

I B. Tech II Semester Supplementary Examinations, July/August- 2021
ENGINEERING DRAWING

(Com. to CE, ME, CSE, PCE, IT, Chem. E, Aero E, Auto E, Min E, Pet E, Metal E & Textile Engg)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is Compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART -A

1. a) Construct a regular heptagon of side 40mm. (3M)
- b) Draw the projections of the following points on the same ground line, keeping the Projectors 25 mm apart. (4M)
 - (i) Point A, in the third quadrant and 25 mm from each plane
 - (ii) Point B, 30 mm below the HP and 40 mm in front of the VP.
- c) Draw the projection of a straight line 70mm long when it is perpendicular to the VP and a point in the VP is 20mm above the HP. (4M)
- d) Draw the projection of a 60X40 plane parallel to the HP and perpendicular to the VP and its longest side is 30° to the VP. (4M)
- e) Draw any four examples for regular polyhedron? Assume suitable Dimension. (4M)
- f) When the top view of a solid is a hexagon with its side 40mm, transform it into corresponding isometric view. (3M)

PART -B

2. a) The actual length of 300m is represented by a line of 10cm on a drawing. Draw a vernier scale to read up to 500m. Mark on it a length of 367m. (8M)
- b) Draw an ellipse in a parallelogram having sides 15cm and 9 cm long and an included angle of 60 degrees. (8M)
3. a) A point A is 15mm above the HP and 25mm in front of the VP. Another point B is 40mm below HP and 50mm behind VP. Draw the projections of these points taking the distance between the end projectors as 50mm. Also find the length of the line joining their plans and elevations. (8M)
- b) The length of the plan of a straight line AB is 45mm and length of the elevation is 65mm. The plan AB is inclined at 30° to XY line. Draw the projections of the line AB, assuming point A to be situated on the HP and 30mm in front of the VP. Also find the true length and inclinations with the HP and the VP. (8M)
4. a) A line CD 60mm long has its end 'C' in both H.P and VP It is inclined at 30° to the H.P and 45° to the VP Draw the projections. (8M)
- b) A 80 mm long line AB is inclined at 45° to the HP and 30° to the VP. Its end A is in the HP and 40 mm in front of the VP. Draw its projections keeping the end B in the fourth quadrant. (8M)
5. a) Draw the projections of a pentagonal prism, base 25 mm side and axis 50 mm long resting on one of its rectangular faces on the HP, with the axis inclined at 45 degrees to the VP. (8M)

- b) A square pyramid, base 40mm side and axis 90mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of 45° with the VP. Draw its projections. (8M)
6. a) A Hexagonal pyramid of the base 30 mm and axis 65 mm long is resting on an edge of the base in the HP, and makes an angle of 45° with the VP, and axis of the pyramid makes an angle of 30° with HP. Draw the projections of pyramid. (8M)
- b) A hexagonal prism side of base 35 mm and height 75 mm is resting on one of its corners on the HP with a longer edge containing that corner inclined at 60° to the HP and a rectangular face parallel to the VP A horizontal section plane cuts the prism in two equal halves. (8M)
- (i) Draw the front view and sectional top view of the cut prism.
- (ii) Draw another top view on the auxiliary inclined plane which makes an angle of 45° with the HP.
7. Draw the isometric view of a square prism, with side of base 40mm and length of axis 70mm, when its axis is (16M)
- (a) Vertical and
- (b) Horizontal.