

DEPARTMENT OF CIVIL ENGINEERING

CE3502- STRUCTURAL ANALYSIS-1

UNIT-3- MOMENT DISTRIBUTION METHOD

2 MARKS QUESTIONS

S.No	QUESTIONS	CO'S
1.	Differentiate between distribution factors and carry over factor. Distribution factor: When several members meet at a joint and a moment is applied at the joint to produce rotation without translation of the members, the moment is distributed among all the members meeting at that joint proportionate to their stiffness. Distribution factor = Relative stiffness / Sum of relative stiffness at the joint. Carry over factor: A moment applied at the hinged end B “carries over” to the fixed end A, a moment equal to half the amount of applied moment and of the same rotational sense. C.O =0.5	CO3
2.	Define point of contra flexure with an example. In a bending moment diagram, where the sign changes from positive to negative or negative to positive that place is called point of contra flexure.	CO3
3.	Define flexural rigidity. The product of young’s modulus (E) and moment of inertia (I) is called Flexural Rigidity (EI) of Beams. The unit is N / mm².	CO3
4.	What is sway correction? Explain. Sway correction is defined as the removal of lateral movement in the beams or frames by correction factor is multiplied by corresponding sway moment. Correction factor = Non sway force / sway force	CO3
5.	What is distribution factor? Explain. When several members meet at a joint and a moment is applied at the joint to produce rotation without translation of the members, the moment is distributed among all the members meeting at that joint proportionate to their stiffness.	CO3

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6.	What is distribution factor, as applied in moment distribution method? Distribution factor = Relative stiffness / Total stiffness	CO3
7.	What is stiffness of a prismatic member? The stiffness of a prismatic member is $4EI / L$.	CO3
8.	Explain the relative stiffness factor. Relative stiffness is the ratio of stiffness to two or more members at a joint.	CO3
9.	What are the situations wherein sway will occur in portal frames? Eccentric or unsymmetric loading Unsymmetrical geometry Different end conditions of the columns Non-uniform section of the members Unsymmetrical settlement of supports A combination of the above	CO3
10.	What is the difference between absolute and relative stiffness? Absolute stiffness: Absolute stiffness is represented in terms of E, I and L, such as $4EI / L$. Relative stiffness: Relative stiffness is represented in terms of I and L, omitting the constant E. Relative stiffness is the ratio of stiffness to two or more members at a joint.	CO3