2.3.4 To Draw an Arc of Radius R and Tangent to Two Given Lines

(a) Perpendicular Lines

- AB and AC are the two given lines perpendicular to each other. *(Figure 2.28(a))*
- Draw lines DE and FG parallel to the given lines AB and AC respectively and at a distance of R form them. *(Figure 2.28(b))*
- Mark intersection of these lines as point O, which the center of the required arc. With O as center and OD (= OF = R) as radius, draw the required arc. *(Figure 2.28(c))*

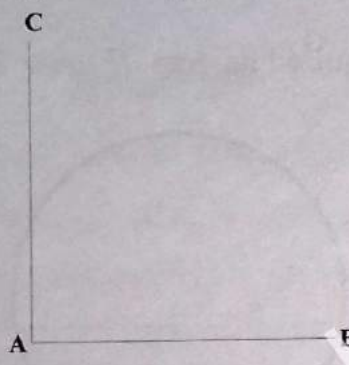

Figure 2.28(a)

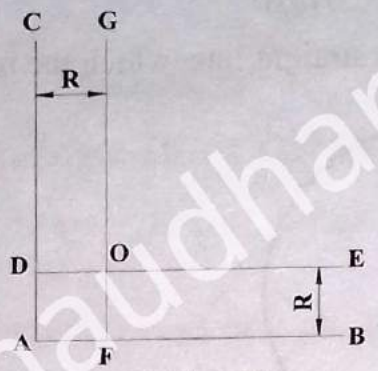

Figure 2.28(b)

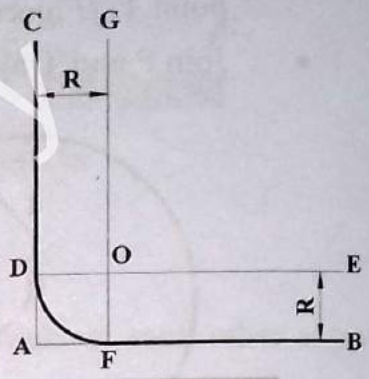

Figure 2.28(c)

(b) Inclined Lines

- AB and AC are the two given lines inclined to each other. *(Figure 2.29(a))*
- Draw lines DE and FG parallel to the given lines AB and AC respectively and at a distance of R form them. *(Figure 2.29(b))*
- Mark intersection of these lines as point O, which the center of the required arc. Drop perpendiculars from point O to the lines AB and AC and mark the foot of perpendiculars as H and I respectively. Then H and I are the points of tangency. *(Figure 2.28(c))*
- With O as center and OH (= OI = R) as radius, draw the required arc. *(Figure 2.28(d))*

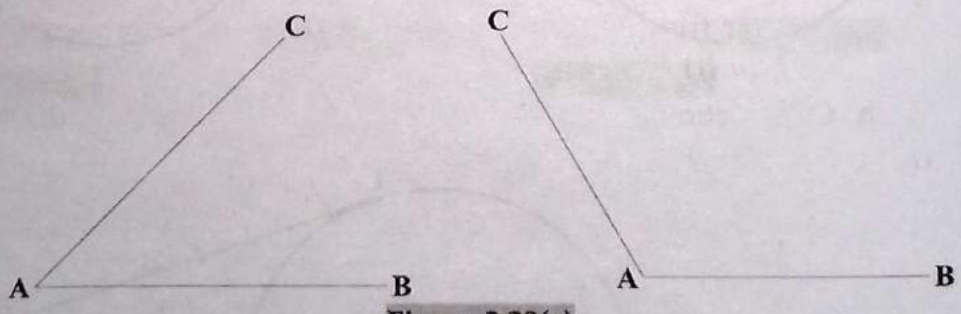

Figure 2.29(a)

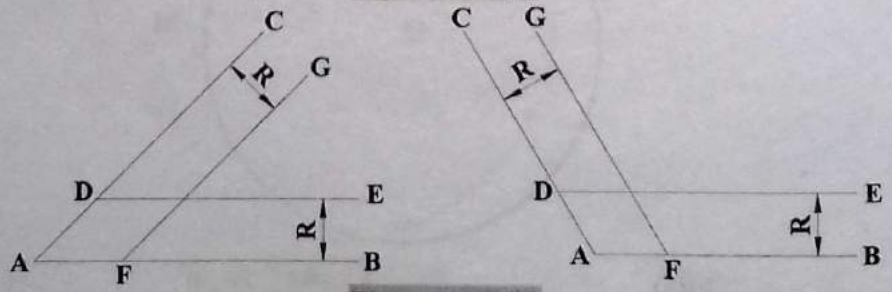

Figure 2.29(b)

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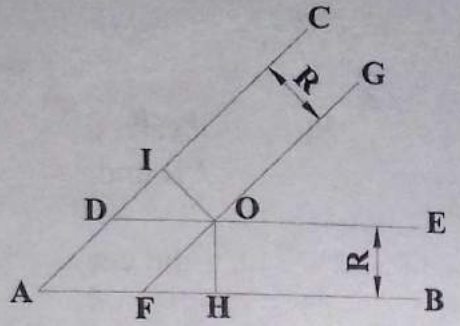
Scanned by CamScanner



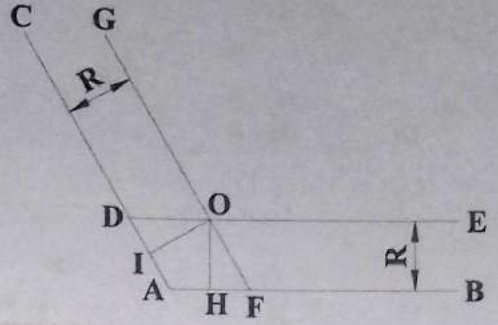
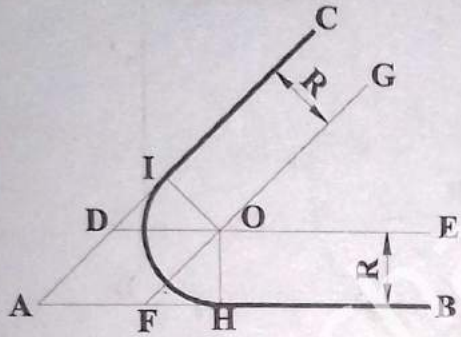


Figure 2.29(c)



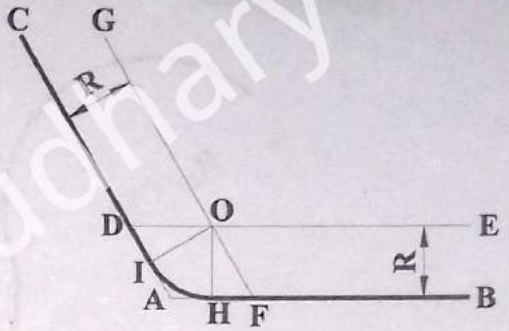


Figure 2.29(d)

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