

**SRK/KW/14/6919**

**Faculty of Engineering & Technology  
First Semester B.E. (C.B.S.) Examination  
ENGINEERING GRAPHICS-I  
Paper-VI**

**Time—Three Hours]**

**[Maximum Marks—40**

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve **FOUR** questions as follows :  
Q. No. 1 **OR** Q. No. 2  
Q. No. 3 **OR** Q. No. 4  
Q. No. 5 **OR** Q. No. 6  
Q. No. 7 **OR** Q. No. 8
- (3) Due credit will be given to neatness and adequate dimensions.
- (4) Assume suitable data wherever necessary.
- (5) Retain the construction lines.
- (6) Use of drawing instruments is permitted.

1. (a) A cricket ball thrown up in air, reaches a maximum height of 10 meters and falls on the ground at a distance of 20 meters from the point of throwing. Draw the path followed by ball and name the curve. Assume the point of throw to be on the ground level. 5
- (b) The elevation (F.V.) of a straight line CD is 60 mm long and is inclined at  $60^\circ$  to XY. The end-point C is 15 mm above the H.P. and 20 mm in front of the V.P. Draw the projections of the line if it is inclined at  $30^\circ$  to the H.P. and is completely in the first Quadrant. Find the true length of the line, its inclination with the V.P. 5

OR

2. (a) A point P is 130 mm away from the fixed point pole O. A point P moves towards pole O and reaches the position Q in one convolution, where OQ' is 22 mm. The point P moves in such a way that its

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movement towards fixed Point 'O' being uniform with its movement around fixed point pole O. Draw the curve traced out by the point P. Name the curve.

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- (b) A line AB, 80 mm long has its end point A on the H.P. Line makes an angle of  $30^\circ$  with the H.P. and  $45^\circ$  with the V.P. End B of the line is in the V.P. Draw the projection of the line.
3. (a) A Hexagonal plane of side 30 mm is resting on one of its corners on H.P. and the diagonal through that corner makes an angle of  $45^\circ$  and  $30^\circ$  with H.P. and V.P. respectively. Draw the projections of plane.
- (b) Draw a rectangle abcd of 50 mm  $\times$  30 mm side with longer side ab at  $30^\circ$  with XY representing the top view of quadrilateral plane ABCD. The points A, B, C and D are 25 mm, 50 mm, 75 mm and 60 mm above the H.P. Draw the front view and determine the true shape of the plane. 5

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OR

4. A pentagonal pyramid of side of base 35 mm and axis 65 mm long is resting on HP on an edge of base such that the axis makes an angle of  $45^\circ$  to HP. The edge of base in the HP makes an angle of  $30^\circ$  to the VP. Draw the projection. 10

5. Fig. 1. shows pictorial view of a machine component. Draw the following views :

- (i) Front view looking in the direction X
- (ii) Top view
- (iii) Side view from left.

Give dimensions, scale used and also draw projection symbol.

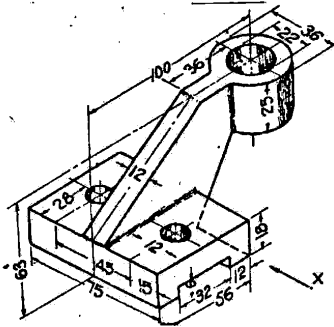


Fig-1  
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OR

6. (a) Fig.2. shows pictorial view of machine component. Draw the following views :

- (i) Front view looking in the direction X
- (ii) Side view from arrow Y.

Give dimensions and scale used.

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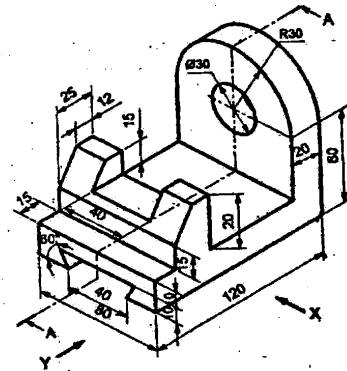


Fig-2

(b) Fig.3. shows pictorial view of an object. Draw the following views.

- (i) Front view looking in the direction X
- (ii) Top view

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Give dimensions and scale used.

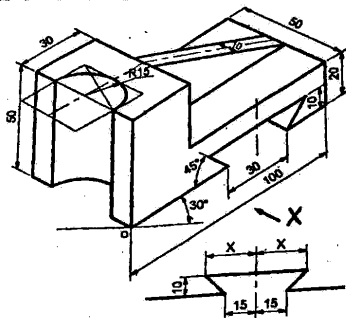


Fig-3

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7. Fig.4 shows front view and side view of an object. Draw the isometric view. Indicate direction of viewing.

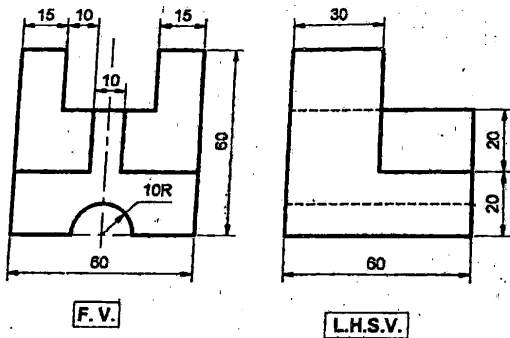


Fig-4

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OR

8. (a) Construct an isometric scale to measure a length of 100 mm. 2
- (b) A circular slab of base diameter 80 mm and thickness 35 mm is resting on one of its circular base on H.P. A pentagonal pyramid, side of base, 30 mm and axis 60 mm is kept centrally on its apex on top circular face of circular slab. One of the base edge of pyramid is parallel to V.P. and nearer to observer. The axis of both solid is vertical and coinciding. Draw the isometric projection for the given arrangement of solids. Show their common axis and also indicate direction of viewing. 8

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