Code No: 09A10391 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech I Year Examinations, December-2012
ENGINEERING DRAWING
(Common to ME, CHEM, MMT, ICE)

Time: 3 hours

Answer any five questions
All questions carry equal marks

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1. A circle of diameter 60mm rolls on a straight line without slipping for one complete revolution. Trace the locus of the two points which are the end points of the diameter. Assume the diameter is horizontal at the initial position. [15]

2.a) Draw the positions of the following points:
P is 35mm below HP, 15 mm in front of VP; **Q** is 30 mm below HP, 60 mm behind VP; **R** is 20 mm above HP, 30 mm in front of VP; **S** is 20 mm below HP, 30 mm behind VP; **T** is 25 mm above HP and is on VP; **U** is 35 mm behind VP and in HP; **V** is lying on both the planes.

b) Point P is 50mm from both the reference planes. Draw its projection in all possible positions. [15]

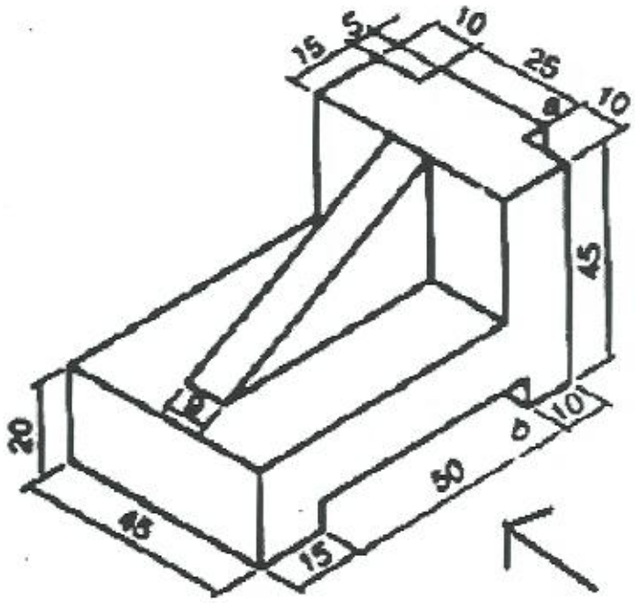
3. A pentagonal prism of base 30mm side and axis 70 mm long has its axis inclined at 30^0 to V.P. An edge of its base is in V.P. and inclined at 45^0 to the H.P. Draw its projections. [15]

4. A cylinder of base 60mm and height 70mm is resting on its base on H.P. A triangular hole side 50mm is drilled through this solid in such a way that the axis of the hole is perpendicular to V.P., 10mm away from the axis of the cylinder and 28mm above H.P. Develop the lateral surface of the cylinder. [15]

5. A cone of base 80mm dia and 100mm long axis is resting on its base on the H.P. It is completely penetrated by a cylinder with a 40mm base dia. The axes of the solids intersect each other at right angles, 30mm above the base of the cone. Draw the projections of the combination and show curves of intersection. [15]

6. A hexagonal prism of base edge 30mm and height 70mm long is resting on its rectangular face on the ground with its axis parallel to the VP. A square prism of 20mm base edge and height 40mm long rests on its base on the top rectangular face of the hexagonal prism. The axis of the square prism intersects and bisects the axis of the hexagonal prism when produced. One of the base edges of the square prism is parallel to the VP. Draw an isometric projection of the set up. [15]

7. Draw the front view, top view and side view for the given figure. All dimensions are in mm. [15]



8. A hexagonal prism, base edge 30mm and height 50mm rests on its base on the ground with one of its rectangular faces inclined at 30^0 to PP and the nearest vertical edge 15mm behind the PP. The SP is 40mm in front of the PP, 65mm above the GP and lies in a CP 45mm to the left of the vertical edge nearer to the PP. Draw the perspective projection of the prism. [15]

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