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F. E. (Semester – I) Phase IV Examination, May/June 2015

Engineering Graphics – I

(2012 Pattern)

Time: 2 Hrs.]

[Max. Marks: 50

Instructions:

1. Use only half imperial size drawing sheet as answer book.
2. Retain all construction lines.
3. Assume suitable data if necessary.

Q.1 The point A of line AB is 15 mm above HP and is in VP. The front view and top view of line AB makes 40° and 35° with XY respectively. Draw the projections, if the projector distance between the end points of the line is 65 mm. Find the true length of line and true inclinations made by the line. Locate the traces. **12**

OR

Q.2 The point P of line PQ is in HP and 15 mm in front of VP. The top view of line PQ makes 40° with XY, while its plan measures 80 mm. Draw the projections if the true length of line is 100 mm. Find the true inclinations made by the line and locate the traces. **12**

Q.3 A circular lamina of diameter 60 mm is resting in HP on one of its circumferential point. Then, its surface is inclined to HP at an angle of 45° . Draw the projections of lamina, if the top view of a diameter line passing through the resting point makes 45° with VP. Find the true inclination made by the lamina with VP. **13**

OR

Q.4 A triangle ABC [AB = 40 mm, BC = 60 mm and angle ABC = 90°] is resting in VP on its side AB. Then its surface is inclined to VP in such a way that the point C is 40 mm in front of VP. Draw the projections if the resting side is inclined at an angle of 30° with HP. Find the inclination made by the plane with HP. **13**

Q.5 A cylinder of base diameter 60 mm and axis height 80 mm is resting in HP. Then, it is inclined to HP so that the generator passing through resting point is inclined to HP at an angle of 45°. Draw the projections, if the plane containing the axis makes 45° with VP. **13**

OR

Q.6 A triangular prism, base side 50 mm and axis height 75 mm, is resting in HP on one of its base side. Then, it is inclined to HP in such a way that the base surface is inclined at an angle of 50° with HP. Draw the projections of solid, if the resting side is inclined at an angle of 45° with VP. **13**

Q.7 **A** Draw a parabola by focus-directrix method, if the distance of focus from the directrix is 70 mm. **6**

B Draw a helix of one revolution to a cylinder of base diameter 60 mm and axis height 100 mm. **6**

OR

Q.8 **A** Draw an ellipse by rectangular method, if the major and minor axes are 100 mm and 60 mm respectively. **6**

B Draw a cycloid of rolling circle of diameter 42 mm. **6**