[1]. Use the conjugate beam method to determine the deflection at joint –c for the structure and loadings shown below. (20%)



W

E, I = constant

A ————— C ————— B

├—— L/2 ——┤├—— L/2 ——┤
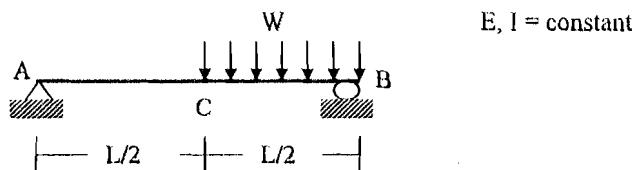
[2] Calculate element forces for the structure shown below by using matrix displacement method. (40%)



6 ft

E = 30000 ksi
Iab=Ibc= 1000 inch**4
A (ac) = 2 inch**2
P = 100 Kip

├———— 8 ft ————┤P
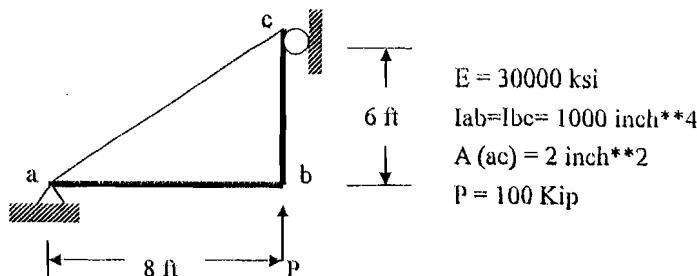
[3]. Use the moment distribution method to determine the end moments for the frame and loading condition indicated in problem. (20%)



w

b ————— c

E, I = constant

L

a ————— d

w

├——— L ———┤
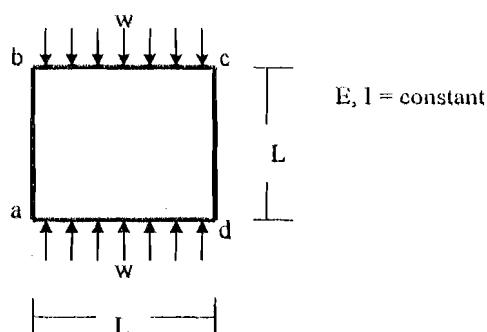
[4] Analyze the given frame structure by the slope deflection method and construct the moment diagram for all members. (20%)



B　　　　C

P

L1　　　　　　　L2

A　　　　　　D

L1 = 10 ft
L2 = 8 ft
I (AB) = 1000 in**4
I (CD) = 800 in**4
I (BC) = infinite
P= 100 Kip