

078/23

Question Booklet Alpha Code

A

Question Booklet Sl. No.

Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C & D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator **IMMEDIATELY**.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

A

078/23

A

-2-

1. Which of the following is a category of workplace hazards ?

A) Chemical hazards	B) Ergonomic hazards
C) Physical hazards	D) All the above

2. The fire extinguisher used to put out fires that have started from an electrical source comes under

A) Class A	B) Class B
C) Class C	D) Class D

3. The ABCs of first aid refer to Airway, Breathing and

A) Circulation	B) Critical
C) Careful	D) None of the above

4. Which of the following is mostly needed for the plants for their survival ?

A) Nitrogen	B) Oxygen
C) Hydrogen	D) Carbon dioxide

5. The transfer of food energy from the plants through a series of organisms is referred to as

A) Food web	B) Food chain
C) Consumer	D) Producer

6. The drawing instrument which helps to draw smooth curve passing through any given points is a
 - A) French curve
 - B) Engineering curve
 - C) Flexible curve
 - D) Template

7. Select the correct order.

According to IS : 11664-1986, After the completion of the drawing, the drawing sheet should be folded properly in the following procedures.

 - i. Fold vertical
 - ii. Fold horizontal
 - iii. Fold drawing to the size of file
 - iv. Title block appear in the topmost position

A) i, ii, iii and iv	B) ii, i, iii and iv
C) iv, iii, i and ii	D) None of these

8. Select the incorrect statement.
In lettering,
- A) Single stroke letters may be either vertical or inclined
 - B) The circular positions of the vertical lettering become elliptical in inclined lettering
 - C) On a drawing, mix vertical lettering with inclined lettering
 - D) The line thickness of both the lower and capital letters should be the same
9. Which arrangement of the dimensioning is used when a number of dimensions of a part have a common datum feature ?
- A) Parallel dimensioning
 - B) Chain dimensioning
 - C) Vertical dimensioning
 - D) None of the above
10. The path described by a point moving in a plane at a fixed distance from a fixed point is
- A) a line
 - B) a point
 - C) an angle
 - D) a circle
11. The actual length of wall is 3m, is represented by 6 mm length on a drawing. Then its R.F is
- A) $\frac{1}{500}$
 - B) $\frac{1}{50}$
 - C) $\frac{1}{200}$
 - D) $\frac{1}{100}$
12. A scale which is used to make or measure angles of any magnitude is known as
- A) Plain scale
 - B) Angle scale
 - C) Scale of chords
 - D) Full scale
13. For free hand sketching, which grade pencil is preferred ?
- A) HB
 - B) H
 - C) 2H
 - D) 3H
14. The geometric method of projection obtained on the plane of projection when the projectors are parallel to each other and perpendicular to the plane of projectors is
- A) Isometric projection
 - B) Orthographic projection
 - C) Dimetric projection
 - D) Trimetric projection

15. From the below given statements, which is not correct in first angle projection ?
- A) The object is assumed to be situated in the first quadrant
 - B) The object lies in between the observer and the plane of projection
 - C) The front view will be above the XY-line
 - D) The plane of projection is in between the observer and the object
16. If a point is situated in the third quadrant, the distance of top view from XY-line is equal to the distance of the point from
- A) Picture plane
 - B) Vertical plane
 - C) Horizontal plane
 - D) None of the above
17. A polyhedron having a plane figure as a base and a number of triangular faces meeting at apex is called
- A) A cube
 - B) A cylinder
 - C) A prism
 - D) A pyramid
18. In Isometric projection, the isometric length of object is fore shortened to _____ times the true length.
- A) 120
 - B) 0.82
 - C) 0.12
 - D) 30
19. In projection of solids, if the axis of a right solid is perpendicular to H.P, which view will have the true shape of its base ?
- A) Front view
 - B) Right view
 - C) Top view
 - D) Left view
20. The continuous thin ruled lines with short zig-zags within them are drawn to show
- A) Short break lines
 - B) Hatch lines
 - C) Construction lines
 - D) Long break lines

078/23

21. The special methods, which can be adopted for the removal of colour, odour and taste in water treatment are
- i. Aeration.
 - ii. Treatment by activated carbon.
 - iii. Use of copper sulphate.
- A) i and ii only
B) i and iii only
C) i, ii and iii
D) None of these
22. Water requirement for a worker in a factory in litres per day is
- A) 50 per worker
B) 15 per worker
C) 45 per worker
D) 450 per worker
23. Which of the following is the most reliable method of distribution of water ?
- A) Pumping system
B) Gravity system
C) Combined system
D) None of these
24. The phenomenon of setting down of particles at the bottom of tank during water treatment process is known as
- A) Filtration
B) Velocity Subsidence
C) Hydraulic Subsidence
D) Screening
25. In a Hydroelectric power plant, the pipes of large diameter used for conveying water from the reservoir to the turbines are called
- A) Forebay
B) Surge tank
C) Intake structure
D) Pen stocks

26. If the deformation continues even when the load is constant, the name of that mechanical property of material known as
 A) Elasticity B) Fatigue C) Creep D) Hardness
27. In Chemical classification of rocks, slate comes which type ?
 A) Argillaceous B) Igneous C) Calcareous D) Silicious
28. In stone arches how placing the natural bed of stone ?
 A) Horizontal B) Bottom C) Top D) Radial
29. The process of taking out stones from natural rock bed is known as
 A) Seasoning B) Quarrying C) Splitting D) Weathering
30. In dressing of stones which type make a margin of 20 mm width is sunk on all edges of stone ?
 A) Axed finish B) Dragged finish
 C) Reticulated finish D) Furrowed finish
31. In manufacture process of terra-cotta burning the dried products in which furnace ?
 A) Muffle furnace B) Blast furnace
 C) Rotary Kiln D) Bull trench Kiln
32. What is the crushing strength of 'A' grade brick ?
 A) 20KN-25KN B) 2KN-5KN
 C) 7KN-14KN D) 25KN-30KN
33. Heating the lime to redness in contact with air is known as
 A) Calcination B) Slaking C) Setting D) Drying
34. In composition of ordinary cement what is percentage of silica (SiO_2) ?
 A) 37% B) 30% C) 22% D) 67%
35. In cement manufacturing process after burning the raw material in high temperature _____ formed.
 A) Gypsum B) Argillaceous material
 C) Clinker D) Lime stone
36. What is the size of slump cone used for slump test, bottom dia × top dia × height ?
 A) 30 cm × 20 cm × 10 cm B) 20 cm × 10 cm × 30 cm
 C) 30 cm × 10 cm × 20 cm D) 15 cm × 25 cm × 30 cm

078/23

37. In concrete after consolidation presence 5% voids, then how much strength reduces ?
A) 10% B) 50% C) 15% D) 30%
38. From the following which defect occur due to seasoning of timber ?
A) Twisted fibres B) Dry rot
C) Honey – combing D) Foxiness
39. What is the method of preservation of timber without using any preservatives ?
A) Charring B) Ascu treatment
C) Spraying D) Brushing
40. From the following which one is not an industrial timber ?
A) Veneers B) Scantling
C) Impreg Timbers D) Particle Board
41. From the following which one is the ferrous metal ?
A) Copper B) Bronze
C) Aluminium D) Wrought iron
42. _____ is an alloy of copper and tin and minor percentage of other elements except zinc may be added.
A) Brass B) Bronze C) Duralium D) Aldural
43. At what temperature Thermo setting plastic sets permanently ?
A) 127° to 177° B) 72° to 107°
C) 170° to 237° D) 237° to 297°
44. The vehicle or carrier of oil-borne paint is
A) Red lead B) Oxide of iron
C) Linseed oil D) Sulphate of manganese
45. Which Tar is obtained by distilling bituminous Shales ?
A) Coal Tar B) Mineral Tar
C) Wood Tar D) Cut back bitumen
46. What is the name of process in which the raw water is retained for some time quiescent in a basin for the suspended particles are settled by the action of gravity ?
A) Filtration B) Chemical treatment
C) Aeration D) Plain sedimentation

A

47. Which Trap is providing at last of the house drainage line before connecting to main sewer ?
- A) S-Trap
B) Intercepting Trap
C) Gully Trap
D) Floor Trap
48. While designing the Septic tank depth what is range of free board taking ?
- A) 10 cm – 30 cm
B) 1.0 m – 1.20 m
C) 40 cm – 60 cm
D) 60 cm – 1.0 m
49. In European Type water Closet what is the minimum depth of water seal in the trap ?
- A) 200 mm
B) 15 mm
C) 75 mm
D) 45 mm
50. A pipe which is installed in the house drainage to preserve the water seal known as
- A) Vent Pipe
B) Antisyphonage Pipe
C) Soil Pipe
D) Waste Pipe
51. Single vertical soil pipe fixed and all the waste matter from baths, kitchens, water closet etc. discharged into it in addition also act as vent pipe this system of plumbing is called
- A) Single stack system
B) One pipe system
C) Two pipe system
D) One pipe system partly ventilated
52. Waste water from bath rooms, kitchen etc, known as
- A) Sewage
B) Night soil
C) Sullage
D) Storm water
53. When one pipe slipped into the socket or bell of proceeding pipe this type of pipe joint known as
- A) Dresser coupling joint
B) Spigot joint
C) Screwed joint
D) Simplex joint
54. In water presence of inorganic substances like clay, sand silt etc. this impurities known as
- A) Bacteriological impurities
B) Chemical impurities
C) Biological impurities
D) Physical impurities
55. A right angled sleeve of brass or gun metal jointed to an opening drilled in the water main for giving water connection called
- A) Service pipe
B) Stop cock
C) Ferrule
D) Goose neck

078/23

56. The piles are driven at an inclination to resist large horizontal or inclined forces
- A) Friction pile
 - B) Batter pile
 - C) Under reamed pile
 - D) Sheet pile
57. The safe bearing capacity of hard rock is
- A) Below 100 t/m²
 - B) Below 200 t/m²
 - C) Above 200 t/m²
 - D) None of these
58. Which shoring consists of inclined support provided to an unsafe existing structure externally ?
- A) Raking shore
 - B) Dead shore
 - C) Single flying shore
 - D) Double flying shore
59. Which is the semi rigid material used for DPC ?
- A) Bitumen
 - B) Cement concrete
 - C) Bitumen felt
 - D) Mastic asphalt
60. Which bond comprises of one course of a header to two or five courses of stretchers ?
- A) Dutch bond
 - B) Zig-Zag bond
 - C) English garden-wall bond
 - D) Facing bond
61. Which type of stone masonry commonly adopted in the construction of residential building ?
- A) Coursed rubble masonry
 - B) Uncoursed rubble masonry
 - C) Random rubble masonry
 - D) Dry rubble masonry
62. Which tool is used for splitting the stones ?
- A) Bevel
 - B) Gad
 - C) Jumper
 - D) Trowel
63. A rounded or semi-circular moulding provided on the edge of wood is
- A) Nosing
 - B) Moulding
 - C) Rebating
 - D) Bead
64. Name the joint is commonly used in wooden trusses at the junction of struts and king post.
- A) Joggle joint
 - B) Housing joint
 - C) Bridle joint
 - D) Mortise and tenon joint

A

65. Which is the ratio of glazed portion to the panelled portion of a glazed door ?
 A) 2 : 1
 B) 1 : 1
 C) 1 : 2
 D) 1 : 3
66. In which place the clerestory window is provided ?
 A) At the gable end
 B) In between main roof and verandah roof
 C) At the sloping side of pitched roof
 D) Corner of room
67. The width of door is
 A) 0.20 to 0.30 height
 B) 0.40 to 0.60 height
 C) 0.30 to 0.40 height
 D) 0.60 to 0.80 height
68. From the following arch which has the depth at crown is more than that at the springing line ?
 A) Flat arch
 B) Semi circular arch
 C) Horse shoe arch
 D) Segmental arch
69. The perpendicular distance between the intrados and extrados of an arch
 A) Pitch of an arch
 B) Width of an arch
 C) Thickness of an arch
 D) Depth of an arch
70. The distance of embedding of lintel into wall is
 A) Span
 B) Horn
 C) Bearing
 D) Haunch
71. The venetian arch has
 A) One centre
 B) Three centre
 C) Two centre
 D) Four centre
72. Additional moulding provided under the nosing to improve the elevation of step and to provide extra strength to nosing end
 A) Scotia
 B) Nosing
 C) Soffit
 D) Riser
73. Bifurcated stair is
 A) Straight stair
 B) Half turn stair
 C) Quarter turn stair
 D) Three quarter turn stair

078/23

74. The product of rise and tread should be in the range of
A) 500-510 mm
B) 400-450 mm
C) 460-500 mm
D) 510-560 mm
75. Which flooring is made with special aggregate of marble chips mixed with white and coloured cement ?
A) Terrazo flooring
B) Granolithic flooring
C) Stone flooring
D) Linoleum flooring
76. The queen post truss is commonly used for spans
A) From 5m to 8m
B) From 8m to 12m
C) From 3.5m to 5m
D) Upto 3.5m
77. Tie beam is a
A) Tension member
B) Compression member
C) Anchor member
D) None of these
78. How many vertical bars (minimum number) are provided for circular column ?
A) Four
B) Six
C) Eight
D) Ten
79. What is the clear cover for foundation slabs and beams ?
A) 15 mm
B) 25 mm
C) 40 mm
D) 50 mm
80. Which is the maximum size of coarse aggregate for a mix of M20 concrete ?
A) 40 mm
B) 20 mm
C) 12.5 mm
D) 10 mm

A

078/23

88. The arrangement of steps provided from ground level to reach plinth level in front of external doors on verandah is termed as
- A) Buttress
 - B) Racking back
 - C) Threshold
 - D) Corbel
89. The horizontal projections provided at suitable levels between plinth and cornice to break the monotony of a plane surface and improve the appearance is known as
- A) String course
 - B) Blocking course
 - C) Lacing course
 - D) Tothing
90. Which of the following is provided immediately below the cornice ?
- A) Blocking course
 - B) Copping
 - C) Reveal
 - D) Frieze
91. Convert -40°C into $^{\circ}\text{F}$.
- A) 10
 - B) -104
 - C) 54
 - D) -40
92. $0.005 =$
- A) $5/100$
 - B) $1/2000$
 - C) $1/500$
 - D) $1/200$
93. Calculate the number of standard bricks required for a wall of 6m length 20cm width and 3m height.
- A) 180000
 - B) 180
 - C) 1800
 - D) 18000
94. RCC work for a lintel requires 15m Fe 415 8mm dia reinforcement bar. Find the weight of steel required in quintel.
- A) 0.0330
 - B) 0.1335
 - C) 0.093
 - D) 0.05925
95. Calculate the area of a triangular plot having sides 6m, 8m and 10m.
- A) 24sqm
 - B) 48sqm
 - C) 480sqm
 - D) 576sqm

A

96. Which of the following is/are ferrous metals ?
- i. Tin
 - ii. Zinc
 - iii. Lead
 - iv. Copper
- A) Only i and ii B) Only i, ii and iii
C) None of these D) All of these
97. Heat is measured by
- A) Thermometer B) Calorimeter
C) Barometer D) Manometer
98. Which of the following is /are equal to 1 ?
- i. $\sin 90^\circ$
 - ii. $\cos 0^\circ$
 - iii. $\tan 45^\circ$
- A) Only iii B) Only i and ii
C) Only ii and iii D) All the above
99. Which of the following statement is/are true about mass and weight ?
- i. Mass varies from place to place
 - ii. The mass is constant at all places
 - iii. The weight varies from place to place
 - iv. The weight is constant at all places
- A) Only i and iii B) Only ii and iii
C) Only i and iv D) Only ii and iv
100. Which of the following statements is / are true ?
- i. Specific gravity = Density of substance / Density of water at 4°C
 - ii. Relative density = Density of substance / Density of water at 4°C
- A) Only i B) Only ii
C) Both i and ii D) None of the above
-

078/23

Space for Rough Work

