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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

July / August 2017 Supplementary Semester Examinations

Course: **Elements of Engineering Drawing** Duration: **3 Hours**
Course Code: **14ME1ICEED/14ME2ICEED** Max Marks: **100**
Date: 24.07.2017

Instructions: **Answer FIVE FULL questions, choosing one from each unit.**

UNIT -1

1. a) Draw the orthographic projections of the following points and mention the quadrants in which they are situated. **06**
   i) Point A is 10mm above HP and 15mm in front of VP
   ii) Point B is 20mm above HP and 15mm behind VP
   iii) Point C is 30mm in front of VP and 20mm below HP

   b) A line has its end A 15 mm above HP and 10mm in front of VP. The end B is 55 mm above HP and the line is inclined at 30° to HP. The distance between the end projectors is 50mm. Draw the projections of the line and determine the true length of the line and its inclinations with VP. **14**

OR

2. a) A point lying 20mm below XY line is the top view of three points P, Q and R. P is 25mm below HP. The point Q is 35mm above HP and the point R is on HP. Draw the projections of the three points and state their positions with the reference planes and the quadrants in which they lie. **06**

   b) A room is 5m long, 4m wide and 4.5m high. A fan is suspended vertically from the centre of the ceiling at a distance of 0.75m from it. Find the distance of the fan from any one of the ground corners and the slope of the connecting line with the ground. **14**

UNIT-2

3. A pentagonal lamina of sides 25 mm is having a side both on HP and VP. The corner opposite to the side on which it rests is 15 mm above HP. Draw the top and front views of the lamina. **20**

UNIT-3

4. A cone of base 40mm and axis 70mm long rests on HP such that one of its generators is perpendicular to HP. The axis appears to be inclined at 45^o to VP. Draw the front and top views of the cone. **20**

OR

5. A tetrahedron of 40mm side rests on HP on one of its base edges which is inclined to VP at 30^o. Draw the projections when the base containing the edge on which it rests makes an angle of 50^o to HP.

UNIT-4

6. A square prism of base side 30 mm and axis length 60 mm is resting on HP on its base with all the vertical faces being equally inclined to VP. It is cut by a plane inclined at 60° to HP, perpendicular to VP and passing through a point on the axis at a distance 50 mm from the base. Draw the development of the lower portion of the prism. **20**

UNIT-5

7 A compound solid consists of a sphere, frustum of cone and hexagonal prism. The frustum of the cone is resting on the top of the prism. The frustum of the cone has bottom base diameter 50mm, top face diameter 30mm and length of axis 80mm. The sides of the hexagonal prism are 35mm and axis 20mm long. A sphere of diameter 40mm is placed centrally on the top face of the frustum. The solids are coaxial. Draw the isometric projection of the combination of solids. **20**

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