Code No: ME1506 **R14**

I B. Tech I Semester Supplementary Examinations, May 2015

ENGINEERING GRAPHICS–I
(Mechanical Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: Answer any Five Questions.

5×12 = 60M

1. a) Construct a regular pentagon of 30mm side by any two different methods (5M)

   b) Draw a scale of 1:60 to show metres and decimeters and long enough to measure upto 6 metres. Show a length of 3.7 metres on it. (7M)

2. A fixed point is at 50 mm from a fixed straight line. Draw the curve when eccentricity is 2/3. Name the curve. Draw tangent and normal to the curve through a point P, 60 mm from directrix. (12M)

3. A circle of 50mm diameter rolls along the floor for a half revolution and then on a wall adjacent for another half revolution. Draw the curve traced out by a point on the circumference of the circle at the top of the circle. (12M)

4. a) A point A is 30mm above HP and 40mm in front of VP. Another point B is 60mm behind VP and 50mm below HP. Draw the projections of the points A & B keeping the projector distance as 100mm. Draw straight lines joining front views and top views. (6M)

   b) Two points P and Q are in HP. The point P is 40mm in front of VP while Q is behind VP. The distance between their projectors is 90mm and the line joining their top views makes an angle of 45 degrees with XY. Find the distance of Q with reference to VP. (6M)

5. Draw the projections of a line AB, 100mm long, its midpoint M being 30mm above HP and 50mm in front of VP. The end A is 15mm above HP and 20mm in front of VP. Show the traces and the inclinations of the line with the HP and VP. (12M)

6. The projections of a line measures 90mm in the top view and 70mm in the front view. The midpoint of the line is 40mm above HP and 50mm in front of VP. One end of the line is 15mm in front of VP, while the other end is nearer to HP. Draw the projections and determine its true length, true inclinations with HP and VP and traces. (12M)

7. Draw the projections of a rhombus having diagonals 125mm and 50mm long, the smaller diagonal of which is parallel to both the principal planes, while the other is inclined at 30 degrees to the HP. (12M)

8. Draw an isosceles triangle a b c of base 40 and altitude 75 with `a' in XY and ab inclined at 45 degrees to XY. The figure is the top view of a triangle whose corners A, B and C are respectively 75mm, 25mm and 50mm above the HP. Determine the true shape of the triangle and the inclination of the side AB with the planes. (12M)

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