

**Note: Section A is compulsory. Attempt any Four questions from Section B and two from Section C**

**SECTION A MARKS 2 EACH**

1. (a) Sketch the hidden line, short break line and long break line.
- (b) Which BIS standards are followed for engineering drawings.
- (c) What is the true length of a line.
- (d) Following symbol represents first or third angle projection.
- (e) What is the difference between prism and pyramid?
- (f) Why sectional views are used in engineering drawing?
- (g) What is an isometric view?
- (h) To represent a solid in an orthographic projection, at least \_\_\_\_\_ views are necessary.
- (i) What is the trace of a line?
- (j) Unfolding of all of the \_ of the object on a plane is called development.

**SECTION B MARKS 5 EACH**

2. A line 6 cm long makes an angle of  $45^\circ$  with VP and lies in a plane perpendicular to both the HP and VP. Its one end is in HP and the other end is in VP. Draw its projections.
3. Write freehand the following sentence using inclined capital letters of 8 mm size in single stroke using 7:5 ratio. 'Nature is beautiful'
4. List out the various principles which are to be followed while dimensioning a drawing.
5. A cylinder of 65 mm diameter and 90 mm long has its axis parallel to the HP and inclined at  $30^\circ$  to the VP. It is cut by a vertical section plane in such a way that the true shape of the section is an ellipse having the major axis 75 mm long. Draw its sectional view and true shape of the section.
6. A cube of 40 mm side rests centrally on square block of 60 mm edges and 20 mm thick. Draw the isometric projections of the two objects with the edges of the two blocks mutually parallel to each other.

**SECTION C MARKS 10 EACH**

7. A vertical cylinder of 45 mm diameter and height 70 mm resting on its base on HP is completely penetrated by another cylinder of same dimensions and length. Their axis bisect each other at right angles and are parallel to VP. Draw the projection showing lines of penetration on the two cylinders.
8. Draw the view from the front (arrow side) and the view from the right of the following object. (All dimensions are in mm)
9. Draw the development of the lateral surfaces of the pyramid of height 4 cm. The pyramid is having hexagonal base of 2 cm each side length. The base is parallel to HP and two sides of the base are parallel to the VP