



Reg. No. :

Name :

**Combined First and Second Semester B.Tech. Degree
Examination, April 2015
(2008 Scheme)**

**08.104 : ENGINEERING GRAPHICS
(CMNPHEARUFBS)**



Time : 3 Hours

Max. Marks : 100

- Instructions :** i) Answer **any two** questions from **each** Module.
ii) First angle projection to be **followed**.

MODULE – I

(16×2=32 Marks)

1. The isothermal expansion of a perfect gas is given by the law $PV = a$ constant. Draw the expansion curve if the volume, V of a perfect gas is $6 \times 10^{-2} (\text{cm})^3$ when the pressure P is $3 \times 10^{-1} \text{ kg}/(\text{cm})^2$.
2. Draw an Archimedian spiral for one and a half convolutions. The spiral starts from the pole and its longest radius is 75 mm. Draw a tangent to the curve at a point 30 mm from the pole.
3. An auditorium is 100 m long, 50 m wide and 20 m high. A light point is fitted at the centre of the roof and its switch is located on one of the side walls of the auditorium, 1.5 m above the floor and 10 m from one of the adjacent walls. Determine the actual distance between the light point and its switch.

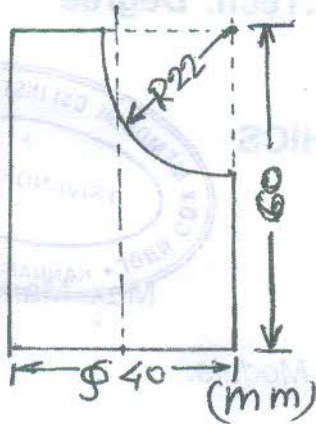
MODULE – II

(17×2=34 Marks)

4. A right regular tetrahedron, edge of base 30 mm is on HP on one of its base corner points such that the slant edge containing the base corner is inclined at 60° to HP and the base edge opposite the corner point inclined at 45° to the VP. Draw its projections.
5. A cube of 32 mm edge is cut by a section plane so that the true shape of section is a regular hexagon. Draw the front and top views of the cube and determine the inclination of the section plane with HP. Draw the true shape of the section.



6. A right circular cylinder of base diameter 40 mm and height 60 mm has a curved surface as shown in Fig. 1. Develop its lateral surface.



MODULE – III

(17×2=34 Marks)

7. A right regular hexagonal prism, edge of base 20 mm and height 60 mm lies on one of its rectangular faces. A right circular cone of base diameter 30 mm and height 35 mm rests centrally on the upper rectangular face of the prism. Draw the isometric view of the solids.
8. A right circular cylinder of diameter 60 mm and height 80 mm resting on its base on HP is completely penetrated by another cylinder of diameter 45 mm and 90 mm long, such that their axes bisect each other at right angles and are parallel to VP. Draw their projections showing curves of intersection.
9. A right regular square pyramid is resting on ground plane, on its base, with its base edge parallel to and 25 mm behind the picture plane. The station point is 38 mm in front of the picture plane and 25 mm above the ground plane. The central plane containing the station point is 30 mm to the left of the apex. Draw the perspective view of the pyramid.
(height of pyramid : 32 mm, its base edge : 30 mm)