Code No: **R201111** **R20** **SET - 1**

I B. Tech I Semester Supplementary Examinations, July/August-2023
ENGINEERING DRAWING AND DESIGN

(Only to Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

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UNIT-I

1. A circular wheel of diameter 100 mm rolls over a straight surface without slipping. Draw the curve traced by a point P for one revolution of the wheel. Assume that the critical position of the point P is at the top of the vertical centre line of the wheel. Name the curve. [14M]

(OR)

2. a) Draw an involute of a hexagon 25 mm side. [7M]

   b) An area of 144 sq cm on a map represents an area of 36 sq km on the field. Find the RF of the scale of the map and draw a diagonal scale to show Km, hectometres and decametres and to measure upto 10 Km. Indicate on the scale a distance 7 km, 5 hectometres and 6 decametres. [7M]

UNIT-II

3. a) A point A is 25 mm below H.P. and in the third quadrant. Its shortest distance from the reference line XY is 50. Draw the projections of the point and determine its distance from V.P [7M]

   b) A point A is 20 mm above HP and 30mm in front of VP. Another point B is 50mm below HP and 60mm behind VP. Draw the projections of these points taking the distance between the end projectors as 40mm. Also find the length of the line joining their plans and elevations [7M]

(OR)

4. The top view and the front view, of the line CD, measure 65mm and 53mm respectively. The line is inclined to H.P. and to V.P. by 30^0 and 45^0 respectively. The end C is on the H.P. and 12mm in front of V.P. Other end D is in the 1st quadrant. Draw the projections of the line CD and find its true length and draw traces [14M]

UNIT-III

5. A circular lamina of 60mm diameter rests on HP on a point on the circumference. The lamina is inclined to HP such that the top view of it is an ellipse of minor axis 35mm. The top view of the diameter through that point makes an angle of 45º with VP. (i) Draw the projections. (ii) Determine the angle made by the lamina with the HP. [14M]

(OR)

6. Draw the projections of a regular hexagon of 40 mm sides, having one of its side in the H.P. and inclined at 60^0 to the V.P. and its surface making an angle of 45º with the H.P. [14M]
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UNIT-IV

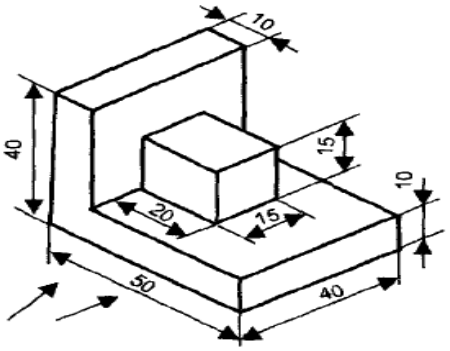
7. Draw the projections of an hexagonal prism, side of base 20mm and altitude 50mm, when a side of base is on H.P and the axis is inclined at 60° to the H.P. The axis is parallel to V.P. [14M]

(OR)

8. A right circular cone 50mm base diameter and 80mm height rests on the ground on one of the points of the base circle. Its axis is inclined to H.P at 50^0 and to V.P at 30^0. Draw the projections of the cone. [14M]

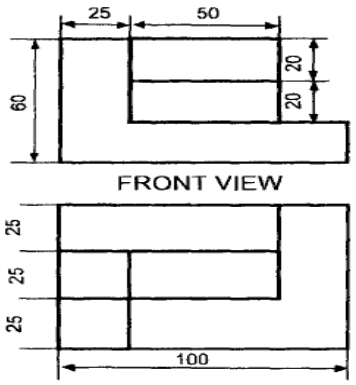
UNIT-V

9. Draw the front view, Top view and Side view of the given figure [14M]



(OR)

10. Draw the isometric view of the given orthographic projection of the object? [14M]



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