadar Party

   (c) Hindustan Socialist Republican Association

   (d) Congress Socialist Party

114. Where is Baba Banda Singh Bahadur War Memorial located ?

   (a) Chappar Chiri

   (b) Sirhind

   (c) Kartarpur

   (d) Samana

115. The characteristic of sound by which we can distinguish between a shrill sound and a grave sound is known as

   (a) quality

   (b) intensity

   (c) loudness

   (d) pitch

116. GPS, or the Global Positioning System, is a global navigation satellite system that provides location, velocity and time synchronization. The satellites meant for GPS are placed in

   (a) Low Earth Orbits

   (b) Medium Earth Orbits

   (c) Geostationary Orbits

   (d) Geosynchronous Orbits

117. The major source of energy generation in India is

   (a) Nuclear

   (b) Non-conventional

   (c) Thermal

   (d) Hyde

118. Which of the following is the best heat and corrosion-resistant material ?

   (a) Polymer

   (b) Metal

   (c) Ceramic

   (d) Semiconductor

119. The pollutant responsible for ozone hole is

   (a) CO_2

   (b) SO_2

   (c) CO

   (d) CFC

120. Who among the following won the 57th Jnanpith Award ?

   (a) Nilmani Phookan

   (b) Damodar Mauzo

   (c) Akkitham Achuthan Namboothiri

   (d) Amitav Ghosh

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

Booklet Sr. No.

Question Booklet Set

C

Candidate's Name _____

Father's Name _____

Date of Birth :

D D M M Y Y Y Y

OMR Response Sheet No. _____ **Roll No.** _____

Candidate's Signature :
(Please sign in the box)

Total Questions : **120**]
Time Allowed : **2** Hours]

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time he/she is told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.

2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in the OMR sheet. Use of ink pen or any other pen is not allowed.

3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.

4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.

5. The question paper booklet has **20** pages.

6. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.

7. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.

8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.

9. There is negative marking (1 mark for each question) for questions wrongly answered by the candidate.

10. Use of Electronic/Manual Calculator is prohibited.

11. The candidate **MUST READ INSTRUCTIONS BEHIND THE OMR SHEET** before answering the questions and check that two carbon copies attached to the OMR sheet are intact.

SECTION A

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   (a) Contour canal

   (b) Watershed canal

   (c) Branch canal

   (d) Side slope canal

9. Bituminous materials are commonly used in highway construction because of their good

   (a) Tensile and compressive properties

   (b) Binding and waterproofing properties

   (c) Shear strength and tensile properties

   (d) Bond and tensile properties

10. The total thickness of pavement by CBR method depends on CBR value of

   (a) Base course

   (b) Surface course

   (c) Subgrade

   (d) All layers

11. Equivalent factor of Passenger Car Unit (PCU) for a passenger car as per IRC is

   (a) 1·0

   (b) 2·0

   (c) 0·5

   (d) 10

12. The science which deals with the sound insulation in a building is known as _____.

   (a) Reverberation

   (b) Transmission

   (c) Acoustic

   (d) Airborne

13. The pipe in buildings, through which human excreta flows is called

   (a) Soil pipe

   (b) Waste pipe

   (c) Vent pipe

   (d) Anti-siphonage pipe

14. A nahani trap is provided

   (a) At the head of each house drain

   (b) At the outfall end of each house drain

   (c) At the junction of two house drains

   (d) None of the above

15. The most important purpose of frog in brick is to

   (a) emboss manufacturer's name

   (b) reduce the weight of brick

   (c) form keyed joint between brick and mortar

   (d) improve insulation by providing 'hollows'

16. The lime used for finishing coat in plastering is

  (a) Semi-hydraulic lime

  (b) Kankar lime

  (c) Magnesium lime

  (d) Eminently hydraulic lime

17. Surkhi is added to lime mortar to

  (a) Prevent shrinkage

  (b) Decrease setting time

  (c) Increase bulk

  (d) Impart hydraulicity

18. Gypsum is added to cement for

  (a) Colour

  (b) Strength

  (c) Controlling setting time

  (d) None of the above

19. The optimum number of revolutions over which concrete is required to be mixed in a mixer machine is

  (a) 10

  (b) 20

  (c) 50

  (d) 100

20. The age of trees can be predicted by

  (a) length of medulary rays

  (b) counting the number of rings

  (c) measuring the diameter of pith

  (d) the thickness of bark

21. Seasoning of timber is necessary to

  (a) Increase fire resistance

  (b) Increase vermin resistance

  (c) Reduce microbial substances

  (d) Expel moisture present in timber

22. Plywood is specified by

  (a) Weight

  (b) Volume

  (c) Thickness

  (d) Number of layers

23. Which of the following is caused by fungus in timber ?

  (a) Upsets

  (b) Foxiness

  (c) Dry rot

  (d) Wet rot

24. The function of base in paint is to

  (a) provide a film on the surface

  (b) hide imperfections of the surface

  (c) reduce shrinkage cracks in paint film

  (d) bring down the overall cost

25. In fireproof paints, the main constituent is

(a) Aluminium powder

(b) Red lead

(c) Copper powder

(d) Asbestos fibers

26. In plastic paint, thinner used is

(a) Oil

(b) Spirit

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(d) Naphtha

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34. A type of bond in brick masonry in which each course consists of alternate headers and stretchers is

(a) English bond

(b) Flemish bond

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35. The type of stone masonry commonly adopted in construction of residential buildings is

(a) Uncoursed rubble

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36. A covering of stone, concrete, brick on the exposed top of an external wall of a building is called

(a) Jamb

(b) Coping

(c) Cornice

(d) Corbel

37. For DPC at plinth level, the commonly adopted material is

(a) Bitumen sheet

(b) Plastic sheet

(c) Mastic Asphalt

(d) Cement Concrete

38. The cavity wall is generally provided for

(a) Preventing dampness

(b) Heat insulation

(c) Sound insulation

(d) All of the above

39. The projection part of tread beyond the face of riser is called

(a) Pitch

(b) Baluster

(c) Nosing

(d) Rail

40. The lower part of a structure which transmits the load to the soil is known as

(a) Basement

(b) Foundation

(c) Plinth

(d) Superstructure

41. For which projection method is the following graphical symbol applicable ?
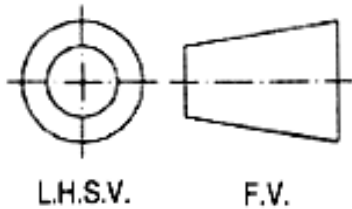
L.H.S.V.   F.V.

(a) 1st Angle Projection

(b) 2nd Angle Projection

(c) 3rd Angle Projection

(d) 4th Angle Projection

42. How many times is the isometric length shorter than the true length ?

(a) 0·615

(b) 0·715

(c) 0·815

(d) 0·915

43. What is the inclined angle of letters in case of inclined lettering ?

(a) 45°

(b) 55°

(c) 65°

(d) 75°

44. The specific gravity of sandstone is

(a) 1·65 to 1·95

(b) 2·65 to 2·95

(c) 3·65 to 3·95

(d) 4·65 to 4·95

45. In case of brick manufacturing, if the amount of silica in clay is in excess quantity, then excessiveness of silica will

(a) Make the brick brittle and weak

(b) Change the colour from red to yellow

(c) Improve permeability and durability

(d) Make the brick crack and warp on drying

46. Right proportion of SiO_2 in chemical composition of Portland cement helps in controlling strength but if it gets excess then what will happen ?

(a) Reduces strength

(b) Setting time increases

(c) Discolouration effect occurs

(d) Unsoundness occurs

47. What type and composition of mortar is required for RCC tanks and other retaining structures ?

(a) 1 : 1 2 1 Cement Sand Mortar

(b) 1 : 1 2 1 Lime Surkhi Mortar

(c) 1 : 1 2 1 Lime Sand Mortar

(d) 1 : 1 2 1 Surkhi Sand Mortar

48. What is the proportion of cement : fine aggregate : coarse aggregate in case of M25 grade of concrete ?

(a) 1 : 3 : 6

(b) 1 : 2 : 4

(c) $1 : 1\frac{1}{2} : 3$

(d) 1 : 1 : 2

49. The most effective process of repairing concrete work to provide impervious layer is usually done by pouring a mixture of cement and sand (1 : 3) in a cement gun and deposit it on the inferior work by pressure of 20 N/cm^2 to 30 N/cm^2, is called

(a) Grouting

(b) Shotcreting

(c) Guniting

(d) Trimming

50. What is the name of the defect when exposed surface of timber dries very rapidly and as a result it shrinks, remains under compression and simultaneously the interior surface has not completely dried, remains under tension ?

(a) Cup hardening

(b) Case hardening

(c) Split hardening

(d) Twist hardening

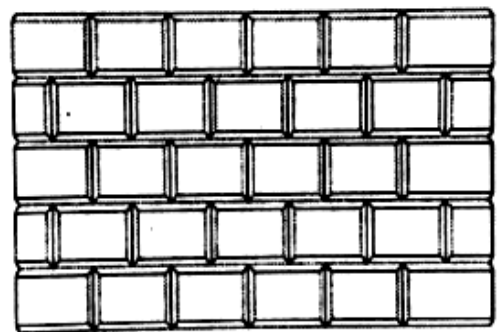**51.** The paint having metal oxides such as Fe$_2$O$_3$, PbO, ZnO, etc. is called

(a) Distemper

(b) Enamel

(c) Oil

(d) Emulsion

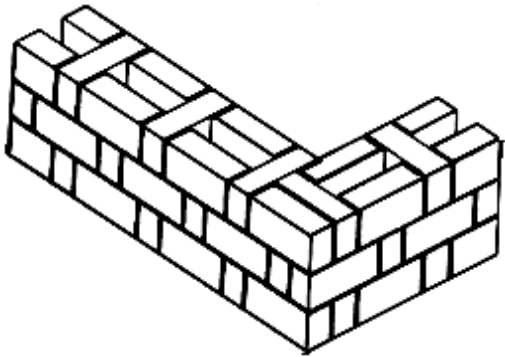**52.** In case of varnish, what type of solvent provides long lasting bright surface ?

(a) Oil

(b) Turpentine

(c) Water

(d) Spirit

53. Name the type of the following stone masonry :

(a) Ashlar Rough tooled

(b) Ashlar Quarry faced

(c) Ashlar Chamfered

(d) Ashlar Fine

54. Name the type of the following brick masonry :

(a) Brick on Edge Bond

(b) Rat Trap Bond

(c) Facing Bond

(d) Backing Bond

55. For strengthening the corner of a wall, what type of brick bond is used where alternate courses of headers and stretchers are set, including the quoin of stretcher course is $\frac{3}{4}^{th}$ brick bat and also a header is introduced next to the $\frac{3}{4}^{th}$ brick bat in every alternate stretcher course ?

(a) English Cross Bond

(b) Flemish Garden Wall Bond

(c) Dutch Bond

(d) Monk Bond

56. Which one of the following is the most economical foundation when heavy structural loads from columns are required to be transferred to a soil of low bearing capacity ?

(a) Grillage

(b) Deep

(c) Raft

(d) Shallow

57. In case of foundation, the net loading intensity at which neither the soil fails in shear nor is there excessive settlement detrimental to the structure is known as

(a) Foundation bearing capacity

(b) Safe bearing capacity

(c) Allowable bearing capacity

(d) Ultimate bearing capacity

58. The best position for damp proof course (D.P.C.) in buildings without basement lies at

(a) Ground level

(b) Plinth level

(c) 150 mm above ground level

(d) 150 mm above plinth level

59. A semi-rigid material which forms an excellent impervious layer for damp proofing course is called

(a) Tar felt

(b) Bituminous felt

(c) Mastic asphalt

(d) Bitumen

60. The roughly curved triangular space above or on either side of the arch bounded by the curved extrados, a line running horizontally through the apex of the arch and a line rising vertically from the springing of the arch is called

(a) Haunch

(b) Skewback

(c) Spandrel

(d) Voussoir

61. For comfortable ascent and descent, what should be the value of "Tread + 2 x Riser" ?

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 700 mm

62. In a contour plan, if contour lines are drawn with a contour interval of 2 m and if the gradient is 1 in 30, then the horizontal distance required between successive points on consecutive contours will be

(a) 15 m

(b) 30 m

(c) 45 m

(d) 60 m

63. When the telescope of a theodolite is rotated clockwise then it is called

(a) Face right

(b) Left swing

(c) Face left

(d) Right swing

64. The distance between individual pixels in a visual display technology calculated by measuring the closeness of individual pixels to one another is called the

(a) Pix Pitch

(b) Bit Pitch

(c) Dot Pitch

(d) Byte Pitch

65. A strip of land permanently left open for drainage purposes, neither used as an access way nor like a street and never included as a part of setbacks is known as

(a) Jhamp

(b) Ledge

(c) Jhot

(d) Loft

66. When the angle of splay becomes 90^0 then the wing walls are known as

(a) Straight Wing Walls

(b) Splayed Wing Walls

(c) Return Wing Walls

(d) Trestle Wing Walls

67. Which grade of pencil is used for drawing arrowheads ?

(a) 2H

(b) 2B

(c) 7H

(d) H

68. If top view of a line is a point, its front view is _____.

(a) parallel to xy line and of true length

(b) parallel to xy line and of apparent length

(c) perpendicular to xy line and of true length

(d) perpendicular to xy line and of apparent length

69. Oblique sections are useful to show the _____.

(a) Interior shapes

(b) Oblique lines

(c) Foreshortened features

(d) Projected features

70. Which of the following defects occur in the seasoning process of wood ?

(a) Bow

(b) Brown rot

(c) Sap stain

(d) Blue stain

71. Which of the following cement is used in sewage and water treatment plants ?

(a) Sulphate Resisting Cement

(b) Quick Setting Cement

(c) Low Heat Cement

(d) Rapid Hardening Cement

72. The maximum limit of weight of fibreboards is _____.

(a) 960 kg/m^3

(b) 1960 kg/m^3

(c) 2460 kg/m^3

(d) 2960 kg/m^3

73. Which of the following is ***not*** a variety of industrial timber ?

(a) Veneers

(b) Plywood

(c) Fibreboard

(d) Baulk

74. The term _____ is used to indicate the solution of resins or resinous substances prepared either in alcohol, oil or turpentine.

(a) Turpentine

(b) Varnish

(c) Oil

(d) Distemper

75. Plastics are divided into thermoplastic and thermosetting on the basis of their _____.

(a) Behaviour with respect to heating

(b) Structure

(c) Physical properties

(d) Mechanical properties

76. The height of the plinth should ***not*** be less than _____.

(a) 45 cm

(b) 20 cm

(c) 1 m

(d) 500 cm

77. A _____ is a projecting stone which is usually provided to serve as support for roof truss, beam, weather shed, etc.

(a) Course

(b) Cornice

(c) Corbel

(d) Coping

78. In _____ type of construction, the square or rectangular blocks of stones are used.

(a) Brick masonry

(b) Rubble masonry

(c) Rock Masonry

(d) Ashlar masonry

79. A _____ junction is formed when two continuous walls cross or intersect each other.

(a) Squint

(b) Cross

(c) Obtuse squint

(d) Right angle

80. The usual concrete mix for RCC lintel is _____ (cement : sand : aggregate).

(a) 1 : 2 : 3

(b) 1 : 2 : 4

(c) 1 : 4 : 8

(d) 1 : 3 : 6

81. Which of the following is the first principle of surveying ?

(a) Whole to whole

(b) Part to part

(c) Part to whole

(d) Whole to part

82. Which of the following *cannot* be done with the help of theodolite in surveying ?

(a) Measuring horizontal distances

(b) Prolonging survey lines

(c) Laying off horizontal angles

(d) Locating points on lines

83. Which command converts discrete object in polyline ?

(a) Merge

(b) Union

(c) Join

(d) Add

84. What is the minimum allowable number of layers in a drawing ?

(a) 0

(b) 1

(c) 2

(d) 10

85. Which key is used to obtain properties palette in AutoCAD ?

(a) Control + 1

(b) Control + 2

(c) Control + 3

(d) Control + 4

86. Scale command can be accessed easily by typing

(a) SL

(b) S

(c) SC

(d) C

87. _____ refers to the effect produced by deriving the maximum benefits from the minimum dimensions off a room.

(a) Compactness

(b) Roominess

(c) Grouping

(d) Privacy

88. A _____ is a set of rules that specify the standards for constructed objects such as buildings and non-building structures.

(a) Building code

(b) Building bye-laws

(c) IS code

(d) Procedure

89. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds

(a) 2·0%

(b) 2·5%

(c) 4·0%

(d) 5·0%

90. Railway rails are made of which of the following ?

(a) Cast iron

(b) Mild steel

(c) High carbon steel

(d) Wrought iron

91. At what angle should a railway line cross a road ?

(a) 45°

(b) 60°

(c) 30°

(d) 90°

92. Slab culverts are suitable for maximum span of

(a) 3 m

(b) 6 m

(c) 9 m

(d) 12 m

93. Which foundation is suitable for the construction of bridge ?

(a) Pile

(b) Shallow

(c) Grillage

(d) Inverted arch

94. Which of the following is the other name of perennial irrigation system ?

(a) Flood Irrigation

(b) Controlled Irrigation

(c) Direct Irrigation

(d) Storage Irrigation

95. The maximum permissible total solid content in water for domestic purposes should *not* exceed

(a) 300 ppm

(b) 400 ppm

(c) 500 ppm

(d) 1000 ppm

96. The minimum diameter of manhole cover should be

(a) 25 cm

(b) 50 cm

(c) 75 cm

(d) 100 cm

97. For a city or town with roads of rectangular pattern, the type of layout used for the distribution of pipes is

(a) dead end system

(b) ring system

(c) radial system

(d) grid iron system

98. Closed contours of decreasing values towards their centre, represent a

(a) Hill

(b) Depression

(c) Saddle or Pass

(d) River bed

99. Ultimate strength to cement is provided by

(a) Tricalcium silicate

(b) Dicalcium silicate

(c) Tricalcium aluminate

(d) Tetracalcium aluminoferrite

100. Beams composed of more than one material, rigidly connected together so as to behave as one piece, are known as

(a) Compound beams

(b) Indeterminate beams

(c) Determinate beams

(d) Composite beams

SECTION B

101. In a month of 31 days, the third Wednesday falls on the 15th. What will be the last day of that month ?

(a) 4th Sunday

(b) 5th Wednesday

(c) 5th Thursday

(d) 5th Friday

102. There are twenty people working in an office. The first group of five works between 8.00 A.M. and 2.00 P.M. The second group of ten works between 10.00 A.M. and 4.00 P.M. And the third group of five works between 12 noon and 6.00 P.M. There are three computers in the office which all the employees frequently use. During which of the following hours are the computers likely to be used most ?

(a) 12 noon – 2·00 pm

(b) 1·00 pm – 3·00 pm

(c) 10·00 am – 12 noon

(d) 2·00 pm – 4·00 pm

103. A hall $200 \text{ m} \times 50 \text{ m}$ is to be paved with square tiles. If the price of one tile of $10 \text{ cm} \times 10 \text{ cm}$ is ₹ 3·50, then find the cost of paving the hall.

(a) ₹ 35 lakh

(b) ₹ 30 lakh

(c) ₹ 45 lakh

(d) ₹ 25 lakh

104. In a row of trees, a tree is 7th from left end and 14th from right end. How many trees are there in a row ?

(a) 20

(b) 21

(c) 18

(d) 19

105. A scores more runs than B but less than C. D scores more than B but less than A. Who is the lowest scorer ?

(a) B

(b) A

(c) D

(d) C

106. P is the husband of Q. S is the daughter of R. P is the father of R. How is Q related to S ?

(a) Mother

(b) Grandmother

(c) Aunt

(d) Cousin

107. Shaheed Bhagat Singh is associated with

(a) Republican Party of India

(b) Ghadar Party

(c) Hindustan Socialist Republican Association

(d) Congress Socialist Party

108. Where is Baba Banda Singh Bahadur War Memorial located ?

(a) Chappar Chiri

(b) Sirhind

(c) Kartarpur

(d) Samana

109. The characteristic of sound by which we can distinguish between a shrill sound and a grave sound is known as

(a) quality

(b) intensity

(c) loudness

(d) pitch

110. GPS, or the Global Positioning System, is a global navigation satellite system that provides location, velocity and time synchronization. The satellites meant for GPS are placed in

(a) Low Earth Orbits

(b) Medium Earth Orbits

(c) Geostationary Orbits

(d) Geosynchronous Orbits

111. The major source of energy generation in India is

(a) Nuclear

(b) Non-conventional

(c) Thermal

(d) Hyde

112. Which of the following is the best heat and corrosion-resistant material ?

(a) Polymer

(b) Metal

(c) Ceramic

(d) Semiconductor

113. The pollutant responsible for ozone hole is

(a) CO_2

(b) SO_2

(c) CO

(d) CFC

114. Who among the following won the 57th Jnanpith Award ?

(a) Nilmani Phookan

(b) Damodar Mauzo

(c) Akkitham Achuthan Namboothiri

(d) Amitav Ghosh

115. Which one of the following river drains into the Arabian Sea ?

    (a) Indravati

    (b) Narmada

    (c) Godavari

    (d) Cauvery

116. Supertech's twin towers which were demolished in Noida were

    (a) AXA and Capital Plaza

    (b) Richfield and Windsor

    (c) Apex and Ceyane

    (d) Ocean Tower and Landmark Tower

117. In a certain code language, if the word 'REJECTION' is coded as SGMIHZPWW, then how is the word 'MECHANIC' coded in that language ?

    (a) NGFLFTPK

    (b) NGPLFTIK

    (c) NGFKFTPK

    (d) NGPTPKIL

118. Total time taken by a person in going to a place by walking, and returning on cycle is 5 hours 45 minutes. He would have gained 2 hours by cycling both ways. The time taken by him to walk both ways is

    (a) 6 hours 45 minutes

    (b) 7 hours 45 minutes

    (c) 8 hours 15 minutes

    (d) 8 hours 30 minutes

119. Consider the following matrix.

3	8	10	2	?	1
6	56	90	2	20	0

What is the missing number at "?" in the matrix ?

    (a) 5

    (b) 0

    (c) 7

    (d) 3

120. Raju has ₹ 9000 with him and he wants to buy a mobile handset; but he finds that he has only 75% of the amount required to buy the handset. Therefore, he borrows ₹ 2000 from a friend. Then

    (a) Raju still does not have enough amount to buy the handset

    (b) Raju has exactly the same amount as required to buy the handset

    (c) Raju has enough amount to buy the handset and he will have ₹ 500 with him after buying the handset

    (d) Raju has enough amount to buy the handset and he will have ₹ 1000 with him after buying the handset

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

Booklet Sr. No.

Question Booklet Set

D

Candidate's Name _____

Father's Name _____

Date of Birth :

| | | | | | | | |

D   D   M   M   Y   Y   Y   Y

OMR Response Sheet No. _____ **Roll No.** _____

Candidate's Signature :
(Please sign in the box)

Total Questions : **120**]
Time Allowed : **2** Hours]

INSTRUCTIONS

1. The candidate shall NOT open this booklet till the time he/she is told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately.

2. Use only blue or black **ball point pen** to fill the relevant columns on this page as well as in the OMR sheet. Use of ink pen or any other pen is not allowed.

3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.

4. Each candidate is required to attempt 120 questions in 120 minutes, except for orthopedically/visually impaired candidates, who would be given 40 extra minutes, for marking correct responses on the OMR sheet.

5. The question paper booklet has **20** pages.

6. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.

7. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.

8. The paper consists of total 480 Marks. Each question shall carry 4 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.

9. There is negative marking (1 mark for each question) for questions wrongly answered by the candidate.

10. Use of Electronic/Manual Calculator is prohibited.

11. The candidate **MUST READ INSTRUCTIONS BEHIND THE OMR SHEET** before answering the questions and check that two carbon copies attached to the OMR sheet are intact.
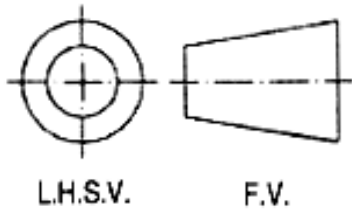
SECTION A

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    (b) Plastic sheet

    (c) Mastic Asphalt

    (d) Cement Concrete

14. The cavity wall is generally provided for

    (a) Preventing dampness

    (b) Heat insulation

    (c) Sound insulation

    (d) All of the above

15. The projection part of tread beyond the face of riser is called

    (a) Pitch

    (b) Baluster

    (c) Nosing

    (d) Rail

16. The lower part of a structure which transmits the load to the soil is known as

    (a) Basement

    (b) Foundation

    (c) Plinth

    (d) Superstructure

17. For which projection method is the following graphical symbol applicable ?

L.H.S.V.   F.V.

   (a)   1st Angle Projection

   (b)   2nd Angle Projection

   (c)   3rd Angle Projection

   (d)   4th Angle Projection

18. How many times is the isometric length shorter than the true length ?

   (a)   0·615

   (b)   0·715

   (c)   0·815

   (d)   0·915

19. What is the inclined angle of letters in case of inclined lettering ?

   (a)   45°

   (b)   55°

   (c)   65°

   (d)   75°

20. The specific gravity of sandstone is

   (a)   1·65 to 1·95

   (b)   2·65 to 2·95

   (c)   3·65 to 3·95

   (d)   4·65 to 4·95

21. In case of brick manufacturing, if the amount of silica in clay is in excess quantity, then excessiveness of silica will

   (a)   Make the brick brittle and weak

   (b)   Change the colour from red to yellow

   (c)   Improve permeability and durability

   (d)   Make the brick crack and warp on drying

22. Right proportion of SiO_2 in chemical composition of Portland cement helps in controlling strength but if it gets excess then what will happen ?

   (a)   Reduces strength

   (b)   Setting time increases

   (c)   Discolouration effect occurs

   (d)   Unsoundness occurs

23. What type and composition of mortar is required for RCC tanks and other retaining structures ?

   (a)   1 : 1 2 1 Cement Sand Mortar

   (b)   1 : 1 2 1 Lime Surkhi Mortar

   (c)   1 : 1 2 1 Lime Sand Mortar

   (d)   1 : 1 2 1 Surkhi Sand Mortar

24. What is the proportion of cement : fine aggregate : coarse aggregate in case of M25 grade of concrete ?

(a) 1 : 3 : 6

(b) 1 : 2 : 4

(c) $1 : 1\frac{1}{2} : 3$

(d) 1 : 1 : 2

25. The most effective process of repairing concrete work to provide impervious layer is usually done by pouring a mixture of cement and sand (1 : 3) in a cement gun and deposit it on the inferior work by pressure of 20 N/cm^2 to 30 N/cm^2, is called

(a) Grouting

(b) Shotcreting

(c) Guniting

(d) Trimming

26. What is the name of the defect when exposed surface of timber dries very rapidly and as a result it shrinks, remains under compression and simultaneously the interior surface has not completely dried, remains under tension ?

(a) Cup hardening

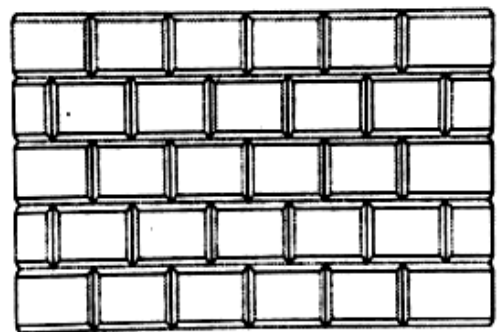(b) Case hardening

(c) Split hardening

(d) Twist hardening

27. The paint having metal oxides such as Fe_2O_3, PbO, ZnO, etc. is called

(a) Distemper

(b) Enamel

(c) Oil

(d) Emulsion

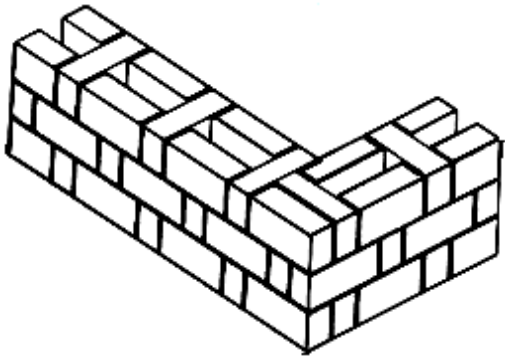**28.** In case of varnish, what type of solvent provides long lasting bright surface ?

(a) Oil

(b) Turpentine

(c) Water

(d) Spirit

29. Name the type of the following stone masonry :

(a) Ashlar Rough tooled

(b) Ashlar Quarry faced

(c) Ashlar Chamfered

(d) Ashlar Fine

30. Name the type of the following brick masonry :

(a) Brick on Edge Bond

(b) Rat Trap Bond

(c) Facing Bond

(d) Backing Bond

31. For strengthening the corner of a wall, what type of brick bond is used where alternate courses of headers and stretchers are set, including the quoin of stretcher course is $\frac{3}{4}^{\text{th}}$ brick bat and also a header is introduced next to the $\frac{3}{4}^{\text{th}}$ brick bat in every alternate stretcher course ?

(a) English Cross Bond

(b) Flemish Garden Wall Bond

(c) Dutch Bond

(d) Monk Bond

32. Which one of the following is the most economical foundation when heavy structural loads from columns are required to be transferred to a soil of low bearing capacity ?

(a) Grillage

(b) Deep

(c) Raft

(d) Shallow

33. In case of foundation, the net loading intensity at which neither the soil fails in shear nor is there excessive settlement detrimental to the structure is known as

(a) Foundation bearing capacity

(b) Safe bearing capacity

(c) Allowable bearing capacity

(d) Ultimate bearing capacity

34. The best position for damp proof course (D.P.C.) in buildings without basement lies at

(a) Ground level

(b) Plinth level

(c) 150 mm above ground level

(d) 150 mm above plinth level

35. A semi-rigid material which forms an excellent impervious layer for damp proofing course is called

(a) Tar felt

(b) Bituminous felt

(c) Mastic asphalt

(d) Bitumen

36. The roughly curved triangular space above or on either side of the arch bounded by the curved extrados, a line running horizontally through the apex of the arch and a line rising vertically from the springing of the arch is called

(a) Haunch

(b) Skewback

(c) Spandrel

(d) Voussoir

37. For comfortable ascent and descent, what should be the value of "Tread + 2 x Riser" ?

(a) 400 mm

(b) 500 mm

(c) 600 mm

(d) 700 mm

38. In a contour plan, if contour lines are drawn with a contour interval of 2 m and if the gradient is 1 in 30, then the horizontal distance required between successive points on consecutive contours will be

(a) 15 m

(b) 30 m

(c) 45 m

(d) 60 m

39. When the telescope of a theodolite is rotated clockwise then it is called

(a) Face right

(b) Left swing

(c) Face left

(d) Right swing

40. The distance between individual pixels in a visual display technology calculated by measuring the closeness of individual pixels to one another is called the

(a) Pix Pitch

(b) Bit Pitch

(c) Dot Pitch

(d) Byte Pitch

41. A strip of land permanently left open for drainage purposes, neither used as an access way nor like a street and never included as a part of setbacks is known as

(a) Jhamp

(b) Ledge

(c) Jhot

(d) Loft

42. When the angle of splay becomes 90^0 then the wing walls are known as

(a) Straight Wing Walls

(b) Splayed Wing Walls

(c) Return Wing Walls

(d) Trestle Wing Walls

43. Which grade of pencil is used for drawing arrowheads ?

(a) 2H

(b) 2B

(c) 7H

(d) H

44. If top view of a line is a point, its front view is _____.

(a) parallel to xy line and of true length

(b) parallel to xy line and of apparent length

(c) perpendicular to xy line and of true length

(d) perpendicular to xy line and of apparent length

45. Oblique sections are useful to show the _____.

(a) Interior shapes

(b) Oblique lines

(c) Foreshortened features

(d) Projected features

46. Which of the following defects occur in the seasoning process of wood ?

(a) Bow

(b) Brown rot

(c) Sap stain

(d) Blue stain

47. Which of the following cement is used in sewage and water treatment plants ?

(a) Sulphate Resisting Cement

(b) Quick Setting Cement

(c) Low Heat Cement

(d) Rapid Hardening Cement

48. The maximum limit of weight of fibreboards is _____.

(a) 960 kg/m^3

(b) 1960 kg/m^3

(c) 2460 kg/m^3

(d) 2960 kg/m^3

49. Which of the following is *not* a variety of industrial timber ?

(a) Veneers

(b) Plywood

(c) Fibreboard

(d) Baulk

50. The term _____ is used to indicate the solution of resins or resinous substances prepared either in alcohol, oil or turpentine.

(a) Turpentine

(b) Varnish

(c) Oil

(d) Distemper

51. Plastics are divided into thermoplastic and thermosetting on the basis of their _____.

(a) Behaviour with respect to heating

(b) Structure

(c) Physical properties

(d) Mechanical properties

52. The height of the plinth should *not* be less than _____.

(a) 45 cm

(b) 20 cm

(c) 1 m

(d) 500 cm

53. A _____ is a projecting stone which is usually provided to serve as support for roof truss, beam, weather shed, etc.

(a) Course

(b) Cornice

(c) Corbel

(d) Coping

54. In _____ type of construction, the square or rectangular blocks of stones are used.

(a) Brick masonry

(b) Rubble masonry

(c) Rock Masonry

(d) Ashlar masonry

55. A _____ junction is formed when two continuous walls cross or intersect each other.

(a) Squint

(b) Cross

(c) Obtuse squint

(d) Right angle

56. The usual concrete mix for RCC lintel is _____ (cement : sand : aggregate).

(a) 1 : 2 : 3

(b) 1 : 2 : 4

(c) 1 : 4 : 8

(d) 1 : 3 : 6

57. Which of the following is the first principle of surveying ?

(a) Whole to whole

(b) Part to part

(c) Part to whole

(d) Whole to part

58. Which of the following *cannot* be done with the help of theodolite in surveying ?

(a) Measuring horizontal distances

(b) Prolonging survey lines

(c) Laying off horizontal angles

(d) Locating points on lines

59. Which command converts discrete object in polyline ?

(a) Merge

(b) Union

(c) Join

(d) Add

60. What is the minimum allowable number of layers in a drawing ?

(a) 0

(b) 1

(c) 2

(d) 10

61. Which key is used to obtain properties palette in AutoCAD ?

(a) Control + 1

(b) Control + 2

(c) Control + 3

(d) Control + 4

62. Scale command can be accessed easily by typing

(a) SL

(b) S

(c) SC

(d) C

63. _____ refers to the effect produced by deriving the maximum benefits from the minimum dimensions off a room.

(a) Compactness

(b) Roominess

(c) Grouping

(d) Privacy

64. A _____ is a set of rules that specify the standards for constructed objects such as buildings and non-building structures.

(a) Building code

(b) Building bye-laws

(c) IS code

(d) Procedure

65. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds

(a) 2·0%

(b) 2·5%

(c) 4·0%

(d) 5·0%

66. Railway rails are made of which of the following ?

(a) Cast iron

(b) Mild steel

(c) High carbon steel

(d) Wrought iron

67. At what angle should a railway line cross a road ?

(a) 45°

(b) 60°

(c) 30°

(d) 90°

68. Slab culverts are suitable for maximum span of

(a) 3 m

(b) 6 m

(c) 9 m

(d) 12 m

69. Which foundation is suitable for the construction of bridge ?

(a) Pile

(b) Shallow

(c) Grillage

(d) Inverted arch

70. Which of the following is the other name of perennial irrigation system ?

(a) Flood Irrigation

(b) Controlled Irrigation

(c) Direct Irrigation

(d) Storage Irrigation

71. The maximum permissible total solid content in water for domestic purposes should *not* exceed

(a) 300 ppm

(b) 400 ppm

(c) 500 ppm

(d) 1000 ppm

72. The minimum diameter of manhole cover should be

(a) 25 cm

(b) 50 cm

(c) 75 cm

(d) 100 cm

73. For a city or town with roads of rectangular pattern, the type of layout used for the distribution of pipes is

(a) dead end system

(b) ring system

(c) radial system

(d) grid iron system

74. Closed contours of decreasing values towards their centre, represent a

(a) Hill

(b) Depression

(c) Saddle or Pass

(d) River bed

75. Ultimate strength to cement is provided by

(a) Tricalcium silicate

(b) Dicalcium silicate

(c) Tricalcium aluminate

(d) Tetracalcium aluminoferrite

76. Beams composed of more than one material, rigidly connected together so as to behave as one piece, are known as

(a) Compound beams

(b) Indeterminate beams

(c) Determinate beams

(d) Composite beams

77. The imaginary line passing through points having equal magnetic declination is termed as

(a) Isogon

(b) Agonic line

(c) Isoclinic line

(d) None of the above

78. The steel generally used in RCC work is

(a) stainless steel

(b) mild steel

(c) high carbon steel

(d) high tension steel

79. The type of surveying in which curvature of the Earth is taken into account is called

(a) Geodetic surveying

(b) Plane surveying

(c) Preliminary surveying

(d) Topographical surveying

80. If the length of the chain is found to be short on testing, it can be adjusted by

(a) straightening the links

(b) removing one or more small circular rings

(c) closing the joints of the rings if opened up

(d) tapping the chain on the ground

81. The maximum tolerance in a 20 m chain is

(a) ± 2 mm

(b) ± 3 mm

(c) ± 5 mm

(d) ± 8 mm

82. Size of a theodolite is specified by

(a) Length of the telescope

(b) Diameter of the vertical circle

(c) Diameter of the lower plate

(d) Diameter of the upper plate

83. For cereal crops the most commonly adopted method of irrigation is

(a) Free flowing method

(b) Check method

(c) Furrow method

(d) Sprinkler method

84. A canal which is aligned at right angles to the contour is called

(a) Contour canal

(b) Watershed canal

(c) Branch canal

(d) Side slope canal

85. Bituminous materials are commonly used in highway construction because of their good

(a) Tensile and compressive properties

(b) Binding and waterproofing properties

(c) Shear strength and tensile properties

(d) Bond and tensile properties

86. The total thickness of pavement by CBR method depends on CBR value of

(a) Base course

(b) Surface course

(c) Subgrade

(d) All layers

87. Equivalent factor of Passenger Car Unit (PCU) for a passenger car as per IRC is

(a) 1·0

(b) 2·0

(c) 0·5

(d) 10

88. The science which deals with the sound insulation in a building is known as _____.

(a) Reverberation

(b) Transmission

(c) Acoustic

(d) Airborne

89. The pipe in buildings, through which human excreta flows is called

(a) Soil pipe

(b) Waste pipe

(c) Vent pipe

(d) Anti-siphonage pipe

90. A nahani trap is provided

(a) At the head of each house drain

(b) At the outfall end of each house drain

(c) At the junction of two house drains

(d) None of the above

91. The most important purpose of frog in brick is to

(a) emboss manufacturer's name

(b) reduce the weight of brick

(c) form keyed joint between brick and mortar

(d) improve insulation by providing 'hollows'

92. The lime used for finishing coat in plastering is

(a) Semi-hydraulic lime

(b) Kankar lime

(c) Magnesium lime

(d) Eminently hydraulic lime

93. Surkhi is added to lime mortar to

(a) Prevent shrinkage

(b) Decrease setting time

(c) Increase bulk

(d) Impart hydraulicity

94. Gypsum is added to cement for

(a) Colour

(b) Strength

(c) Controlling setting time

(d) None of the above

95. The optimum number of revolutions over which concrete is required to be mixed in a mixer machine is

(a) 10

(b) 20

(c) 50

(d) 100

96. The age of trees can be predicted by

    (a)   length of medulary rays

    (b)   counting the number of rings

    (c)   measuring the diameter of pith

    (d)   the thickness of bark

97. Seasoning of timber is necessary to

    (a)   Increase fire resistance

    (b)   Increase vermin resistance

    (c)   Reduce microbial substances

    (d)   Expel moisture present in timber

98. Plywood is specified by

    (a)   Weight

    (b)   Volume

    (c)   Thickness

    (d)   Number of layers

99. Which of the following is caused by fungus in timber ?

    (a)   Upsets

    (b)   Foxiness

    (c)   Dry rot

    (d)   Wet rot

100. The function of base in paint is to

    (a)   provide a film on the surface

    (b)   hide imperfections of the surface

    (c)   reduce shrinkage cracks in paint film

    (d)   bring down the overall cost

SECTION B

101. A scores more runs than B but less than C. D scores more than B but less than A. Who is the lowest scorer ?

    (a)   B

    (b)   A

    (c)   D

    (d)   C

102. P is the husband of Q. S is the daughter of R. P is the father of R. How is Q related to S ?

    (a)   Mother

    (b)   Grandmother

    (c)   Aunt

    (d)   Cousin

103. Shaheed Bhagat Singh is associated with

(a) Republican Party of India

(b) Ghadar Party

(c) Hindustan Socialist Republican Association

(d) Congress Socialist Party

104. Where is Baba Banda Singh Bahadur War Memorial located ?

(a) Chappar Chiri

(b) Sirhind

(c) Kartarpur

(d) Samana

105. The characteristic of sound by which we can distinguish between a shrill sound and a grave sound is known as

(a) quality

(b) intensity

(c) loudness

(d) pitch

106. GPS, or the Global Positioning System, is a global navigation satellite system that provides location, velocity and time synchronization. The satellites meant for GPS are placed in

(a) Low Earth Orbits

(b) Medium Earth Orbits

(c) Geostationary Orbits

(d) Geosynchronous Orbits

107. The major source of energy generation in India is

(a) Nuclear

(b) Non-conventional

(c) Thermal

(d) Hyde

108. Which of the following is the best heat and corrosion-resistant material ?

(a) Polymer

(b) Metal

(c) Ceramic

(d) Semiconductor

109. The pollutant responsible for ozone hole is

(a) CO_2

(b) SO_2

(c) CO

(d) CFC

110. Who among the following won the 57th Jnanpith Award ?

(a) Nilmani Phookan

(b) Damodar Mauzo

(c) Akkitham Achuthan Namboothiri

(d) Amitav Ghosh

111. Which one of the following river drains into the Arabian Sea ?

   (a) Indravati

   (b) Narmada

   (c) Godavari

   (d) Cauvery

112. Supertech's twin towers which were demolished in Noida were

   (a) AXA and Capital Plaza

   (b) Richfield and Windsor

   (c) Apex and Ceyane

   (d) Ocean Tower and Landmark Tower

113. In a certain code language, if the word 'REJECTION' is coded as SGMIHZPWW, then how is the word 'MECHANIC' coded in that language ?

   (a) NGFLFTPK

   (b) NGPLFTIK

   (c) NGFKFTPK

   (d) NGPTPKIL

114. Total time taken by a person in going to a place by walking, and returning on cycle is 5 hours 45 minutes. He would have gained 2 hours by cycling both ways. The time taken by him to walk both ways is

   (a) 6 hours 45 minutes

   (b) 7 hours 45 minutes

   (c) 8 hours 15 minutes

   (d) 8 hours 30 minutes

115. Consider the following matrix.

3	8	10	2	?	1
6	56	90	2	20	0

What is the missing number at "?" in the matrix ?

   (a) 5

   (b) 0

   (c) 7

   (d) 3

116. Raju has ₹ 9000 with him and he wants to buy a mobile handset; but he finds that he has only 75% of the amount required to buy the handset. Therefore, he borrows ₹ 2000 from a friend. Then

   (a) Raju still does not have enough amount to buy the handset

   (b) Raju has exactly the same amount as required to buy the handset

   (c) Raju has enough amount to buy the handset and he will have ₹ 500 with him after buying the handset

   (d) Raju has enough amount to buy the handset and he will have ₹ 1000 with him after buying the handset

117. In a month of 31 days, the third Wednesday falls on the 15th. What will be the last day of that month ?

   (a) 4th Sunday

   (b) 5th Wednesday

   (c) 5th Thursday

   (d) 5th Friday

118. There are twenty people working in an office. The first group of five works between 8.00 A.M. and 2.00 P.M. The second group of ten works between 10.00 A.M. and 4.00 P.M. And the third group of five works between 12 noon and 6.00 P.M. There are three computers in the office which all the employees frequently use. During which of the following hours are the computers likely to be used most ?

   (a) 12 noon – 2·00 pm

   (b) 1·00 pm – 3·00 pm

   (c) 10·00 am – 12 noon

   (d) 2·00 pm – 4·00 pm

119. A hall $200 \text{ m} \times 50 \text{ m}$ is to be paved with square tiles. If the price of one tile of $10 \text{ cm} \times 10 \text{ cm}$ is ₹ 3·50, then find the cost of paving the hall.

   (a) ₹ 35 lakh

   (b) ₹ 30 lakh

   (c) ₹ 45 lakh

   (d) ₹ 25 lakh

120. In a row of trees, a tree is 7th from left end and 14th from right end. How many trees are there in a row ?

   (a) 20

   (b) 21

   (c) 18

   (d) 19

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK