Exam. Code: 0906
Sub. Code: 6254

2054

B.E. (Mechanical Engineering)-Second Semester

ESC-X04: Engineering Graphics

(Common with BIO, CSE, MEC) & IT

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) When will the top view of a straight line show the true length of line? 2*5=10

(b) What is an oblique plane?

(c) What is solid of revolution? Give examples.

(d) Define apparent shape of a section.

(e) Specify any two areas of applications of development of surfaces in engineering.

Section A

Q2. (a) Discuss the utility of 'Extend' and 'Trim' command in AutoCAD. 3

(b) A straight line CD, inclined at 25° to HP, measures 60 mm in top view. The end C is in first quadrant and 25 mm and 10 mm from HP and VP respectively, while end D is equidistant from both the reference planes. Draw the projections of the line; find its true length and true inclination with VP. 7

Q3. A square plate ABCD of side 45 mm rests with one of its edges on HP and its surface inclined at 40° to HP. Draw the projections of the lamina, when the resting edge is also inclined at an angle of 30° to VP. 10

Q4. A pentagon prism of base side 30 mm and axis 60 mm long is resting on HP on one of its rectangular faces with its axis inclined at 40° to VP. Draw its projections. 10

Section B

Q5. A hexagonal pyramid, base edge 30 mm and height 60 mm rests on its base on HP with a side of the base parallel to VP. It is cut by a section plane inclined at 30° to HP and perpendicular to VP and is bisecting its axis. Draw the sectional top view and true shape of the section. 10

Q6. Draw the development of lower portion of a cylinder of ϕ 40 mm base and height 70 mm when sectioned by a plane inclined at 30° to HP and perpendicular to VP and bisecting its axis. 10

Q7. A square pyramid of side 30 mm and axis length 50 mm is centrally placed on the top of a cube of side 50 mm. Draw the isometric projection of the solids. 10

x-x-x