

Gujarat University
Subject Engg Graphics
B.E. Ist year

Q.1	<p>(i) Draw projection of point A lying on H.P. and 40 mm in front of V.P.</p> <p>(ii) Draw projection of point B lying on V.P. and 35 mm above H.P.</p> <p>(iii) Draw Projection of point C 35 mm above H.P. and 50 mm behind V.P.</p> <p>(iv) Draw Projection of point D 35 mm below H.P. and 25 mm behind V.P.</p> <p>(v) Draw projection of point E 30 mm below H.P. and 40 mm in front of V.P.</p> <p>(vi) Point A in V.P. and 30 mm below V.P.</p> <p>(vii) Point B in H.P. 20 mm in front of V.P.</p> <p>(viii) Point C 20 mm above H.P. and 20 mm behind V.P.</p> <p>(ix) Point D on H.P. and on V.P.</p> <p>(x) Point E 40 mm above H.P. and 10 mm in front of V.P.</p>	10
Q.2	A line AB has its end point A 16 mm above H.P. and 25 mm in front of V.P. The length of the line in elevation is 65 mm. Distance between the projectors of endpoints A and B is 45 mm Draw projection of the line and find its true length.	10
Q.3	The line AB, 60 mm long has its end A 20 mm above H.P. and 30 mm in front of V.P. The end B is 45 mm above H.P. and 70 mm in front of V.P. Draw the projection of line AB and find its inclination with the H.P. and V.P.	10
Q.4	A line AB of 50 mm length has one of its end points A 10 mm above H.P. and 15 mm in front of V.P. The length of the line in elevation is 40 mm. The top view of line measures 30 mm. Draw projection of the line and find out angles of inclination with reference planes.	10
Q.5	A line AB, 80 mm long has its end point A 15 mm above H.P. Line makes an angle of 30° with the H.P. and 45° with V.P. End B of the line is 100 mm in front of the V.P. Draw projections of the line.	10
Q.6	A circular plate of 50 mm diameter is resting on H.P. on one of the points of its periphery with surface of the plate perpendicular to V.P. and inclined to H.P. by 30° Draw two projections of the circular plate.	10
Q.7	A hexagonal plane of 30 mm side has one of its sides on the H.P. and inclined at 45° to the V.P. The surface of the plane is inclined at 45° to H.P. Draw its projections	10
Q.8	A Square plate of 60 mm side is resting on the H.P. on one of its corners in such a way that its surface makes an angle of 45° to H.P. Draw the projections of the square plate	10

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	when diagonal passing through the corner on H.P. makes an angle of 30° to the V.P.	
Q.9	The major and minor axis of the ellipse are 125 mm and 75 mm respectively. Construct an ellipse by arcs of circle method.	10
Q.10	The major axis of the ellipse is 100 mm long and the distance between foci is 60 mm. Draw the ellipse by oblong method. Find the length of minor axis.	10
Q.11	The major axis of the ellipse is 120 mm long and the minor axis is 80 mm. Draw the ellipse by concentric circle method.	10
Q.12	Draw a cycloid, given the diameter of rolling circle as $d=40$ mm. Also draw normal and tangent at any point on the curve.	10
Q.13	Figure 1 shows four bar linkage O_2ABO_1 . Q is a point on the extension of the connecting link AB. Link O_2A rotates clockwise while link O_2B has an oscillatory motion. Trace the locus of the points Q for complete revolution of link O_2A . Take $O_1O_2=1500$ mm, $O_1B=550$ mm, $AB=1400$ mm, $O_2A=380$ mm. $AQ=1880$ mm.	10
Q.15	The simple slider crank mechanism OAB in which the crank OA is of 35 mm and the connecting rod AB is of 90 mm. The slider B is sliding on a straight path passing through point O. Draw the locus of the mid point M of the connecting rod AB for one revolution of the crank.	10
Q.16	In the crank connecting rod trunnion mechanism shown in figure-2. Crank OB is 400 mm long. Connecting rod BA is 1800 mm long and trunnion C is located 1250 mm on the right of O and 150 mm below O. Draw the loci of the points A and P where the point P is on extension of AB and 300 mm from B.	10
Q.17	Draw the simple slider crank mechanism OAB in which the crank OA is of 30 mm and the connecting rod AB is of 100 mm. The slider B is sliding on a straight path passing through point O. Draw the locus of the point M 40 mm from A of the connecting rod AB for one revolution of the crank.	10
Q.18	A cone diameter of base 40 mm and height is 80 mm has one of its generators in H.P. and making an angle of 60° with V.P. Draw the projection of cone	10
Q.19	A square pyramid of base 30 mm and height 50 mm is resting on H.P. on one of the edges of the base with axis	10

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	parallel to H.P. and V.P. both. Draw the projections of the pyramid.	
Q.20	Draw the front view Pan and left hand side view of object shown in figure 3 in first angle projection method.	10
Q21	Draw the front view Pan and left hand side view of object shown in figure 4 in first angle projection method	
Q.22	Figure -5 shows two orthographic views of an object. Draw the isometric projection of the object.	10
Q.23	A right circular cone having diameter of base 40 mm, axis length 60 mm resting on its base on H.P. is cut by an AIP inclined at 45° to H.P. and bisecting the axis .Draw the development of surface of the cone retaining the portion containing base.	10
Q.24	A vertical square prism of 45 mm base edge and 75 mm long, standing on its base on H.P. is penetrated by a horizontal square prism of 45 mm base edges so that their axes intersect at rights to each other .The faces of the two prism are equally inclined to V.P. Draw the projections of the solids showing the lines of intersection.	10
Q.25	Vertical cylinder diameter of base 45 mm and height 75 mm, is resting on H.P. on its base .It is penetrated by a horizontal cylinder diameter of base is 40mm and height 70 mm axes of two cylinders bisects each other at right angles. Draw their projections showing on them curves of intersection. Assume that axis of penetrating cylinder is parallel to V.P.	10
Q.26	Develop lateral surface of hexagonal prism resting on H.P. on its base with two edges of base parallel to V.P. Take the edge of base equal to 25 mm and height of prism equal to 50 mm.	10
Q.27	Draw the development of lateral surface of cylinder of base diameter 40 mm and height 60 mm kept on H.P. on its base and is cut by an AIP inclined 45° to H.P. and bisecting the axis of cylinder .	10
Q.28	A cone of base 40 mm diameter and height 50 mm is cut by cutting plane perpendicular to VP and inclined at 30° to HP and bisecting the axis of cone. Draw the development of the truncated cone.	10

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Q.29	<p>Figure Draw the following free hand sketches.</p> <ul style="list-style-type: none"> (i) Rag Foundation Bolt. (ii) Buttress Thread, Square Thread. (iii) Any two symbols of welding. (iv) Double Riveted lap Joint. (v) Eye Foundation Bolt. (vi) Acme Thread, Square Thread. (iv) Single Riveted lap Joint. 	10
Q.30	<p>Draw a neat sketch of foundation for 40 cm X40 cm RCC column.</p> <p>Draw a neat sketch of king post truss.</p> <p>Draw the symbols for the following:</p> <ul style="list-style-type: none"> (i) Plain cement concrete (ii) Stone (iii) Brick work (iv) Glass (v) Metal Section 	10
Q.31	<p>Draw a neat sketch of foundation for 40 mm thick brick wall .Draw a neat sketch of lean to roof truss .</p> <p>Define :- Plan, elevation and section,</p> <p>Draw a neat sketch of Queen post roof truss</p>	10
Q.32	<p>Draw the symbols for the following:</p> <ul style="list-style-type: none"> (i) Railway bridge over road (ii) Exhaust fan (iii) Brick work (iv) Wire fencing (v) Double leaf door <p>Draw a neat sketch of king post truss.</p> <p>Draw the symbols for the following:</p> <ul style="list-style-type: none"> (i) Plain cement concrete (ii) Stone (iii) Brick work (iv) Glass (v) Metal Section 	10
Q 33	<ol style="list-style-type: none"> 1. Enlist the principles of planning. Explain any two in details. 2. Draw cross section of 20 cm and 30 cm thick brick wall 	10

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Q34	1. Draw an elevation and cross section of battened doors. 2. Write a short note on “FSI”.	10
Q35	1. Write a short note on “Prospect” and “Roominess”. 2. Draw a symbols of the following materials Brick, Glass, Sand, Concrete, Stone	10

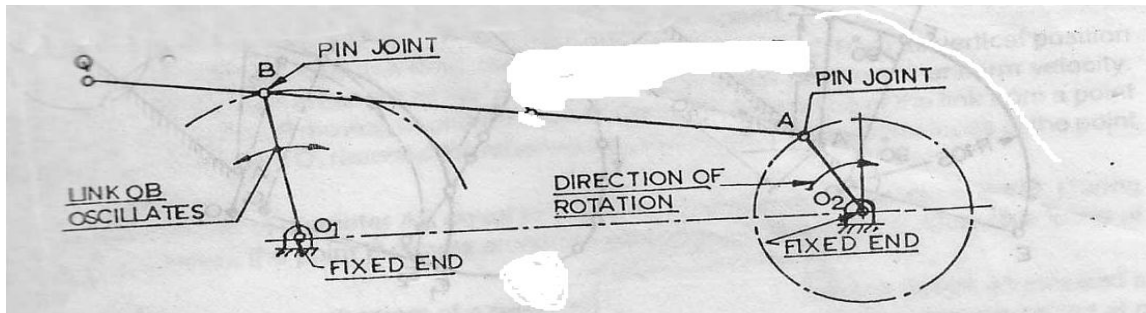


Figure-1

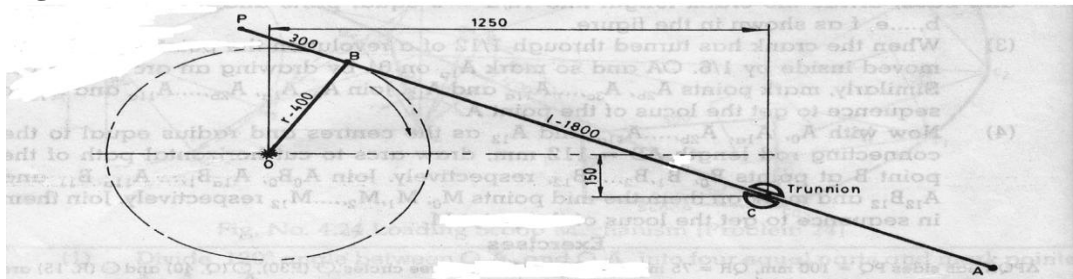


Figure-2

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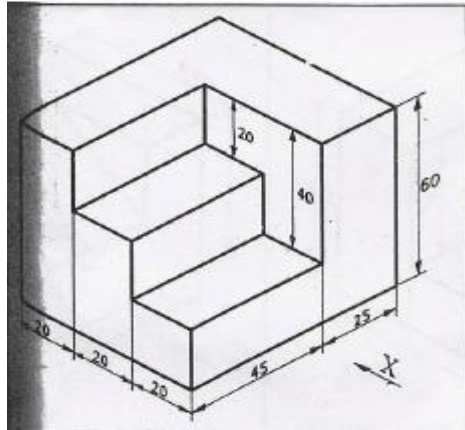


Figure-3

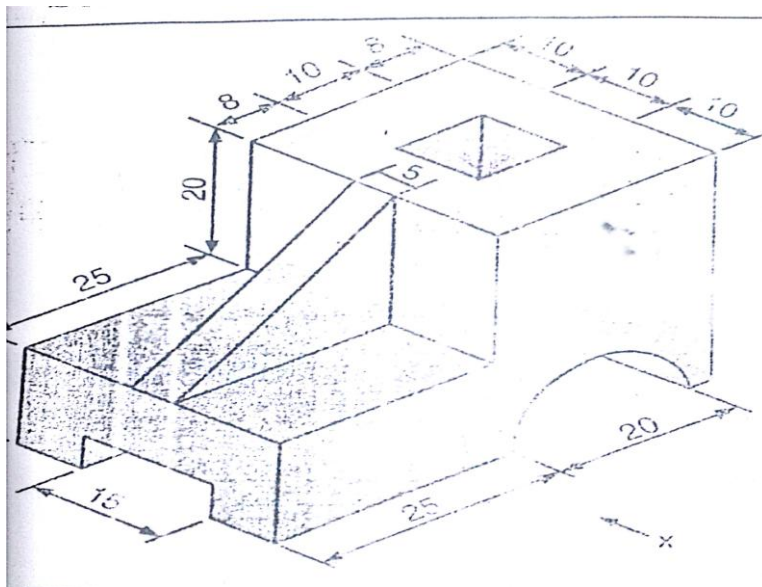


Figure-4

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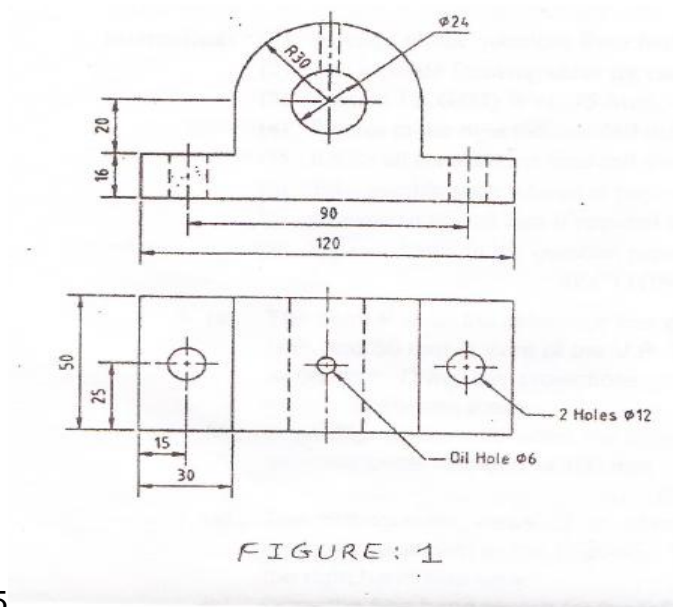


Figure-5