I B. Tech I Semester Regular Examinations, January, 2015
ENGINEERING GRAPHICS
(Common to CE, ME, BT)

Time: 3 hours   Max Marks: 70
PART – A
Answer ALL questions
All questions carry equal marks
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5 * 4 = 20 Marks

1). a   Construct a Vernier Scale of 1:40,000, showing kilometres, hectometres and   **[4]**
         decametres and long enough to measure 5 km. Mark distance of 2.34 km on the scale.

   b   A point P is 20 mm below H.P. and lies in the third quadrant. Its shortest distance   **[4]**
         from xy is 40 mm. Draw its projections.

   c   Draw the projections of a circle of 50 mm diameter, resting on the HP on a point the   **[4]**
         circumference and its plane is inclined 45^0 to the HP and parallel to VP.

   d   A pentagonal pyramid of side of base 30 mm and axis 60 mm long is resting on its   **[4]**
         base on the HP with an edge of the base perpendicular to the VP. It is cut by a section
         plane parallel to the HP and passing through the axis at a point 35 mm above the base.
         Draw the projections of the remaining solid.

   e   Draw the isometric projection of a sphere of diameter 50 mm resting centrally on the   **[4]**
         top of a square prism of side of base 60mm and height 30 mm. Draw the isometric
   projection of the arrangement.

PART – B
Answer any FIVE questions. All questions carry equal marks
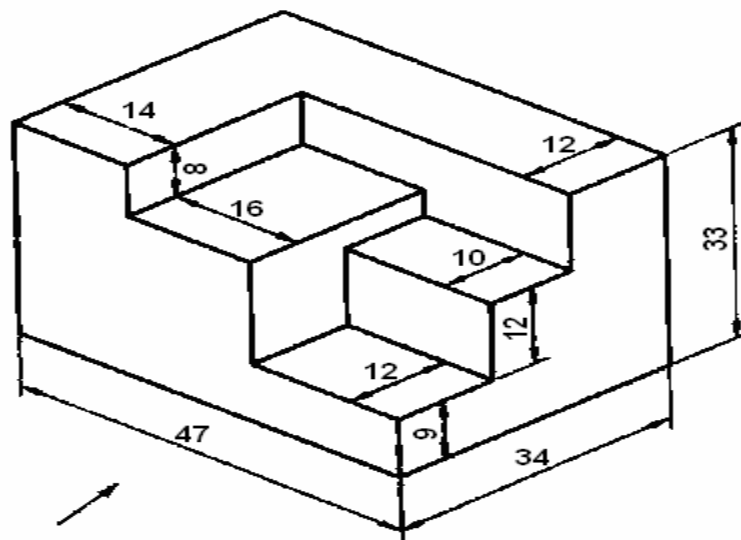*****

5 * 10 = 50 Marks

2.   A Stone is thrown from a 4m high building and at its highest flight; the stone just
       crosses the top of a 10 m high tree from the ground. Trace the path of the projectile, if   **[10]**
       the horizontal distance between the building and the tree is 5m. Find the distance of the
       point from the building where the stone falls on the ground.

                                                                                    [10]
3.   A line AB 120 mm long is inclined at 45^0 to the H.P. and 30^0 to the V.P. Its mid
       point 'M' is in V.P. and 20 mm above H.P. The end A is in the third quadrant, and
       B is in the first quadrant Draw the projections of the line and locate its traces.

4.   A regular pentagon of 30 mm side has one of its corners on V.P. and its surface is   **[10]**
       inclined at 60^0 to V.P. The edge, opposite to the corner on V.P., makes an angle   of 45^0
       with H.P. Draw the projections of the plane

5. A cube of side 40 mm is resting on ground on one of its faces. All the vertical faces of **[10]** the cube are equally inclined to VP. It is cut by a section plane perpendicular to VP and inclined to HP, so that the true shape of the section is a regular hexagon. Draw the projections, sectional top view and true shape of the section.

6. A hexagonal prism of base side 30 mm and height 70 mm is resting on its base on the **[10]** HP with a side of the base perpendicular to the VP. The prism has a cylindrical hole of diameter 40 mm drilled centrally such that the axis of the hole   is perpendicular to the VP. Draw the development of the lateral surface of the prism.

7. Draw the isometric view of the paper weight with spherical knob shown in the figure given bellow **[10]**
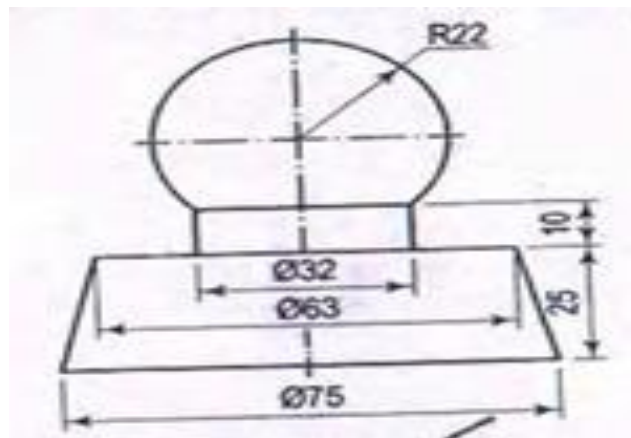
8. Draw the following views of the block shown in figure. All dimensions are in mm. **[10]**
   (a) Front View. (b) Top view and (c) right side view.

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