Roll No. ..... Total Pages : 3

BT–1/D-24 **41042**

ENGINEERING GRAPHICS & DESIGN

Paper–ES–109A

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT–I

1. Construct a Hyperbola with its foci 70 mm apart and the major axis (distance between the vertices) as 40 mm. Draw a tangent to the curve at a point 20 mm from the focus. 15

2. On a plan, a line of 22 cm long represents a distance of 440 metres. Draw a diagonal scale for the plan to read up to a single metre. Measure and mark a distance of 187 m on the scale. 15

UNIT–II

3. A Line PQ 108 mm long has its Plan and Elevation lengths 60 mm and 90 mm respectively. One end of the line P is in HP while the other end is in VP. Draw its projections. 15

4. A Pentagonal Pyramid of base side 30 mm and axis length 60 mm is resting on HP on one of its base corners with its axis parallel to VP. Draw its projections when the slant edge containing the resting corner is vertical. 15

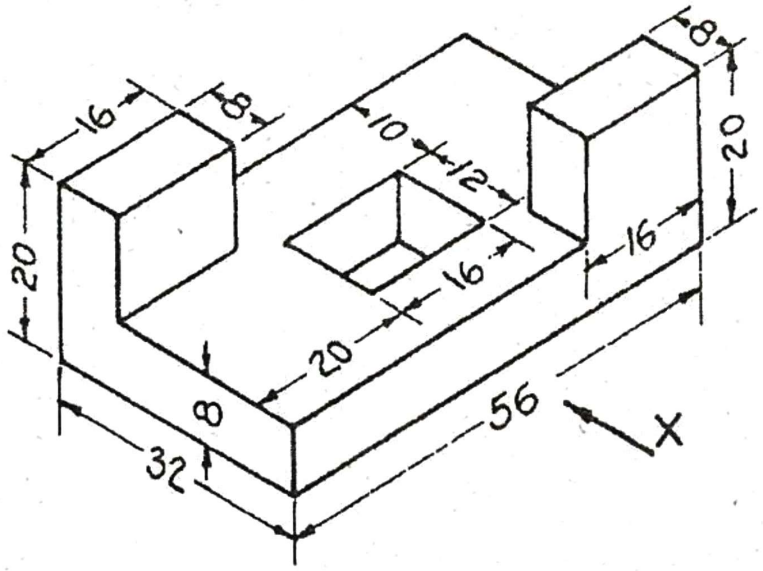
UNIT–III

5. A Pentagonal Pyramid, side of base 30 mm and axis 65 mm long, has its base lying on horizontal plane and an edge of the base parallel to the VP. A horizontal section plane cuts it at a distance of 25 mm above the base. Draw its front view and sectional top view. 15

6. A Hexagonal Pyramid of side 30 mm and altitude 60 mm is resting on HP on its base with two of the base sides perpendicular to VP. The Pyramid is cut by a plane inclined at 30° to HP and perpendicular to VP. The pyramid is cut by a plane inclined at 30° to HP and perpendicular to VP and is bisecting the axis. Draw the development of the remaining portion of the pyramid. 15

UNIT–IV

7. Draw the front view, top view and side view of the following object : 15



8. Draw the three orthographic views of Hexagonal Nut. 15