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BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

December 2016 Semester End Main Examinations

Course: Elements of Engineering Drawing — Duration: **3 hrs**
Course Code: **14ME1ICEED** — Max Marks: **100**

Date: 10.12.2016

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

UNIT 1

1 a) A point A is 15 mm above HP and 20 mm in front of VP. Another point B is 25 mm behind VP and 40 mm below HP. Draw the projections of A and B,keeping the distance between the projectors equal to 90 mm. Draw straight lines, joining (i) the top views and (ii)the front views. **05**

b) A line AB has its end A 20mm above HP and 25mm in front of VP. It is inclined at 30^0 to HP and 40^0 to VP. The distance between end projectors when measured parallel to the line of intersection of HP and VP is 60mm. Draw the projections of line and determine, **15**

i. the true length of line
ii. the distance of end B from HP and VP.

OR

2 a) A point A is 20 mm above HP and in the first quadrant. Its shortest distance from the reference line XY is 40 mm. Draw the projections of the point and determine its distance from VP **05**

b) Draw the projections of a line PQ of 65 mm long which is inclined at 45^0 to HP and 30^0 to VP. P is on HP and Q is on VP. It is rotated about Q such that the top view of the line is rotated through 20^0 from the previous position towards VP. Determine the inclination of the line with VP after rotation. **15**

UNIT 2

3 A pentagonal lamina of side 30mm is resting on one of its corners on HP and the side opposite to this corner is 20mm above HP and inclined at 40^0 to VP. Draw the projections of lamina and determine the inclination of the surface with HP. **20**

UNIT 3

4 A hexagonal pyramid of side of base 30mm and height 65mm rests on one of its triangular faces on HP such that the axis of pyramid is parallel to the profile plane. Draw projections when the vertex of pyramid is nearer to the observer. Measure the distance of the highest edge of base from HP. **20**

OR

5 A cone of diameter of base 40 mm and height 60 mm rests on a point of its rim on HP such that the end generator through the point on which it rests is normal to HP. Draw its projection when the top view of axis is inclined at 20^0 with VP.The base of the cone is nearer to the observer than its apex. **20**

UNIT 4

6 A pentagonal pyramid of 30mm edge of base and 55mm high vertically rests with one of its base edges parallel to VP and nearer to it. It is cut by two section planes, both being perpendicular to VP. One of the section planes is horizontal and cuts the portion of the pyramid on the left of the axis at a height of 20mm above the base of the pyramid. The other section plane inclined at 45^0 to HP cuts the portion of the pyramid to the right of the axis passing through a point on it 20mm above the base and leans upwards. Draw the development of the lateral surfaces of the lower portion of the pyramid. **20**

UNIT 5

7 Figure 7.1 shows the front view of three solids a cylinder, a square prism and a cut sphere placed one over the other with their axes co-axial. Draw the isometric projection of the combined solid **20**

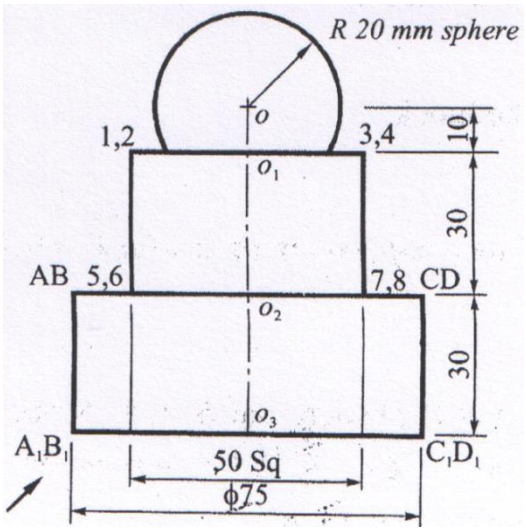

Figure 7.1

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