BE-105

B. E. (First/Second Semester), EXAMINATION, JUNE-2012

(Grading System)

(Common for all Branches)

Engineering Graphics

Time : Three Hours, Maximum Marks : 70, Minimum Pass Marks : 22 (D Grade)

Note : Attempt five questions selecting one from each unit. Assume suitable missing/misprint data, if any. All questions carry equal Marks.

UNIT - I

1.(a) A rectangular plot of 100 square kilometers is represented on a certain map by a similar rectangular area of 4 square centimeters. Draw a scale to read 50 kilometers and marks a distance of 43 kilometers on it.

(b) Draw an epicycloids of circle of 40 mm dia which rolls outside on another circle of 120 mm diameter for one revolution clockwise.

OR

2.(a) Construct the scale of chords, showing 5^0 divisions. Also setoff an angle of 55^0 using this scale.

(b) A plot of ground is in the shape of a parallelogram 120m X 80m, the angle between the sides is 60^0. Inscribe an elliptical flower led in it.

UNIT - II

3. A line PQ is in first quadrant. It's end P and Q are 15 mm and 45 mm in front of the V.P. respectively. The distance between the end projectors is 55 mm . The line is inclined at 30^0 to the H.P. and it's H.T. is 8 mm above the XY line. Draw the projections of the line PQ and find it's true length and locate it's V.T.

OR

4. A line LM 70 mm long has it's end L 10 mm above H.P. and 15 mm in front of V.P. It's top view and front view measures 60 mm and 40 mm respectively. Draw the projections of the line and determine it's inclinations with H.P. and V.P.

UNIT - III

5.(a) A square ABCD of 50 mm side has it's corner A in the H.P. it's diagonal AC inclined at 30^0 to the H.P. and the diagonal BD inclined at 45^0 to the V.P. and parallel to H.P. Draw it's projections.

(b) A pentagonal pyramid, side of base 25 mm and length of axis 50 mm lies on one of it's slant edges with it's axis parallel to V.P. Draw the projections of the pyramid.

OR

6. A right regular pentagonal prism, side of base 30 mm and height 75 mm rests on one of it's base corners on H.P. such that it's long edge containing the corner is inclined to H.P. at 60^0 and side of the base, opposite the corner, inclined at 30^0 to the V.P. Draw it's projections keeping the vertex towards the V.P.

UNIT – IV

7. A right regular pentagonal pyramid, side of base 25 mm and length of axis 50 m lies on one of it's triangular faces on H.P. with it's axis parallel to V.P. A section plane perpendicular to the H.P. and inclined to the V.P. at 30^0 cuts the pyramid bisecting it's axis. Draw it's top view, sectional front view and trace shape of the section.

OR

8. A right circular cone of base 60 mm diameter and 60 mm height stands vertically with it's base on H.P. A semi-circular hole of 36 mm diameter is cut through the cone such that the axis of the hole is parallel to H.P., perpendicular to V.P. and intersecting the axis of the cone 20 mm above the base. The flat surface of the hole is parallel to H.P. and perpendicular to the V.P. Draw the development of the lateral surface of the cone with hole.

UNIT – V

9. Draw the isometric view of a funnel consisting of a cylinder and a frustum of a cone. The diameter of the cylinder is 100 mm and the top diameter of the frustum is 68 mm. The height of the frustum and cylinder are each equal to 40 mm.

OR

10.(a) Define CAD and list of three advantages of it.

(b) What is an editing command. Explain the functions of the following commands :

(i) Move (ii) Mirror

(iii) Hatch (iv) Offset

(v) Copy

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