Exercise 4C

Question 4:
(i) Through E draw EG || CD. Now since EG||CD and ED is a transversal.
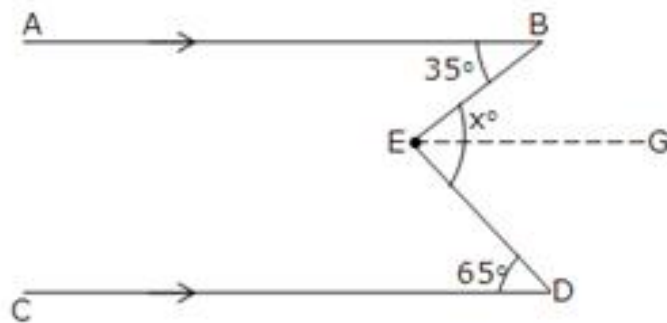
So, ∠GED = ∠EDC = 65º [Alternate interior angles]
Since EG || CD and AB || CD,
EG||AB and EB is transversal.
So, ∠BEG = ∠ABE = 35º [Alternate interior angles]
So, ∠DEB = xº
⇒ ∠BEG + ∠GED = 35º + 65º = 100º.
Hence, x = 100.
(ii) Through O draw OF||CD.
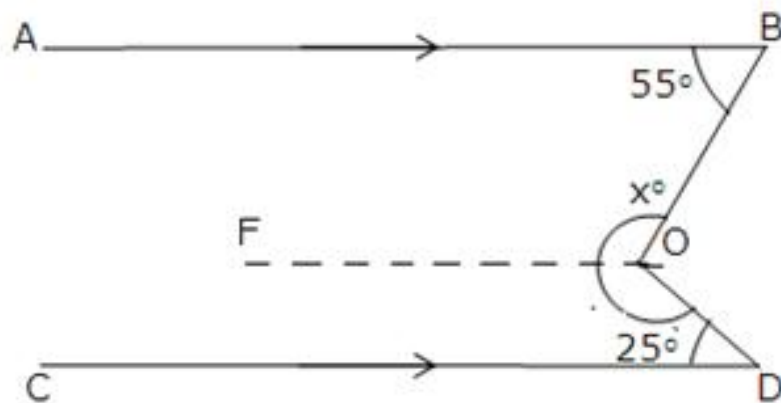
Now since OF || CD and OD is transversal.
∠CDO + ∠FOD = 180º
[sum of consecutive interior angles is 180º]
⇒ 25º + ∠FOD = 180º
⇒ ∠FOD = 180º - 25º = 155º
As OF || CD and AB || CD [Given]
Thus, OF || AB and OB is a transversal.
So, ∠ABO + ∠FOB = 180º   [sum of consecutive interior angles is 180º]
⇒ 55º + ∠FOB = 180º
⇒ ∠FOB = 180º - 55º = 125º
Now, xº = ∠FOB + ∠FOD = 125º + 155º = 280º.
Hence, x = 280.

(iii) Through E, draw EF || CD.
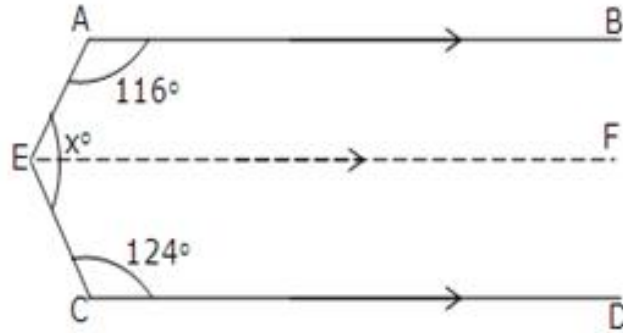
Now since EF || CD and EC is transversal.

∠FEC + ∠ECD = 180°

[sum of consecutive interior angles is 180°]

⇒ ∠FEC + 124° = 180°

⇒ ∠FEC = 180° - 124° = 56°

Since EF || CD and AB ||CD

So, EF || AB and AE is a trasveral.

So, ∠BAE + ∠FEA = 180°

[sum of consecutive interior angles is 180°]

∴ 116° + ∠FEA = 180°

⇒ ∠FEA = 180° - 116° = 64°

Thus, x° = ∠FEA + ∠FEC

= 64° + 56° = 120°.

Hence, x = 120.

********** END *********