Total No. of Questions : 10] [Total No. of Printed Pages : 3

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BE–105(GS)

B. E. (First/Second Semester) EXAMINATION, June, 2011

(Common for all Branches)

ENGINEERING GRAPHICS

Time : Three Hours

Maximum Marks : 70

Minimum Pass Marks : 22 (D Grade)

Note : Attempt *five* questions selecting *one* question from each Unit. Assume suitable missing/misprint data (if any). Due credit shall be given for neat work.

Unit–I

1. (a) Construct a diagonal scale of R. F. $= \frac{1}{6250}$ to read upto 1 kilometre and to read metre on it. Show a length of 653 m on it. 7

   (b) A fixed point is 75 mm from a fixed straight line. Draw the locus of point P moving such a way that its distance from the fixed straight line is equal to it's distance from the fixed point. Name the curve. 7

Or

2. (a) Construct a scale of chords showing 5° divisions and with its aid set off angles of 25°, 40°. 7

   (b) Construct a hypocycloid, rolling circle 50 mm dia. and directing circle 175 mm dia. 7

P. T. O.

Unit – II

3. A line PQ, 100 mm long is inclined at 45° to the H. P. and at 30° to the V. P. Its end P is in the second quadrant and Q is in fourth quadrant. A point R on PQ, 40 mm from P is in both the planes. Draw the projection of PQ. 14

Or

4. The distance between the projectors of two ends of a straight line is 40 mm. One end is 15 mm above H.P. and 10 mm in front of V. P. The other end is 40 mm above H.P. and 40 mm in front of V. P. Find the true length and true inclinations of the line. 14

Unit – III

5. (a) Draw the projections of a regular hexagon of 40 mm side, having its surface inclined at 30 to H.P. and a side parallel to the H.P. and inclined at 60° to the V.P. 7

   (b) A hexagonal prism base 30 mm side and axis 75 mm long has an edge of the base parallel to the H.P. and inclined at 45° to V.P. Its axis makes an angle of 60 with the H.P. Draw its projectios. 7

Or

6. (a) A semi circular plate of 80 mm diameter has its straight edge in the V.P. and inclined at 45° to the H.P. The surface of the plate makes an angle of 30° to the H.P. Draw its projection. 7

   (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 30° to the ground and parallel to the V.P. Draw its projections. 7

Unit – IV

7. (a) A hexagonal pyramid, base side 25 mm and axis 50 mm long rests with its base in H.P. such that one of the edges of its base is perpendicular to the V.P. It is cut by a section plane perpendicular to H.P. and inclined at 45° to V.P. and passing through the pyramid at a distance of 10 mm from the axis. Draw the sectional front view and top view of the pyramid. 7

   (b) A hexagonal prism edge of base 20 mm side and axis 50 mm long rests with its base on H.P. such that its rectangular faces is parallel to V.P. It is cut by a plane perpendicular to V.P. inclined at 45° to H.P. and passing through the right corner of the top face of the prism. Draw the sectional top view and front view of the object. 7

Or

8. A pentagonal pyramid, base 30 mm and height 52 mm stands with its base on H.P. and an edge of the base is parallel to V.P. It is cut by a plane perpendicular to V.P. inclined at 40° to H.P. and passing through a point on the axis 32 mm above the base. Draw the sectional top view and develop the lateral surface of the truncated pyramid. 14

Unit – V

9. On a circular disc of 80 mm dia. and 15 mm thick, a cube of side 40 mm has been placed centrally. Draw the orthographic projection and isometric view of the disc and cube. 14

Or

10. (a) State *four* advantages of computer aided drafting. 4

    (b) State and explain any *five* edit commands used in CAD. 10