

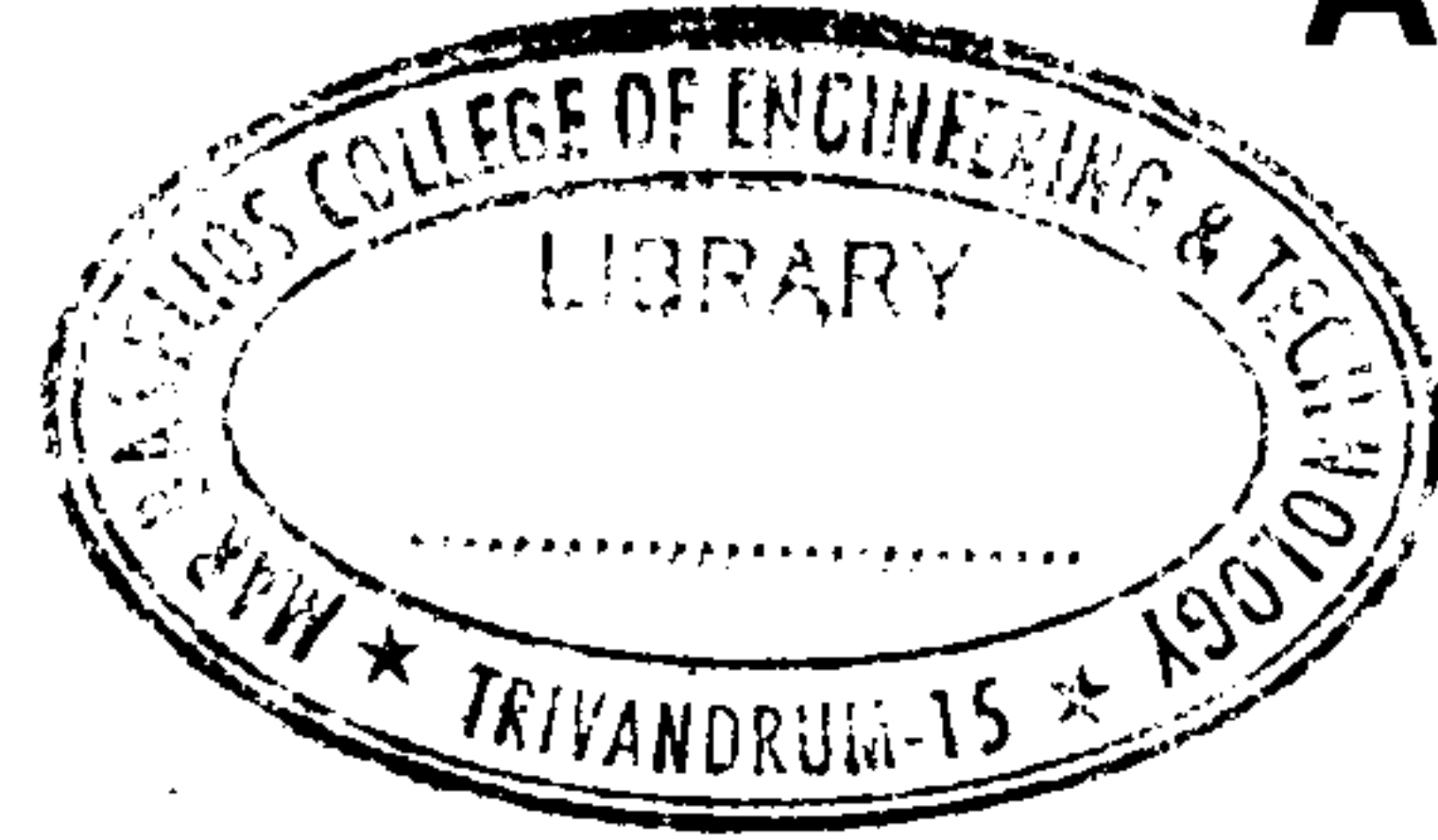


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Reg. No. :

Name :



**Combined First and Second Semester B.Tech. Degree Examination,
December 2016
(2013 Scheme)**

13.104 : ENGINEERING GRAPHICS (ABCEFHMNPRSTU)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) **Choose** suitable scale and dimension the drawing properly.
2) **Retain all** construction lines.
3) Answer **one full** question **each** from Module – I and II and **two full** questions **each** from Module – III and IV.

MODULE – I

Answer **one full** question. **Each** question carries **16** marks.

1. A shot is discharged from the ground level at an angle of 60° to the horizontal. The shot returns to the ground, assumed to be horizontal, at a point 80 m away from the point of discharge. Draw the path traced by the shot. Also draw the normal at any point on the curve. Name the curve.
2. A coir is unwound from a drum of 3 cm diameter. Draw the locus of the free end of the coir for unwinding through an angle of 360° . Draw also a normal and tangent at any point on the curve.

MODULE – II

Answer **one full** question. **Each** question carries **16** marks.

3. A room 6 m \times 4 m \times 3 m is fitted with an electric light in the centre of the room 1m below the ceiling. The switch is at one corner 1.5 m above the floor. Draw the plan and elevation of the room showing the fittings and find the shortest distance of the light from the switch.
4. Draw the projections of a cube of 40 mm side resting on HP on one of its faces with a vertical face inclined at 30 degrees to VP. It is then tilted such that the axis is inclined at 30 degrees to HP with a corner in HP.

P.T.O.



MODULE – III

Answer **any two full** questions. **Each** question carries **17** marks.

5. A pentagonal pyramid base 25 mm side and axis 55 mm long as one of its triangular faces in the HP and the edge of the base contained by that face makes an angle 30° with the VP. Draw its projections.
6. A pentagonal prism of base of side 50 mm and height 80 mm lies on the HP on one of its rectangular faces. The axis of the prism is inclined at 45 degrees to the VP. The prism is cut by a plane perpendicular to VP and parallel to HP at a distance of 8 mm from the top edge. Draw the front view and sectional top view.
7. A cone of base diameter 50 mm and height 65 mm rests on its base on HP. It is cut by a section plane inclined at 30 degrees to HP and perpendicular to VP. Draw the development of the truncated cone if the section plane bisects the axis of the cone.

MODULE – IV

Answer **any two full** questions. **Each** question carries **17** marks.

8. Draw the isometric projection of a square prism of side of base 35 mm and altitude 50 mm surmounting a sphere of diameter 50 mm.
9. A cone of base diameter 60 mm and height 80 mm is resting on its base on the HP. A horizontal cylinder of diameter 30 mm penetrates the cone such that its axis bisects the axis of the cone. Both the axes are parallel to the VP. Draw the curves of the intersection.
10. Draw the perspective view of a rectangular block 3 m \times 2 m \times 1.5 m resting on a horizontal plane with one of the rectangular planes making an angle 45° with PP. The observer is at distance of 6 m from the picture plane. Assume eye level as 1.5 m from ground.

