

Code: 20ES1104

**I B.Tech - I Semester – Regular Examinations – JULY 2021**

**ENGINEERING GRAPHICS**  
(Common to EEE, ECE)

Duration: 3 hours

Max. Marks: 70

---

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.  
2. All parts of Question must be answered in one place.

---

**UNIT – I**

1. Draw an hypocycloid of a circle 50 mm diameter which rolls inside of another circle of 100 mm diameter for one revolution. Draw tangent and normal to any point on the curve. 14 M

OR

2. Construct an hyperbola when the distance between the focus and directrix is 45 mm and eccentricity is  $\frac{4}{3}$ . Also draw the tangent and normal to any point on the curve. 14 M

**UNIT – II**

3. Determine the true length and inclinations of a straight line with the HP and VP, when its front view measures 50 mm and top view 60 mm long. The front view and top makes angles of  $46^{\circ}$  and  $55^{\circ}$  with the HP and VP respectively. 14 M

OR

4. A regular hexagon of side 40 mm is resting on one of its sides in the HP and makes an angle of  $60^\circ$  to the VP and the surface is inclined at  $45^\circ$  to the HP. Draw the projections. 14 M

### UNIT-III

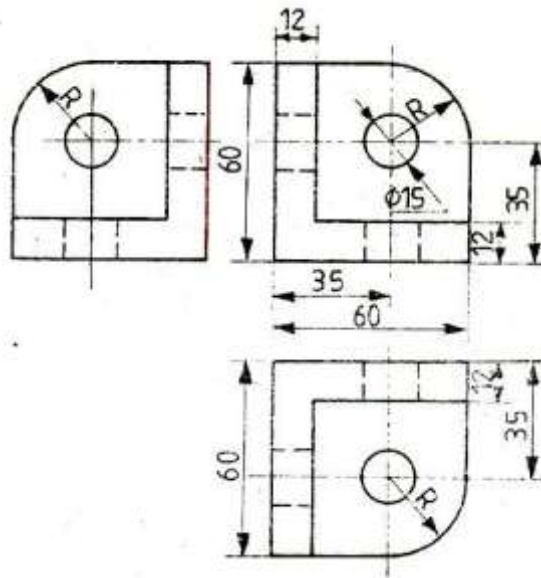
5. Draw the projections of a cylinder 75 mm diameter and 100 mm long, lying on the ground with its axis inclined at  $30^\circ$  to the VP and parallel to the ground. 14 M

OR

6. A pentagonal pyramid of side of base 35mm and axis 50mm long, stands with its base on H.P such that, one of the base edges is perpendicular to V.P. A section plane parallel to V.P cuts the solid at a distance of 15mm from the corner of the base which is nearer to the observer. Draw the top and sectional front views of the cut solid. 14 M

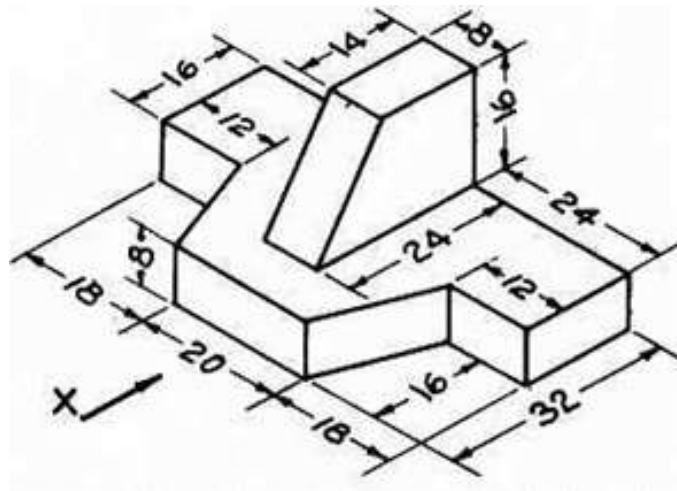
## UNIT – IV

7. Draw the isometric view. All dimensions are in mm. 14 M



OR

8. Draw (i) Front View (ii) Top View (iii) Side View of the 14 M object shown below:



## UNIT – V

9. A square pyramid, base 40 mm side and axis 65 mm long, 14 M has its base on the HP with two edges of the base perpendicular to the VP. It is cut by a section plane, perpendicular to the VP, inclined at  $45^\circ$  to the HP and bisecting the axis. Draw its development.

OR

10. List and explain AUTOCAD commands used in drawing. 14 M

