BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

FIRST SEMESTER 2023–2024 BITS F110 (ENGINEERING GRAPHICS)



MID-SEMESTER EXAM

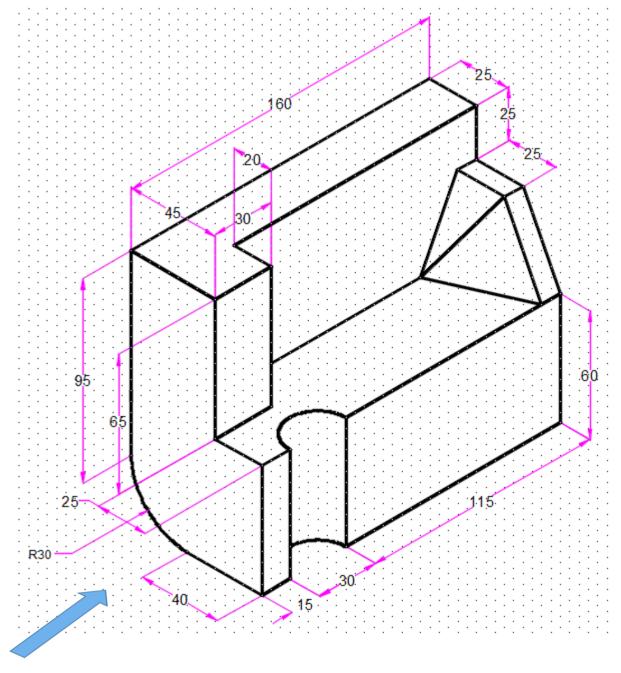
Duration: 60 minutes Max Marks: 50

Name: ID: Room No: PC No:

- Save your work frequently. Use blank space at the back side of the page for rough work.
- COLOR CODE: Visible lines → White/Black (Continuous), Hidden lines → Red (Hidden2), Center lines → Blue (Center), Construction lines → Cyan (Continuous), Locus lines → Yellow (Continuous), Dimension and extension lines → Magenta (Continuous), Dimension text → White/Black
- Save the .dwg file as your ID number only.
- Write your name, ID number, Room number and PC No on the top of the sheet.

Q1. The isometric drawing of an object is given in the figure below. Draw the **front**, **top and side** orthographic views in the third angle projection system with proper alignment. **Arrow indicates front direction**. (1 grid spacing = 5 units)





Q2. The point **A** of a line segment **AB** is 45 mm above H.P. and 50 mm in front of V.P. Point **B** is 25 mm behind V.P. and 30 mm below H.P. Draw the orthographic projections of line **AB** and find its true length and true inclination with H.P. and V.P. if the distance between end projectors of the line **AB** is 80 mm. The point B is towards left side to the point A when seen by the observer. Mark all relevant true and apparent dimensions (both linear and angular dimensions with 2 decimal place precision) in the drawing.

[15]

Q3. A regular hexagonal lamina **ABCDEF**, 60 mm side has a corner D in the HP. Its surface is inclined at 30^{0} (CCW) to the HP and the top view of the diagonal through the corner which is in the HP, makes an angle of 20^{0} (CW) with the VP. Draw its projections of the plane if the corner D is towards right of the observer. [**Third Angle**]

[10]