Reg. No. : ....

Name : ....

Combined First and Second Semester B.Tech. Degree Examination, April 2014
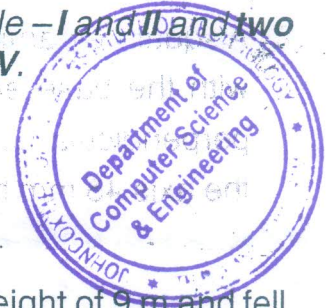### (2013 Scheme)
13.104 : ENGINEERING GRAPHICS (CERPUF)

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. When a cricket ball was thrown, it reached a maximum height of 9 m and fell on the ground at a distance of 25 m from the point of projection. Draw the path of the ball ? What is the angle of projection ?

2. Draw a cycloid for one convolution for a generating circle of diameter 60 mm. The fixed point on the circle is at a height equal to the diameter of the circle above the ground initially.

Module – II

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

3. The end projectors of line AB is 60 mm apart. A is 20 mm above HP and 30 mm in front of VP, and end B is 70 mm above HP and 60 mm in front of VP. Find the true length of the line.

4. A square pyramid of 50 mm base and 70 mm height is resting on one of its base edges on HP. If the axis is parallel to VP and inclined 45° to HP, draw its projections.

Module – III

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

5. Draw projections of triangular pyramid of 55 mm base side and height 75 mm , resting on one of its base edges on HP and the axis parallel to VP, by auxiliary projection method. The inclination of the axis to HP is 40°.

6. A right circular cone of diameter 76 mm and height 80 mm rests on HP on its base. A cutting plane parallel to VP and 16 mm in front of the axis of the cone cuts the solid. Draw the sectional front view and top view of the cone.

7. A square pyramid, base edge 30 mm and height 60 mm is resting on its base with the base edges equally inclined to VP. It is cut by a sectional plane perpendicular to VP inclined at 50° with HP and passing through a point on the axis 45 mm below the apex.

Module – IV

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

8. A tetrahedron rests on top of a vertical triangular prism, edge of base 35 mm and axis 75 mm, such that the three corners of the tetrahedron coincides with the top three corners of the prism. Draw the isometric projections of the solid.

9. A cylinder, base circle diameter 50 mm is lying on HP with axis parallel to VP. A cone, base circle diameter 60 mm and height 70 mm resting on its base on HP penetrated by the cylinder. Draw the projections showing the curve of penetration.

10. A square prism of 32 cm side 50 cm length is lying on the ground plane on one of its rectangular faces, in such a way that one of its square faces is parallel to and 12 cm behind the picture plane. The station point is located 60 cm in front of the picture plane and 48 cm above the ground plane. The central plane is 50 cm away from the axis of the prism towards the left. Draw the perspective view of the prism.