



भारत सरकार :: अंतरिक्ष विभाग
Government of India :: Dept. of Space

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Indian Space Research Organisation



Section : Draughtsman B

Q.1 What is the name of the pipe line symbol?



- A. Socket
- B. Plug
- C. Union screwed
- D. Concentric reducer

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938184

Q.2 In an orthographic projection, visual rays of sight for a given view are ___ to each other

- A. Perpendicular
- B. Oblique
- C. Normal
- D. Parallel

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938212

Q.3 The Auto CAD command used to combine two or more primitive shapes in to 3dimensional model is

- A. Add
- B. Union
- C. Attach
- D. Form

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938213

Q.4 A line drawn with a long section, short dash and another long section is

- A. Hidden feature
- B. Centre of a circle
- C. Centre axis of a hidden cylinder
- D. Centre of a Radius

Ans ☒ 1. A

☒ 2. B

☒ 3. C

☒ 4. D

Question ID : 5834938214

Q.5 Identify the top view of object



A.



B.



C.



D.



Ans ☒ 1. A

☒ 2. B

☒ 3. C

☒ 4. D

Question ID : 5834938219

Q.6

The pressure inside the cabin of the aircraft flying at high altitude is

- A. The same as that outside
- B. Less than that of outside
- C. More than that of outside
- D. Normal atmospheric pressure at sea level

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938182

Q.7 Crane hooks are made of

- A. Cast iron
- B. Wrought iron
- C. Cast steel
- D. High carbon steel

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938157

Q.8 A polar array generates new objects ----

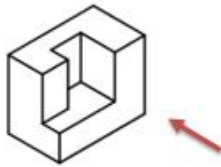
- A. In a grid pattern
- B. In a straight pattern
- C. In a circular pattern
- D. In random pattern

Ans  1. A
 2. B
 3. C
 4. D

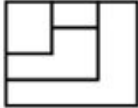
Question ID : 5834938198

Q.9

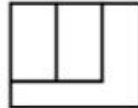
Identify the front view of object



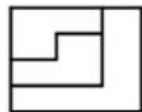
A.



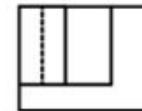
B.



C.



D.

Ans ☒ 1. A☒ 2. B☒ 3. C☒ 4. D

Question ID : 5834938215

Q.10

In an oblique sketch of a cube:

- A. The frontal face appears in its true shape
- B. Both receding axes are at 30° to the horizontal.
- C. All faces are equally distorted.
- D. The depth must be reduced.

Ans ☒ 1. A☒ 2. B☒ 3. C☒ 4. D

Question ID : 5834938221

Q.11 If $(3/7) + 2X = (17/7) + Y$ and $Y = X - 1$, then find the value of 'X'

- A. 1
- B. 3
- C. 2
- D. 4

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938156

Q.12

Projection of an object shown by three views is known as

- A. Oblique
- B. Orthographic
- C. Isometric
- D. Perspective

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938197

Q.13

The perimeter of regular hexagon is 18 cm. How long is its one side?

- A. 9 cm
- B. 3 cm
- C. 6 cm
- D. 12 cm

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938149

Q.14 In the third angle projection, the view on the vertical plane is called

- A. Side view
- B. Front view
- C. Top view
- D. Back view

Ans ☒ 1. A

☒ 2. B

☒ 3. C

☒ 4. D

Question ID : 5834938202

Q.15

What is the normal pressure angle of a gear teeth?

- A. $14\frac{1}{2}^\circ$
- B. 10°
- C. $12\frac{1}{2}^\circ$
- D. $13\frac{1}{2}^\circ$

Ans ☒ 1. A

☒ 2. B

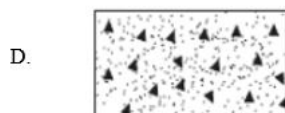
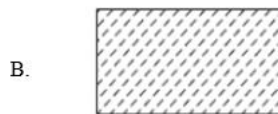
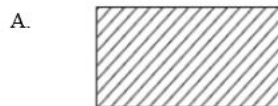
☒ 3. C

☒ 4. D

Question ID : 5834938183

Q.16

What is the conventional representation of Material 'Glass' in the drawing?



Ans ☒ 1. A

☒ 2. B

☒ 3. C

☒ 4. D

Question ID : 5834938201

Q.17 What is the curved length of a circle?

- A. Circumference
- B. Sector
- C. Diameter
- D. Chord

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938144

Q.18 When a line is parallel to the plane of projection, the projection of the line on that plane will be__

- A. True length
- B. Reduced
- C. Enlarged
- D. Point

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938210

Q.19 What is the function of insert block in Auto CAD?

- A. To insert saved shape in current drawing.
- B. To open a saved shape in any drawing.
- C. To save a new shape in the drawing.
- D. To edit a new shape in current drawing.

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938217

Q.20

Which of the following is not a principal view?

- A. Bottom
- B. Left side
- C. Auxiliary
- D. Front

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938194

Q.21 What is the volume of sphere whose radius is 3cm?

- A. $30 \pi \text{ cm}^3$
- B. $36 \pi \text{ cm}^3$
- C. $25 \pi \text{ cm}^3$
- D. $29 \pi \text{ cm}^3$

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938148

Q.22

In an open belt drive, pulleys rotate in the

- A. Opposite direction
- B. Same direction
- C. Parallel
- D. Perpendicular

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938176

Q.23 The following is a method for development of cone

- A. Parallel line method
- B. Approximate method
- C. Radial line method
- D. Triangular method

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938216

Q.24 Gear teeth are cut parallel to the axis of the shaft.

- A. Spur gear
- B. Helical gears
- C. Double helical gear
- D. Herringbone gear

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938170

Q.25 What is the name of convex surface made on flat pulleys in the belt drive?

- A. Peak
- B. Spot
- C. Crown
- D. Hump

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938185

Q.26 The stiffness is the ability of a material to resist

- A. Deformation under stress
- B. Fracture under high impact loads
- C. Externally applied forces with break down
- D. Yielding under load

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938163

Q.27

The study of pneumatics deals with

- A. Oil
- B. Solid
- C. water
- D. Air

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938172

Q.28 The length of a rectangular plate is thrice to its breadth. If the area of plate is 675 sqm, then what is its breadth?

- A. 20
- B. 12
- C. 15
- D. 25

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938153

Q.29

If three forces acting at a point are in equilibrium, each force will be proportional to _____ of the angle between the other two forces

- A. Cos
- B. Sin
- C. Tan
- D. Cot

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938164

Q.30

What is the frictional force that keeps an object at rest is called?

- A. Sliding friction
- B. Rolling friction
- C. Static friction
- D. Angular friction

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938175

Q.31

Which key used for polar on/off in key board?

- A. F10
- B. F11
- C. F12
- D. F8

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938199

Q.32

Conductance is reciprocal of

- A. Resistance
- B. Inductance
- C. Reluctance
- D. Capacitance

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938160

Q.33 What is the length of a straight line between two points on the circumference of a circle passing through centre?

- A. Chord
- B. Interference
- C. Sector
- D. Diameter

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938203

Q.34 A hollow shaft of same cross-section as compared to a solid shaft transmit

- A. Same torque
- B. Less torque
- C. More torque
- D. Unpredictable

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938177

Q.35 Minimum number of points required to draw a rectangle in AutoCAD

- A. Four
- B. Five
- C. One
- D. Two

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938205

Q.36 Which type of solid has parallel and equal polygons?

- A. Pyramid
- B. Prism
- C. Cone
- D. Torus

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938211

Q.37 Which plane is required to show the front view of an object?

- A. Profile plane
- B. Vertical plane
- C. Horizontal plane
- D. Parallel plane

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938190

Q.38

What is the LCM of 12,18,6,36?

- A. 12
- B. 18
- C. 36
- D. 42

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938152

Q.39 A point 'P' is above horizontal plane (HP) and in front of vertical plane. The point is in ---

- A. First quadrant
- B. Second quadrant
- C. Third quadrant
- D. Fourth quadrant

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938188

Q.40 The angle 60-degree 48 arc minutes is equal to

- A. 60.75 degree
- B. 60.48 degree
- C. 60.5 degree
- D. 60.8 degree

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938208

Q.41 In general method of drawing an ellipse, a vertical line is called

- A. Major Axis
- B. Minor Axis
- C. Directrix
- D. Tangent

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938209

Q.42

The filament of an electric bulb is made of

- A. Carbon
- B. Aluminium
- C. Tungsten
- D. Nickel

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938158

Q.43

What is the x^2 value for $x^2 + 6^2 = 10^2$

- A. 6^2
- B. 6
- C. 64
- D. 34

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938154

Q.44 Sectional view of an object reveals

- A. Inner details
- B. Outer size details
- C. External details
- D. Edge details

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938196

Q.45

The thread angle of BSW thread is

- A. 60°
- B. 55°
- C. 47.5°
- D. 30°

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938171

Q.46 How much water can accommodate in a rectangular tank of 3m length, 2m width and 500mm height?

- A. 3000 m³
- B. 3000 liters
- C. 6 m³
- D. 6000 liters

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938155

Q.47

What voltage will an AC voltage display?

- A. RMS
- B. Average
- C. Peak
- D. Peak to peak

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938165

Q.48

The temperature range for the anomalous expansion of water

- A. 100° C to 250° C
- B. 32° C to 100° C
- C. 0° C to 32° C
- D. 0° C to 4° C

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938166

Q.49

If $\cos \theta = 3/5$, then find the value of $\tan \theta$

- A. 4/5
- B. 4/3
- C. 3/4
- D. 5/4

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938146

Q.50 Which of the following is not the keyboard short cut of AutoCAD?

- A. Alt +B
- B. Ctrl + F2
- C. Ctrl + P
- D. Ctrl + F4

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938200

Q.51

According to the Indian standard specification, 100H6/g5 means that

- A. Basic size is 100mm
- B. Actual size is 100mm
- C. Difference between the actual and basic size is 100mm
- D. Standard size is 100mm

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938168

Q.52

The effect of the velocity ratio of belt drive due to slip is

- A. Decreases
- B. Increases
- C. Do not change
- D. Moderately increase

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938181

Q.53

In ISI system of fits, capital letter indicates

- A. Hole
- B. Hole or Shaft
- C. Shaft
- D. Shaft and Hole

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938207

Q.54

Mild steel is belonging to

- A. Low carbon steel
- B. Medium carbon steel
- C. High carbon steel
- D. Alloy steel

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938161

Q.55 The distance of across corners of a hexagonal nut is equal to -----

(Where d is Nominal diameter of nut)

- A. 1.5d
- B. 1.2d
- C. 2d
- D. 1d

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938206

Q.56 The density of substance is defined as

- A. Area per unit volume
- B. Thrust per unit area
- C. Mass per unit volume
- D. Product of mass and its volume

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938180

Q.57 If $Z = x^2 + y^2 - xy$, if $x = 9$ & $y = 11$ then find the value of 'Z'

- A. 99
- B. 103
- C. 121
- D. 13

Ans  1. A

 2. B

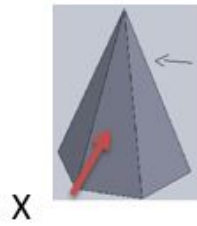
 3. C

 4. D

Question ID : 5834938143

Q.58

Identify the front view of the given below pyramid



A.



B.



C.



D.



Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938220

Q.59

Which one is an indirect measuring tool?

- A. Outside caliper
- B. Vernier caliper
- C. Steel rule
- D. Outside micrometer

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938167

Q.60

To ensure self locking in a screw jack it is essential that helix angle is

- A. Larger than friction angle
- B. Smaller than friction angle
- C. Equal to friction angle
- D. Such as to give maximum efficiency in lifting

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938186

Q.61 In M 20 x 1.5 screw, 1.5 represents

- A. Minor diameter
- B. Major diameter
- C. Pitch angle
- D. Pitch

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938192

Q.62

A battery converts

- A. Electrical energy to chemical energy
- B. Chemical energy to electrical energy
- C. Mechanical energy to electrical energy
- D. Chemical energy to mechanical energy

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938162

Q.63 What is an orthographic projection?

- A. Multi view projection
- B. Axonometric projection
- C. Pictorial projection
- D. Three-dimensional projection

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938193

Q.64 The velocity of wind is measured by

- A. Speedometer
- B. Tachometer
- C. Anemometer
- D. Audiometer

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938159

Q.65 The sum of the interior angles of polygon is equal to (n: No. of sides)

- A. $(2n-4)$ Right angle
- B. $(2n)$ Right angle
- C. $(2n/4)$ Right angle
- D. $(2-4n)$ Right angle

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938145

Q.66 The key F9 toggles on/off in AutoCAD

- A. Ortho
- B. Snap
- C. Grid
- D. DYN

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938187

Q.67 Simplify $(3x/2y)(x/3y)$

- A. $3x^2/2y^2$
- B. $x/2y$
- C. $x^2/6y^2$
- D. $x^2/2y^2$

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938150

Q.68

When objects at different temperatures comes in contact, after some time their temperature becomes _____

- A. Different
- B. Equal
- C. Lower
- D. Higher

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938178

Q.69 Which type of lines are drawn using T square?

- A. Inclined
- B. Curved
- C. Vertical
- D. Horizontal

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938195

Q.70 Which does not belong to 2D drawing?

- A. X-axis
- B. Z-axis
- C. WSC
- D. Y-axis

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938204

Q.71 The value of $(\sin 45^\circ + \cos 45^\circ)$ is

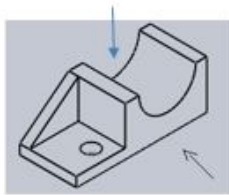
- A. $1/\sqrt{2}$
- B. $\sqrt{3}/2$
- C. $\sqrt{2}$
- D. 1

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938147

Q.72

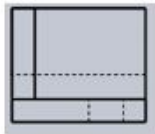
Identify the top view of the below isometric view.



A.



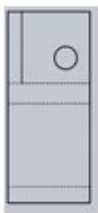
B.



C.



D.



Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938218

Q.73

The manometric fluid density should be _____ than that of flowing fluid

- A. Greater
- B. Smaller
- C. Equal
- D. Very small

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938179

Q.74 What is the volume of a cube, whose edge is $6a$?

- A. $216 a^3$
- B. $125 a^3$
- C. $216 a^4$
- D. $216 a^2$

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938142

Q.75 Position tolerance is represented by

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938189

Q.76 The gears those transmit the power between shafts whose axes intersects at an angle

- A. Worm gears
- B. Spur gears
- C. Bevel gears
- D. Racks and Pinion

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938169

Q.77 In case of $\varnothing 50 H7/d9$, then the d9 indicate

- A. Hole size
- B. Fit
- C. Shaft size
- D. Allowance

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938191

Q.78

In fits and tolerances, the Basic hole means

- A. Upper deviation is zero
- B. Lower deviation is zero
- C. Both A&B
- D. None of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938174

Q.79

What is the center of gravity of the rectangle of size 12x3?

- A. (6,3)
- B. (6,6)
- C. (6,1.5)
- D. (1.5,3)

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938151

Q.80

Which gear is used, when the velocity ratio is high and space is limited?

- A. Spur gears
- B. Bevel gears
- C. Worm gears
- D. Helical gears

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938173