

068/21

Question Booklet Alpha Code

A

	Question Booklet Sl. No.
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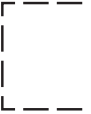
Total Number of Questions : 100

Time : 75 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

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



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1. Cumulative errors that are proportional to
 - A) \sqrt{L}
 - B) L
 - C) L^2
 - D) $L/2$

2. _____ are the ends of the survey lines which command the boundaries of the survey.
 - A) Tie station
 - B) Main station
 - C) Base line
 - D) None of these

3. The offset should not be longer than
 - A) 30 m
 - B) 20 m
 - C) 15 m
 - D) 10 m

4. In optical square the angle between the first incident ray and the last reflected ray is _____ the angle between them the two mirrors.
 - A) half
 - B) twice
 - C) same
 - D) none of these

5. For compass survey the direction from a survey station to some well defined permanent object, or the first line of survey is known as
 - A) True bearing
 - B) Magnet bearing
 - C) Arbitrary bearing
 - D) All of these

6. The following are the bearing of the line AB and AC : AB N15 15E, AC N87 10E. Calculate the angle BAC.
 - A) $71^\circ 05'$
 - B) $71^\circ 55'$
 - C) $71^\circ 15'$
 - D) $61^\circ 15'$

7. The image formed on the plane of cross hair by the objective is
 - A) Virtual and Inverted
 - B) Magnified and Inverted
 - C) Real and Inverted
 - D) None of these

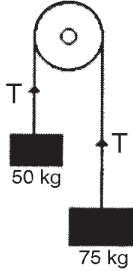
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8. The method chiefly used for locating the details from stations, which have been previously established by triangulation
- A) Resection
B) Radiation
C) Intersection
D) Traversing
9. The absence of Chromatic Aberration is known as
- A) Aplantation
B) Achromatism
C) Brightness
D) None of these
10. For locating the river which method of plane table is used ?
- A) Radiation
B) Intersection
C) Traversing
D) Resection
11. The effect of curvature is to cause the objects sighted appear _____ than they really are
- A) Higher
B) Lower
C) Same
D) None of these
12. The effect of refraction is
- A) Not constant
B) Constant
C) Zero
D) None of these
13. In total station data is stored in
- A) Pen drive
B) Data Card
C) Micro Processor
D) External Hardware
14. The minimum clearance kept between the Grillage beam in Grillage foundation is
- A) 7 cm
B) 8 cm
C) 10 cm
D) 14 cm
15. The pile anchor down the structure subjected to uplift pressure due to overturning moment
- A) Sheet pile
B) Uplift pile
C) Batter pile
D) Screw pile

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55. Two loads of 50 kg and 75 kg are hung at the ends of a rope passing over a smooth pulley shown in figure below. The tension in the string is



- A) 50 kg
 - B) 75 kg
 - C) 25 kg
 - D) 60 kg
56. A body of weight 300 KN is placed on a horizontal plane. If the coefficient of friction between the body and the horizontal plane is 0.25. Determine the horizontal force required to just slide the body
- A) 50 KN
 - B) 65 KN
 - C) 75 KN
 - D) 85 KN
57. The forces whose line of action lie on the same lines are known as
- A) Coplanar forces
 - B) Collinear forces
 - C) Concurrent forces
 - D) Equilibrant forces
58. A dimension is stated as 28 ± 0.02 mm in a drawing. What is the tolerance ?
- A) 28 mm
 - B) +0.02 mm
 - C) -0.02 mm
 - D) 0.04 mm
59. Which of the following is not the correct method of expressing a Fit under BIS system of limits and fits ?
- A) 50 H8/g7
 - B) 50 g7/H8
 - C) 50 H9-g7
 - D) 50 H9/g7

60. Identify the Pneumatic symbol.



- A) Electric motor
- B) Pump
- C) Hydraulic motor
- D) Accumulator

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61. Telescopic gauge is used for
- A) Measuring inside size of slots or holes
 - B) Checking taper bores
 - C) Checking the clearance between mating surfaces
 - D) Check pitch of the given screw
62. In a M20 thread, M denotes
- A) Metric
 - B) Millimeter
 - C) Morse
 - D) Major diameter
63. The least count of Vernier bevel protractor is
- A) 1°
 - B) 0.5°
 - C) $5'$
 - D) $5''$
64. The minimum edge distance for rivets of diameter (d) in steel plates shall be
- A) 2d
 - B) 3d
 - C) 1.5d
 - D) 2.5d
65. A heat engine converts the heat energy from fuel combustion or any other source into which type of work ?
- A) Electrical work
 - B) Mechanical work
 - C) Pressure work
 - D) None of these
66. The ignition quality of petrol is expressed by
- A) Cetane number
 - B) Octane number
 - C) Calorific value
 - D) All of these
67. General gas equation is
- A) $pv = RT$
 - B) $pv = mRT$
 - C) $pv = \text{constant}$
 - D) $pv^n = \text{constant}$
68. A system which is completely uninfluenced by the surrounding is called
- A) Open System
 - B) Closed System
 - C) Isolated System
 - D) Properties of System

77. A pyramid with a square base has _____ Faces.
A) 4 B) 5 C) 6 D) 8
78. Melting point of ice is
A) 0°F B) 100°C C) 100°F D) 32°F
79. If the circumference of the square is 16 cm then the area of the same is _____ cm².
A) 16 B) 32 C) 64 D) 25
80. The lateral development of a cylinder is of _____ shape.
A) Triangle B) Circle
C) Ellipse D) Rectangle
81. In a cabinet type of oblique projection, the receding edge is taken as
A) Half B) Full C) 85% D) Double
82. When a 10 cm line in a drawing represents a 5 cm edge of an actual object then the scale of drawing is
A) 1 : 1 B) 5 : 10 C) 1 : 2 D) 2 : 1
83. Lines of hidden edges are drawn with
A) Continuous thick lines B) Dashed lines
C) Alternately long and short lines D) Wavy lines
84. If a line is inclined at 45° to the HP and 30° to the VP, its front view is inclined at
A) 30° to XY B) Between 30° and 45° to XY
C) 45° to XY D) Greater than 45°
85. What is the nominal shape of septic tank ?
A) Square B) Circular
C) Rectangle D) Oval

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86. Which gas is mainly produced in septic tank ?
A) Oxygen
B) Nitrogen
C) Hydrogen
D) Hydrogen sulphide
87. Which type of trap is used in Indian water closet ?
A) S Trap
B) P Trap
C) U Trap
D) Gully Trap
88. What is the first stage in sewage treatment process ?
A) Sedimentation
B) Filtration
C) Screening
D) Softening
89. Which device is used to prevent sewer gases from entering the building ?
A) Filter
B) Ventilator
C) Vacuum Pump
D) Trap
90. What is the name of the water coming out of the kitchen, bathroom, wash basin ?
A) Sullage
B) Garbage
C) Sewage
D) Discharge
91. Poise is the unit of
A) Mass density
B) Kinematic viscosity
C) Viscosity
D) Velocity gradient
92. Mass per unit volume is known as
A) Specific gravity
B) Density
C) Viscosity
D) Discharge
93. Manometer is a device used for measuring
A) Pressure at any point in a fluid
B) Velocity at any point in a fluid
C) Discharge of a fluid
D) Temperature at any point in a fluid

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94. The increase of temperature
- A) Increase the viscosity of liquid
 - B) Decrease the viscosity of liquid
 - C) Decrease the viscosity of gas
 - D) Partially increase or decrease the viscosity of liquid
95. Pitot Tube is used for measurement of
- A) Pressure
 - B) Discharge
 - C) Temperature
 - D) Fluid flow velocity
96. A Francis Turbine is
- A) An impulse turbine
 - B) A radial flow impulse turbine
 - C) An axial flow turbine
 - D) A reaction radial flow turbine
97. An object situated in first quadrant, that means
- A) Below HP and behind VP
 - B) Above HP and behind VP
 - C) Above HP and in front of VP
 - D) Below HP and in front of VP
98. The Standard size of D3 Drawing board is
- A) $700 \times 500 \times 25$ mm
 - B) $700 \times 500 \times 15$ mm
 - C) $500 \times 350 \times 25$ mm
 - D) $500 \times 350 \times 15$ mm
99. Dodecahedron is a solid having _____ equal and regular pentagons.
- A) 10
 - B) 11
 - C) 12
 - D) 15
100. The view drawn by taking actual dimension without preparing isometric scale is called
- A) Isometric View
 - B) Isometric Projection
 - C) Oblique Projection
 - D) Perspective Projection
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Space for Rough Work



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