

2014

B.E. (Mechanical Engineering) Second Semester
ESC-X04: Engineering Graphics

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

- Q1. (a) What is the use of squared graph paper and isometric graph paper? 2*5=10
(b) What care should be taken while drawing centre lines?
(c) Differentiate between aligned and unidirectional system of dimensioning.
(d) What is orthographic projection system?
(e) How will you draw a spline in AutoCAD?

Section A

- Q2. (a) A point G is 30 mm below HP and is situated in third quadrant. Its shortest distance from the reference line is 50 mm. Draw its projections and find its distance from VP. 5
(b) Top view of a 75 mm long line AB measures 50 mm. End A is in H.P. and 50 mm in front of V.P., while end B is 15 mm in front of V.P. and is above H.P. Draw the projections of the line and find its angle with H.P. and V.P. 5
- Q3. A rectangle ABCD of size 35 mm × 20 mm is inclined to H.P. at an angle of 30°. Its shorter side AB is parallel to H.P. and makes an angle of 45° with V.P. Draw the projections of the lamina. 10
- Q4. A right circular cone of base diameter 50 mm and height 60 mm lies on H.P. on one of its elements, with its axis parallel to V.P. Draw the projections of the cone. 10

Section B

- Q5. A right regular cone of base diameter 40 mm and height 50 mm rests on its base on H.P. A section plane perpendicular to V.P. and inclined at 45° to H.P. cuts the cone bisecting its axis. Develop the lateral surface of the truncated cone. 10
- Q6. A right circular cylinder of ϕ 30 mm base and height 40 mm rests centrally on the top of a square block of 50 mm side and 20 mm thick. Draw the isometric projection of the solids. 10
- Q7. (a) Discuss various uses of auxiliary planes. 5
(b) Discuss the procedure to find true length of a line inclined to both V.P. and H.P. using auxiliary plane by taking a suitable example. (Assume suitable distance of end points of line from the principal planes) 5

x-x-x