

Wednesday, June 24, 2009

RGPV BE105 Engineering Drawing June 2009 Question Paper

**BE (First/Second) Semester Exam**

(Common to all Branches)

Time: 3 hrs

Maximum Marks: 100

Minimum Marks: 35

**Note:** Attempt five questions in all. Select ONE question from each unit.  
Assume suitable missing/misprint data (if any).

**Unit-I**

1. a) Construct a scale of 1:60 to show metres and decimetres and long enough to measure upto 6 metres. **8 marks**

Ans: Refer problem 4.1 page 4.4 of ED - Basant Agrawal, TMH.

1. b) The major axis of an ellipse are 90 mm and minor axis is 60 mm. Find the loci and draw the ellipse by 'arcs of circles' method. **8 marks**

Ans: Refer problem 5.3 Page 5.8 of ED - Basant Agrawal, TMH.

OR

2. a) Draw a diagonal scale of R.F. 3:100 showing metres, decimetres and centimetres and to measure upto 5 metres. Show the length of 3.69 metres on it. **8 marks**

Ans: Refer problem 4.11 Page 4.9 of ED - Basant Agrawal, TMH.

2. b) A circle of 50 mm diameter rolls along a straight line without slipping. Draw the curve traced by a point P on the circumference of the rolling curve for one complete revolution. Name the curve also. **8 marks**

Ans: Refer problem 6.1 Page 6.1 of ED - Basant Agrawal, TMH.

**Unit-II**

3. A line AB inclined has its end A 12 mm above HP and 10 mm in front of VP. The end B is 50 mm above the HP and the line is inclined at  $30^\circ$  to the HP. The distance between the end projectors of the line B is 50 mm. Draw the projections of the line, find its inclination with VP and locate its traces. **16 marks**

Ans: Refer problem 9.31 Page 9.33 of ED - Basant Agrawal, TMH.

OR

4. The top view of a 80 mm long line AB measures 65 mm, while the length of its front view is 55 mm. Its one end A is in the HP and 12 mm in front of the VP. Draw the projections of AB and determine its inclination with the HP and VP. **16 marks**

Ans: Refer problem 9.26 Page 9.29 of ED - Basant Agrawal, TMH.

**Unit-III**

5. a) A regular pentagon of 25 mm side has one side on the ground. Its plane is inclined at  $45^\circ$  to the HP and perpendicular to the VP. Draw its projections and show its traces. **8 marks**

Ans: Refer problem 10.4 Page 10.5 of ED - Basant Agrawal, TMH.

5. b) A right circular cone diameter of base 50 mm and axis 65 mm long rests on its base rim on HP with its axis parallel to VP and one of the elements perpendicular to HP. Draw the projections of the cone. **8 marks**

Ans: Similar problem 11.13 Page 11.17 of ED - Basant Agrawal, TMH.

OR

6. (a) A circular disc of 40 mm diameter and negligible thickness rests on HP on its rim and makes an angle of  $45^\circ$  to it. One of its diameters is inclined to the VP at  $30^\circ$ . Draw its projections. **8 marks**

Ans: Refer problem 10.20b Page 10.22 of ED - Basant Agrawal, TMH.

6. (b) A hexagonal pyramid, base 25 mm side and axis 50 mm long has an edge of its base on the ground. Its axis is inclined at  $40^\circ$  to the ground and parallel to VP. Draw its projections. **8 marks**

Ans: Refer problem 6 Page 11.28 of ED - Basant Agrawal, TMH.

#### Unit-IV

7. a) A cube of 30 mm long edges is resting on the HP on one of its faces with a vertical face inclined at  $30^\circ$  to the VP. It is cut by a section plane parallel to the VP and 10 mm away from the axis and further away from the VP. Draw the sectional front view and top view of the cube. **8 marks**

Ans: Refer problem 12.3 Page 12.6 of ED - Basant Agrawal, TMH.

7. b) A right circular cylinder, diameter of base 40 mm and height 60 mm is truncated at its two ends by two different section planes as shown in fig. 1. Develop the lateral surface of the truncated cylinder. **8 marks**

Ans: Refer problem 13.4 Page 13.5 of ED - Basant Agrawal, TMH.

OR

8. (a) A right regular square pyramid edge of base 35 mm and height 50 mm rests on its base on HP with its base edges equally inclined to the VP. A section plane perpendicular to the VP and inclined at  $35^\circ$ , cuts the pyramid bisecting its axis. Draw the front view, sectional top view and true shape of the section of the truncated pyramid. **8 marks**

Ans: Refer problem 12.31b Page 12.31 of ED - Basant Agrawal, TMH.

8. b) Draw the development of the lateral surface of the truncated cone shown in fig. 2. **8 marks**

Ans: Refer problem 13.7 Page 13.7 of ED - Basant Agrawal, TMH.

#### Unit-V

9. a) What is CAD? List out five advantages of CAD as compared to conventional drafting. **4 marks**

Ans: Refer problem 1 Page 18.44 of ED - Basant Agrawal, TMH.

9. b) State two methods of drawing an arc in AutoCAD. **4 marks**

Ans: Refer problem 19 Page 18.44 of ED - Basant Agrawal, TMH.

9. c) A cube 25 mm edge is placed centrally on the top of another square block of 40 mm edge and 15 mm thick. Draw the isometric drawing of two solids. **8 marks**

Ans: Refer problem 1 Page 18.44, ED - Basant Agrawal, TMH.

OR

10. a) What is a CAD software? Name any two popular software used for drafting. **4 marks**

Ans: Refer problem 2 Page 18.44 of ED - Basant Agrawal, TMH.

10. b) Name and explain any four edit commands used in AutoCAD. 4 marks

Ans: Refer Page 18.26 of ED - Basant Agrawal, TMH.

10. c) Draw the isometric view of the pentagonal pramid shown in fig. 3. 8 marks

Ans: Refer problem 15.20 Page 15.16 of ED - Basant Agrawal, TMH.

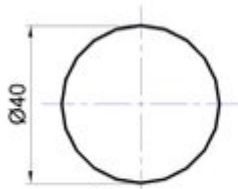
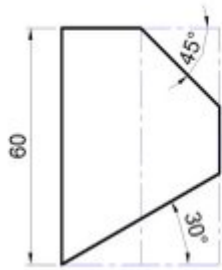


Fig 1

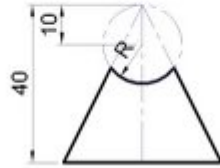


Fig 2

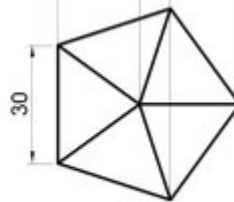


Fig 3