

2007-COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

I B.TECH DEGREE EXAMINATION

ENGINEERING GRAPHICS

TIME-3HOUR

MARKS-100

MAY-2007

ANSWER ALL QUESTIONS

1. a) Construct a forward reading Vernier scale to read distance up to a deca meter with Representative fraction $1/40000$ and long enough to measure 6 Km. Mark 3.37 Km on it.
- b) Draw an ellipse, by intersecting arcs method given its major and minor axes as 100mm and 75mm respectively.

OR

2. a) Draw a diagonal scale of RF = $1/500$ and show on it, a length 57.5m.
- b) Draw a parabola, given the distance b/w its focus 'F' and directrix DD as 50mm. Also draw a tangent to the curve at a point on it.
3. a) Draw the projectiles of line AB of length 80mm, inclined at 30 degrees with HP and 45 degrees with VP. A point 'm' on AB, 30mm from A is at a distance of 35mm above HP and 40mm in front of VP.
- b) Length of the line AB in front view measures 30mm. A is 15mm above HP and 25mm in front of VP. B is 40mm above HP and angle of the line with VP is 30 degree. Draw the projections and find the true inclination with HP.

OR

4. a) A circular lamina of 50mm diameter inclined at 30 degree to HP and perpendicular to VP has its center 30mm in front of VP and on HP. Draw front, top and side views.
- b) A regular hexagonal lamina of side 30mm has a side in both HP & VP, while the lamina makes an angle of 60 degree with VP. Draw its front and top views.
5. a) A frustum of a cone diameter of base 60mm, diameter of top surface surface 30mm and axis 45mm long is lying on HP on one of its generators. The plane containing the axis and the generator makes an angle of 45 degree to VP. Draw its front and top views.

OR

6. A pentagonal pyramid of base edge 30mm and height 60mm is resting on its base with one base edge perpendicular to VP. A cutting plane at 50 degree with HP perpendicular to VP and passing through a corner cuts the pyramid. Draw the sectional front view, top view and side view of the bottom portion & the true shape of the section.
7. A right regular square prism of 30mm base edge and 60mm height rest on its base on HP such that its vertical faces are equally inclined to VP. It has a horizontal circular hole of 30mm diameter drilled centrally through it such that the axis of the hole cuts both the diagonally opposite vertical edges. Develop the lateral surface of the prism showing all construction lines.

OR

8. A cylinder of height 60mm and base circle diameter 50mm is resting on its base. Another cylinder of 40mm diameter 70mm height and axis parallel to both the planes penetrate through the vertical cylinder such that the axis bisects each other. Draw the curve of intersection.

9. A cone, diameter of base 45mm and height 50mm is mounted centrally on the top of a square slab of thickness 10mm & side 65mm. Draw the isometric projection of the combined solid.

OR

10. A rectangular block 32mm* 22mm*16mm is lying on ground on one of its largest faces. One of its vertical edges is in the picture plane and the longer face containing that edge is inclined at an angle of 30 degree to the picture plane. The station point is 52mm in front of the picture plane, 35mm above the ground plane passing through the centre of the block. Draw the perspective view of the block.

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