Code No: 09A10191 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech I Year Examinations, December-2012
ENGINEERING DRAWING
(Common to CE, BME, MCT, ETM, MIM)

Time: 3 hours **Max.**

Answer any five questions
All questions carry equal marks

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1. A wheel of a bike of diameter 500 mm rolls without slipping on a level road through a distance of 1025 mm. trace the path of a point P on the wheel which is initially in contact with the rod. Name the curve. Find the angle through which the wheel is turned. Draw a tangent and normal at any point on the curve. [15]

2. The projections on the XY line of the horizontal and vertical traces of a straight line AB in the first quadrant are 120 mm apart. The VT is 100 mm above XY and the HT is 50 mm in front of XY. The points A and B are 30 mm and 80 mm above the HP respectively. Draw the projections. [15]

3. A square pyramid of 50 mm side of base and 50 mm length of axis is resting on one of its triangular faces on the HP having a slant edge containing that face parallel to VP. Draw the projections of the pyramid. [15]

4. A hexagonal pyramid, base 30 mm side and axis 60 mm long, has a triangular face on the HP and the axis parallel to the VP. It is cut by a horizontal section plane which bisects the axis. Draw the front view and sectional top view and develop the surface of the cut-pyramid. [15]

5. A vertical square prism having its faces equally inclined to the VP is completely penetrated by a horizontal cylinder, the axis of which is parallel to the VP and 6 mm away from that of the prism. Draw the projections of the solids showing curves of intersection. The length of the sides of the base of the prism is 50 mm and the diameter of the cylinder is 40 mm. [15]

6. A hexagonal prism of side of base 30mm and 70mm long has a square hole of sides 20mm at the centre. The axes of the square hole and hexagonal prism coincide, and one of the faces of the square hole is parallel to one of the faces of the hexagon. Draw the isometric projection of the prism with the hole. [15]

7. Draw the elevation, plan and left and right views of the part shown in the figure (dimensions in mm). [15]

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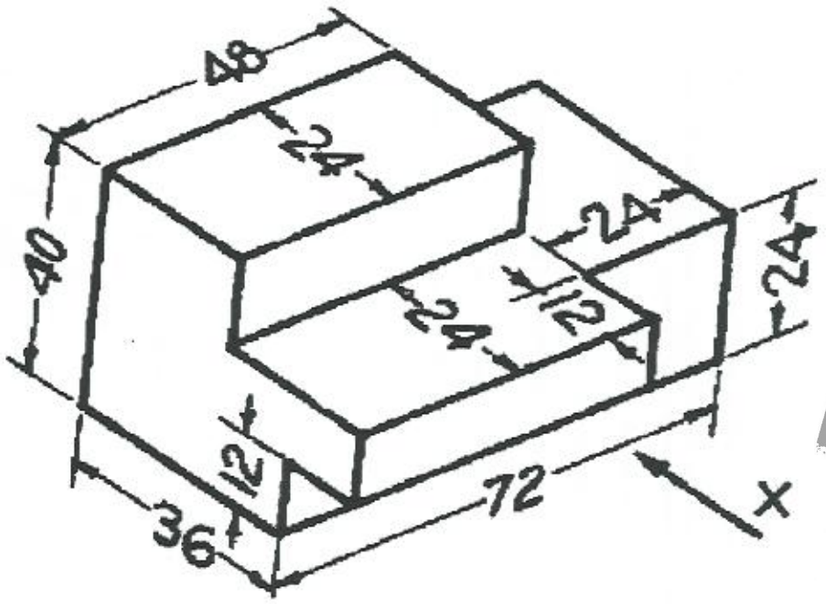

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8. A pentagonal prism, side of base 25 mm and axis 60 mm long, lies with one of its rectangular faces on the ground plane such that a pentagonal face is touching the picture plane. The station point is 20 mm in front of the picture plane, 55 mm above the ground plane and lies in a central plane which is at 80 mm to the right of the centre of the prism. Draw the prospective view. [15]

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