

Duration: 03 Hours

Max. Marks: 60

**N.B.**

1. Question No.1 is compulsory. Solve any three out of remaining five questions.
2. Use your own judgment for any unspecified dimension.
3. Use first angle method only.
4. Retain all construction lines.
5. Figures to the right indicate full marks.

Q.1.a)

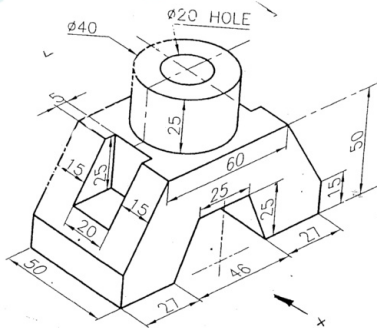
A circle of 60mm diameter rolls on a straight line without slipping. Draw the locus of a point 'P' for complete revolution of the circle. The point 'P' is 38mm above the straight line and towards the right of vertical center line of the circle.

06

Q.1. b)

Figure 1 shows pictorial view of an object. Draw

- |                          |    |
|--------------------------|----|
| i) Front view            | 04 |
| ii) Top view             | 04 |
| iii) Dimension the views | 01 |



All dimensions are in mm

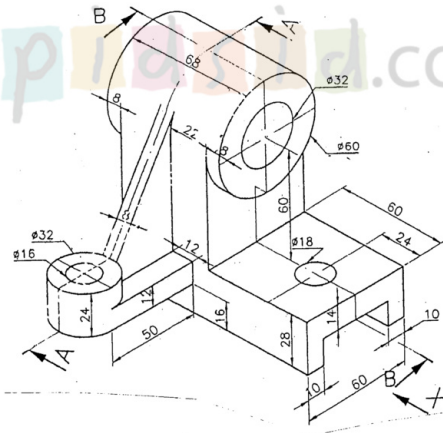
Figure no. 1

Q.2.

A pentagonal prism of 28mm. edge of base and 60 mm length of axis has a 28mm. edge on the H.P. The axis is inclined at  $35^\circ$  to H.P. and  $45^\circ$  to V.P. Draw the projections. 15

Q.3. Figure 2 shows pictorial view of an object. Draw

- |      |  |   |
|------|--|---|
| i)   | Sectional Front View along A-A.          | 5 |
| ii)  | Sectional Left hand side view along B-B. | 5 |
| iii) | Top View                                 | 4 |
|      | Dimension the views (any four)           | 1 |



All dimensions are in mm  
Figure 2

Q.4. a)

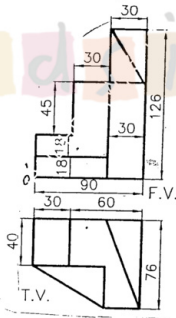
The distance between the end projectors of a line AB is 60mm. The end A is 25mm above H.P. and 45mm in front of V.P., while the other end B is 60mm above H.P. and 15mm in front of V.P. Draw projections and find the true length and also inclination of the line with H.P. and V.P.

09

Q.4 b).

Figure 3 shows two views of an object. Draw isometric view of the object.

06



All dimensions are in mm.

Figure 3

Q.No.5

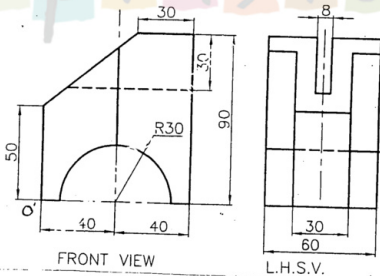
A square pyramid of base side 25mm and altitude 50mm rests on its base on the HP with two sides of the base parallel to VP. It is cut by a plane bisecting the axis and inclined at  $30^\circ$  to the base. Draw front view, sectional top view and true shape of the section. Also draw the development of the lower part of the pyramid. 15

Q.No.6 a)

A cylinder with 50mm diameter of its base and axis measuring 70mm has its axis inclined to  $30^\circ$  to VP. Draw the projections of the cylinder when the solid is resting on one of the points of the circumference of the base on VP. 6

Q.No.6 b).

Draw isometric projection using natural scale. Refer Figure No.4. 9



All dimensions are in mm

Figure no.4