UNIT No: 04

Date: 06 /04/2020

Statically Indeterminate Beams

Sub Code 3140603 **Title of Subject** Structural Analysis - I

#	Questions
1	Determine the support moment for a continuous beam as shown in Figure – 1 by Moment Distribution Method. Also draw Bending Moment diagram.
2	For a continuous beam ABCD as shown in Figure – 2. Find the moments at all supports. E = 200 X 10^3 N/mm^2 and I = 9 X 10^7 mm^4.
3	Analyse the beam shown in Figure – 3 by moment distribution method and find only Final Moments.
4	Analyse a fixed beam has span 5 m subjected to central point load of intensity 20 kN. Draw bending moment diagram
5	Derive the equation for fixed end moment developed if one of the supports of a fixed beam settles by amount 'δ'.
6	Calculate fixed end moments if left support of fixed beam is rotates clockwise by an amount 'θ '
7	Find out fixed end moment for a fixed beam carrying point load at the center of the span
8	A fixed beam AB carries an U.D.L. of 20 kN/m over entire span of 5 meter. If support B sink by 1 mm find out fixed end moments
9	A beam AB of span 5 meter fixed at both ends carries a uniformly distributed load of 20 kN/m over the whole span. The left end 'A' rotates clockwise by 0.8^0 & right end 'B' sinks by 10 mm. Determine the fixed end moments & the reactions at the supports. Draw also shear force & bending moment diagrams. Take E = 200 kN /mm^2 & I = 10 X 10^7 mm^4
10	Find reaction at support for the propped cantilever beam having span 6 m and U.D.L. of 10 kN/m throughout span using Consistence deformation method. Take EI = Constant.

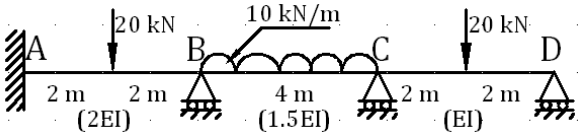

FIGURE – 1

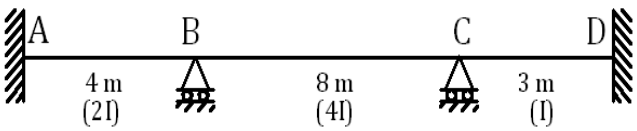

FIGURE – 2

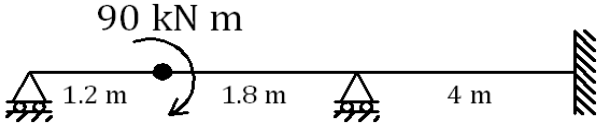

FIGURE – 3