Roll No. | | | | | | | | | | |

**ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)**

**B.E. /B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APR / MAY 2024**

Common to all Branches
Semester 1 and 2

**GE7152 - ENGINEERING GRAPHICS**

(Regulation 2015 / 2019)

Time:3 hrs Max. Marks: 100

The main learning objective of this course is to prepare the students for:

CO1 Draw free hand sketching of basic geometrical shapes and multiple views of objects.
CO2 Draw orthographic projections of lines and planes
CO3 Draw orthographic projections of solids
CO4 Draw development of the surfaces of objects
CO5 Draw isometric and perspective views of simple solids.

**BL – Bloom's Taxonomy Levels**

(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

**PART- A (5x20=100Marks)**

(Answer all Questions)

| Q. No. | Questions | Marks | CO | BL |
|---|---|---|---|---|
| 1a) | Construct a parabola when the distance between the focus and diretrix is 35 mm. Draw a tangent and normal to the curve at any point on it. | 20 | CO1 | L2 |
| | OR | | | |
| 1.b) | Draw the top view front view and right side view of the component shown in figure 1. Mark the dimensions. | 20 | CO2 | L2 |
| 2a) | A line 80 mm long has on end P is 25 mm above HP and 30 mm in front of VP. The other end Q is 60 mm above HP and 65 mm in front of VP. Draw the projections of the line and find its true inclination with HP and VP. | 20 | CO2 | L5 |
| | OR | | | |
| 2b) | A square lamina with 40 mm sides rests on the HP with one of its side inclined at $45^0$ to the VP while the surface of the lamina is inclined at $45^0$ to the HP. Draw its projections. | 20 | CO2 | L5 |
| 3a) | A pentagonal prism with base side 35 mm and axis length 60 mm rests on the HP with one of its base edge inclined at $30^0$ to VP. The axis of the solid is inclined at $45^0$ to the HP. Draw the projections of the solid. | 20 | CO3 | L4 |
| | OR | | | |
| 3b) | A hexagonal pyramid with base side 30 mm and axis length 55 mm rests on the HP such that two of its adjacent slant faces are equally inclined to HP. Draw the projections of the pyramid when | 20 | CO3 | L4 |

the apex and the centre of the base of the pyramid is 30 mm and 45 mm in front of VP respectively while the axis is inclined at $40^0$ to the HP.

| | | | | |
|---|---|---|---|---|
| 4a) | A cylinder of 50 mm diameter and axis length 65 mm is lying on the HP on one of its generators. The solid is cut by a section plane bisecting the axis and making an inclination of $45^0$ with the HP and perpendicular to VP. Draw the sectional view of the solid and show the true shape of the sectioned part. | **20** | CO4 | L3 |
| | OR | | | |
| 4b) | A hexagonal pyramid of base side 35 mm and axis length 70 mm is cut by a section plane inclined at $45^0$ and passing through the axis at a distance of 35 mm from the apex. Draw the development of the lateral surface of the lower half of the truncated pyramid. | **20** | CO4 | L3 |
| 5a) | A cube of sides 40 mm is resting on a cylindrical slab of 80 mm diameter and 20 mm thickness with their axis aligned. Draw the isometric view of the combined solid. | **20** | CO5 | L5 |
| | OR | | | |
| 5b) | A cube of 40 mm side is resting on the ground with two of its vertical faces equally inclined to the picture plane. The axis of the cube is 40 mm to the left of the station point. The station point is 60 mm above the ground and 50 mm in front of the picture plane. The corner of the cube is 15 mm behind picture plane. Draw the perspective projection of the solid. | **20** | CO5 | L5 |

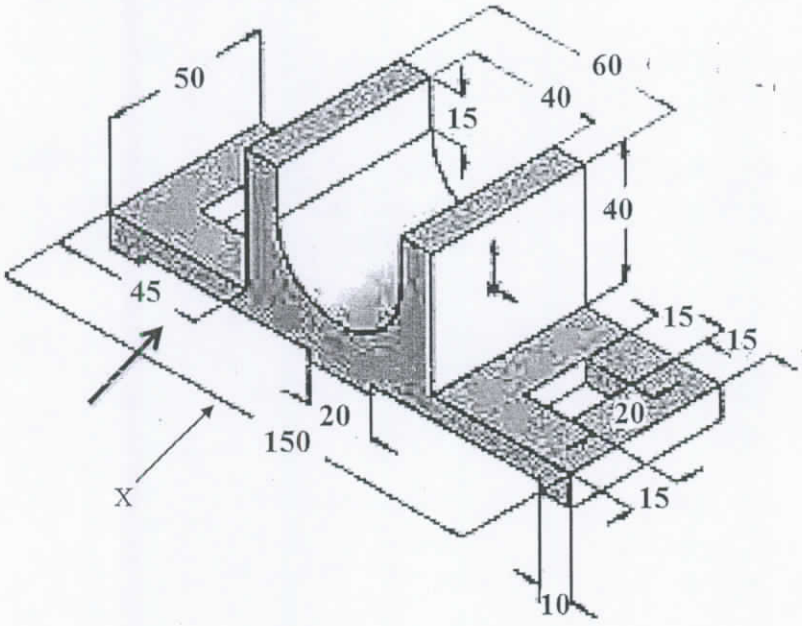


**Figure 1**