P P SAVANI UNIVERSITY

First Semester of B. Tech. Examination

January 2022

SEME1010 Engineering Graphics

27.01.2022, Thursday **Time: 9:00 a.m. To 11:30 a.m.** **Maximum Marks: 60**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1 **Attempt any Five.** **[05]**

1 In a scale 4 cm line represents 12 mm, and then what will be its R.F.?

a) 2:15 b) 15:2 c) 10:3 d) 3:10

2 Hatching Lines are drawn at _____ Angle?

a) 30^0 b) 45^0 c) 60^0 d) 75^0

3 If the cone is cut by a vertical plane passing from the centre of cone then what shape will be created in its cross section?

a) Ellipse b) Parabola c) Hyperbola d) Triangle

4 Draw the Symbol of Third Angle Projection.

5 If the line is parallel to HP and perpendicular to VP then what will be its Elevation?

a) Line with True Length b) Line with Reduced Length

c) Point d) None of these

6 Which scale is used to draw Building Drawing on paper?

a) Plain Scale

b) Enlarged Scale

c) Reduced Scale

d) Actual Scale

7 What are the applications of Continuous Thin Line?

Q - 2 (a) A triangle ABC has sides AB = 75 mm, BC = 60 mm and CA = 75 mm. Draw a parabola passing through points A, B and C when side BC is horizontal. **[06]**

Q - 2 (b) Draw a diagonal scale of R.F, 1:5 showing decimeters, centimeters and millimeters and long enough to measure up to 8 decimeters. Show a distance of 5.35 dm. **[04]**

OR

Q - 2 (a) A line AB is 100 mm long. It is inclined at 40° to the HP and 30° to the VP. The end A is 10 mm above HP and 25 mm in front of VP. Assuming the end B in the first quadrant, draw the projections of the line AB. **[06]**

Q - 2 (b) Draw the projections of the following points on the same x-y line : **[04]**

i. Point A is 20 mm above the HP and 20 mm behind the VP.

ii. Point B is 40 mm above HP and 10 in front of VP.

iii. Point C is 25 mm below HP and 40 mm behind VP.

iv. Point D is 10 mm above HP and on VP

Q - 3 A square ABCD of 50 mm side has its corner A on the ground, its diagonal AC inclined 30° to the H.P. and diagonal BD inclined at 45° to the V.P. and parallel to the H.P. Draw the projections. **[08]**

OR

Q - 3 A semicircular plate of 80 mm diameter has its straight edge in the VP and inclined at 45^0 to the HP. The surface of the plate makes an angle of 30^0 with the VP. Draw its projections. **[08]**

Q - 4 Draw an hypocycloid with rolling circle diameter 60 mm and directing circle diameter 120 mm. Draw tangent and normal at any point on the curve. **[07]**

OR

Q - 4 Distance between the end projectors of a line AB is 50 mm. end A is 20 mm above HP and 30 mm in front of VP. End B is 50 mm below HP and 50 mm behind VP. Draw its projections and find true length and true inclination of a line with HP & VP. **[07]**

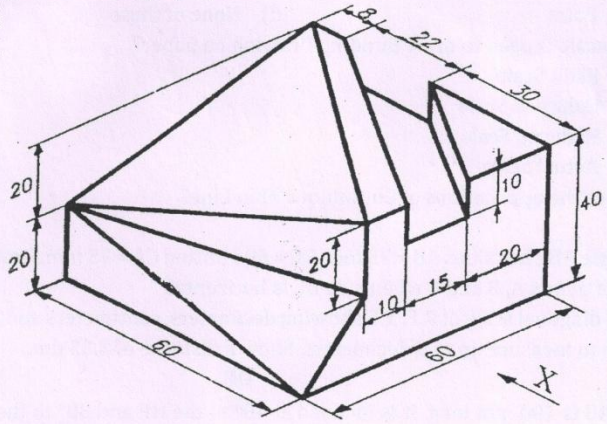
SECTION – II

Q - 1 A tetrahedron PQRS of 50 mm long edges has edge PQ in the H.P. The edge RS is inclined at 30^0 and 45^0 to the H.P. and the V.P. respectively. Draw its projections. **[10]**

OR

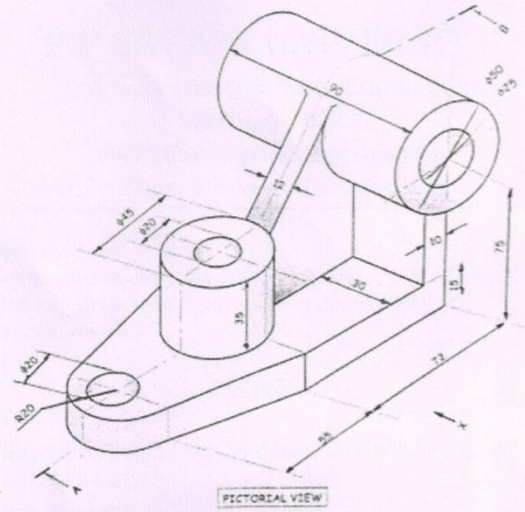
Q - 1 A hexagonal pyramid is resting on one of its triangular face with axis remaining parallel to V.P. It is cut A.V.P. making 30^0 with V.P. passing through a point on the axis 33 mm from the apex. Draw plan, sectional elevation and the true shape of section. Take side of base 30 mm and height 75 mm. **[10]**

Q - 2 Draw the **[10]**
(i) Front view
(ii) Top view and
(iii) Right hand side view
of the given object in first angle projection method.

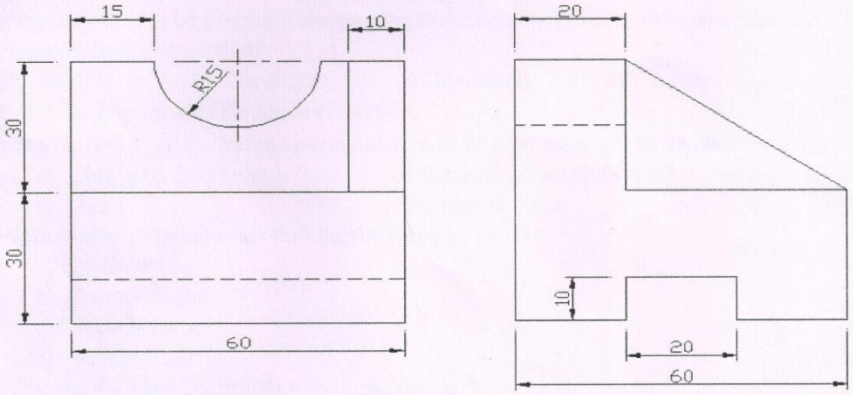


OR

Q - 2 Draw the **[10]**
(i) Front view and
(ii) Top view
of the given object in Third angle projection method.



Q - 3 Draw the Isometric Drawing of the following object. **[10]**



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