Roll No. ....   Total Pages : 3

BT-2/M-22   **42039**

ENGINEERING GRAPHICS AND DRAWING

Paper–ES-109A

Time Allowed : 3 Hours]   [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. Unless stated otherwise, the symbols have their usual meaning in context with the subject. Assume suitably and state, additional data required, if any.

UNIT–I

1. Draw the orthographic projections of the following points.   15

    (a) Point P is 30 mm above HP and 40 mm in front of VP.

    (b) Point Q is 25 mm above HP and 35 mm behind VP.

    (c) Point R is 32 mm below HP and 45 mm behind VP.

    (d) Point S is 35 mm below HP and 42 mm in front of VP.

    (e) Point T is in HP and 30 mm is behind VP.

    (f) Point U is in VP and 40 mm below HP.

    (g) Point V is in VP and 35 mm above HP.

    (h) Point W is in HP and 48 mm in front of VP.

2. A line PQ is in first quadrant. Its ends P and Q are 15 mm and 45 mm in front of the VP, respectively. The distance between the end projectors is 55 mm. The line is inclined at 30° to the HP and its HT is 8 mm above the XY line. Draw the projections of the line PQ and find its TL and locate its VT.   15

UNIT–II

3. A regular hexagonal lamina, 20 mm, rests on HP on one of its sides such that it is perpendicular to the HP and inclined to VP at 30°. Draw its projections, in first angle, when the corner nearest to the VP is 15 mm away from it.   15

4. A right regular pentagonal prism, edge of base 25 mm and height 55 mm, rests on an edge of its base in HP such that its axis is parallel to VP and (i) its base makes an angle 45° to HP, (ii) one of its rectangular faces is perpendicular to VP and inclined to HP at 45°. Draw the projections of the prism held in the given position.   15

UNIT–III

5. A cylinder of 40 mm diameter, 60 mm height and having its axis vertical, is cut by a section plane, perpendicular to the VP, inclined at 45° to HP and intersecting the axis 32 mm above the base. Draw its front view, sectional top view, sectional side view and true shape of the section.   15

6. A right circular cone, diameter of base 50 mm and height 62 mm, lies on HP on one of its elements, with its axis parallel to VP. Draw the projections of the cone.   15

UNIT–IV

7. Draw the top, front and side views of the following object: 15
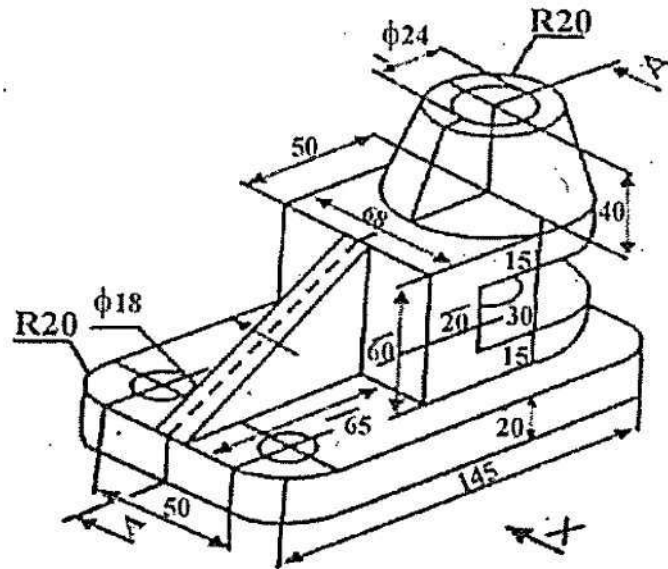
8. Explain in detail, the following commands used in AUTOCAD: 15

   (a) Fillet.

   (b) Chamfer.

   (c) Trim.