



Comprehensive Exam

Duration: 90 minutes

Max Marks: 80

Name:

ID:

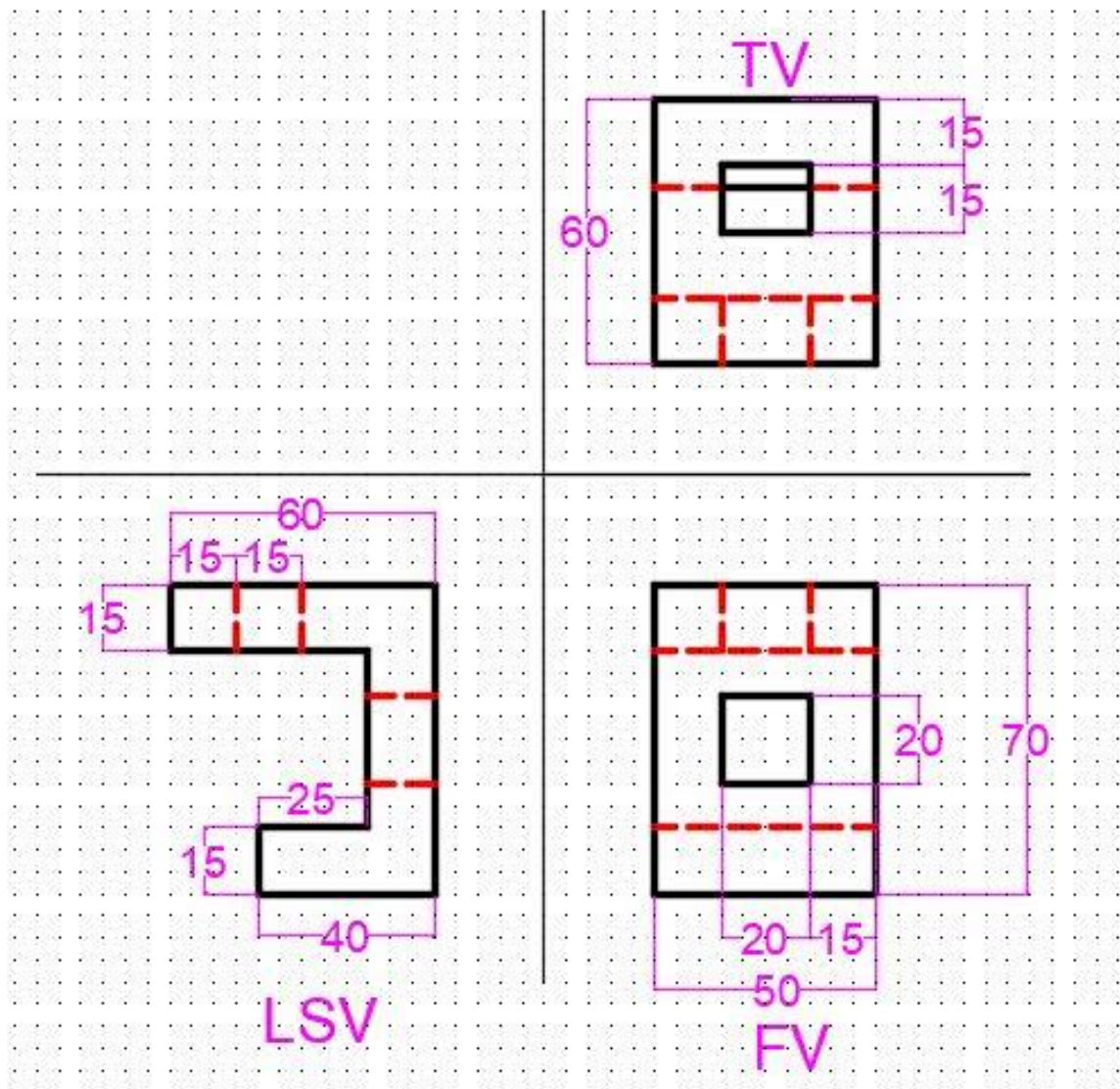
Room No:

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. Draw the isometric drawing of the object shown in the orthographic projections below. Clearly mark the major dimensions and an arrow indicating the front view direction. [1 grid space = 5 units]

[20]



Q2. A regular hexagonal prism having side of the base 30 mm long and height 80 mm is resting on the edge of the base on the H.P. with its axis being inclined at 45° CCW to the H.P and parallel to the V.P. A section plane, inclined at 30° CW to the H.P. and normal to the V.P., cuts the prism and passes through a point on the axis at a distance of 25 mm from the top end of the axis, measured along the axis. Draw the projections of the solid and its sectional views after removing the portion above the section plane.

[First Angle]

[25]

Q3. A hexagonal pyramid rests on its base with an edge of the base parallel to the VP. The pyramid has its edge of the base 30 mm and height 70 mm. A square hole of 20 mm side is cut through it such that the axis of the hole is perpendicular to the VP and intersects the axis of the pyramid 20 mm from the base. The edges of the hole are equally inclined to the HP. Draw the orthographic projections and development of the remaining solid starting from the leftmost slant edge in a clockwise sequence as per the top view. Provide all necessary dimensions.

[First angle]

[35]