9.15 - A 70 mm LONG LINE PQ HAS ITS END P 20 mm ABOVE THE HP AND 30 mm IN FRONT OF THE VP.THE LINE IS INCLINED AT 45°TO THE HP AND 30°TO THE VP. DRAW ITS PROJECTIONS.

1.Draw a reference line xy.

2. On a vertical projector,mark point p’ 20 mm above xy and point p 30 mm below xy.

3. Draw a 70 mm long line p’q1 ’ inclined at inclined at θ = 45° to xy.

4.Draw another 70 mm long line pq2, inclined at ø=30° to xy.

5.Project point q1 ’ to meet the horizontal line from point p at q1.

6.Draw an arc with centre p and radius pq1 to meet the horizontal line from point q1 at point q. Join Pq to represent the top view.

7.Project point q2 to meet the horizontal line from point p’ at point q2 ’ .

8.Draw an arc with centre p’ and radius p’q2 ’ to meet the horizontal line from point q1 ’ at point q’ . join p ’q ’ to represent the front view.

9.Join qq’ and ensure that the line is perpendicular to xy, to represent projector of the end Q.

10.22 - A HEXAGONAL PLANE OF SIDE 30 mm HAS AN EDGE ON THE HP.ITS SURFACE IS INCLINED AT 45 DEGREE TO THE HP AND THE EDGE ON WHICH THE PLANE RESTS IS INCLINED AT 30 DEGREE TO THEVP. DRAW ITS PROJECTIONS.

1.FIRST STAGE Draw a hexagon abcdef keeping ab perpendicular to xy to represent the top view.project the corners to xy and obtain b ’d ’ as the front view.
2.SECOND STAGE Reproduce the front view of first stage keeping a’b ’ on xy and b’d ’ inclined at 45 degree to obtain points a,b,c,d,e and f of the top view by joining the points of intersection of the projection from points a’ ,b’ ,c’ ,d’ ,e’ , and f’ of the second stage with the corresponding locus lines from points a,b,c,d,e and f of the first stage.Join abcdef.

3.THIRD STAGE Reproduce the top view of the second stage keeping line ab inclined at 30 degree to xy.Obtain point a’ ,b’ ,c’ ,d’ ,e’ and f’ of the front view by joining the points of intersection of the projectors from points a,b,c,d,e and f of the first stage with the corresponding locus lines from points a ’ ,b’ ,c’ ,d’ ,e’ and f ’ of the second stage.Join abcdef.

11.9 - A PENTAGONAL PRISM OF BASE EDGE 30 mm AND AXIS 60 mm RESTS ON AN EDGE OF ITS BASE IN THE HP. ITS AXIS IS PARALLEL TO VP AND INCLINED AT 45DEGREE TO THE HP. DRAW ITS PROJECTIONS.

1. FIRST STAGE: draw a pentagon abide keeping side cd perpendicular to xy. this represents the top view. project all the corners and obtain a'd'4'1'to represent the front view.

2. SECOND STAGE: reproduce the front view of the first stage keeping c'd' on xy and c'3' inclined at 45 degree to it. obtain a, b, c, d, e,1,2,3,4 and 5 in the top view as the intersecting pointsof the projectors from the front view of the second stage with the corresponding locus lines from the top view of the first stage.

3. Join the outlines a-b, b-2,2-3,3-4,4-5,5-eand a-e using continuous lines. the corner 1' is towards the observer, therefore join 1-a,1-2 and 1-5 using continuous lines.the edge c'd'is on xy, therefore join cd, cb, c3, de, d4.