Code No: 111AG

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year Examinations, October/November - 2016
ENGINEERING DRAWING
(Common to ECE, EIE, ETM)

Time: 3 hours **Max Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a) Two points are fixed and 100 mm apart. Draw the locus of a point in such a manner that the difference of its distance from the points is 75 mm. Name the curve.

b) An area of 144 sq.cm on a map represents an area of 36 sq.km on the field. Find the RF of the scale, and draw a diagonal scale to show kilometers, hectameters and decameters and to measure upto 10 km. Mark a length of 7 km 5 hm and 6 dm on the scale. [7+8]

OR

2a) A point P is 30 mm and 50 mm respectively from two straight lines which are at right angles to each other. Draw a rectangular hyperbola from P within 10 mm distance from each line.

b) The vertex of a hyperbola is 65 mm from its focus. Draw the curve if the eccentricity is 3/2. Draw a normal and a tangent at a point on the curve, 75 mm from the directrix. [7+8]

3. A line PQ has its end projectors 50 mm apart. The front and top views of the line are 55 mm and 65 mm long, respectively. If the end P is 15 mm above the H.P. and 25 mm in front of the V.P., draw the projections of the line. Determine its true length and inclinations with the principal planes. [15]

OR

4. A circular lamina of 50 mm diameter is inclined at 45^0 to the VP. One of its diameters is inclined at 45^0 to the HP and 30^0 to the VP. Draw the projections of the lamina. [15]

5. A triangular prism, having a base with a 70 mm edge and 60 mm height, stands on its triangular face on the ground with one of its rectangular faces perpendicular to the V.P. It is cut by an A.I.P. such that the true shape of the section is a trapezium with 10 mm and 50 mm parallel sides. Draw its projections and project true shape of section. [15]

OR

6. A hexagonal prism, having a base with 30 mm side and a 70 mm long axis, has its face on the H.P. and the axis parallel to V.P. It is cut by a plane, the H.T. of which makes an angle of 45^0 with the reference line bisecting the axis. Draw the sectional front view and true shape of the section. [15]

7. A cylinder of 90 mm diameter resting with its base on ground is penetrated by another cylinder of 50 mm diameter. The axis of the penetrating cylinder is parallel to the VP and 12 mm in front of the axis of the vertical cylinder. The plane passing through the axis of the penetrating cylinder bisecting the axis of the vertical cylinder is at 60 degrees angle. Draw the front and top views showing the curves of intersection. [15]

OR

8. A cube of 40 mm edge stands on one of its faces on the ground with one of the vertical faces inclined at 45^0 to VP. A through hole of diameter 20 mm is made in the object. The axis of the hole is perpendicular to the VP and intersects the axis of the cube at right angles to it. Draw the development of the lateral surfaces of the cube. [15]

9. A cylindrical slab having 75 mm as diameter and 45 mm thickness is surmounted by a cube of edge 38 mm. On the top of the cube rests a square pyramid of altitude of 38 mm and side of base 25 mm. The axes of the solids are in the same straight line. Draw the isometric projections. [15]

OR

10. A hexagonal prism of 25 mm side of base and axis 60 mm is lying on one of its rectangular faces with the base perpendicular to GP and inclined to PP at 30^0. A corner of the base touches the PP. Draw the perspective view of the prism when the station point is 60 mm from picture plane and 75 mm above the ground and lies in the central plane which passes through the midpoint of the axis of the prism. [15]

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