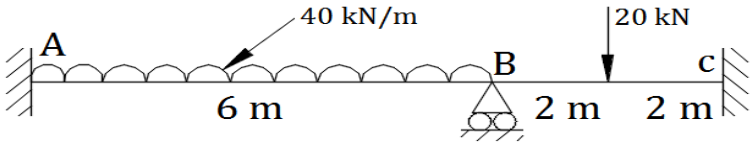
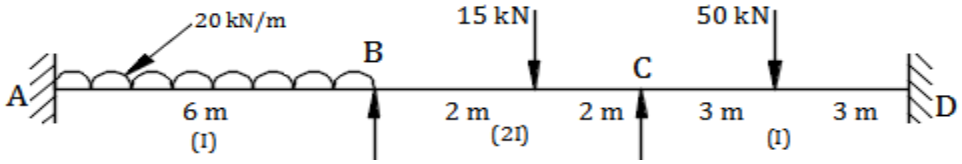
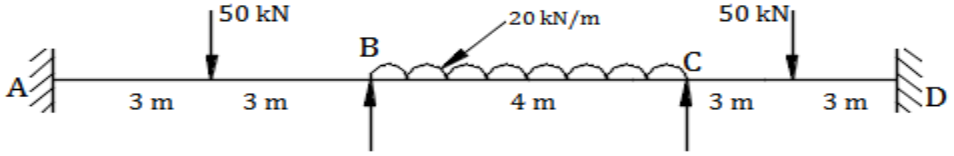
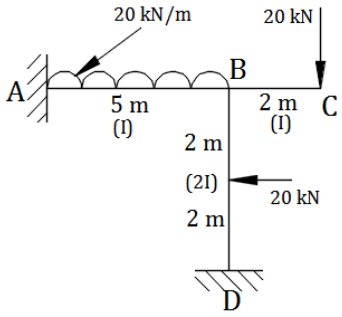
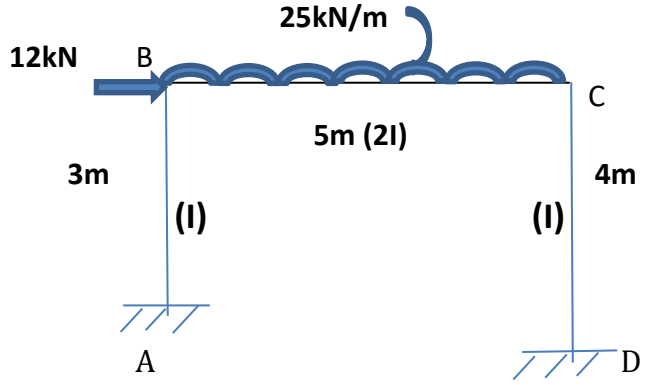
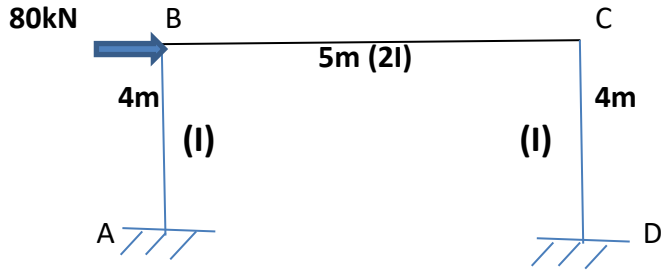
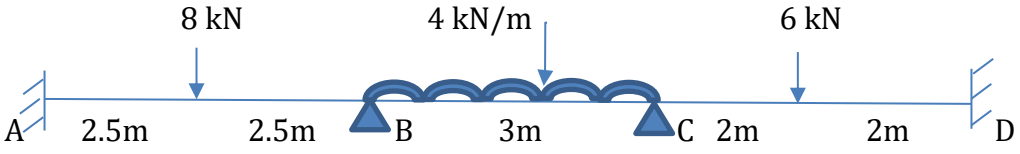
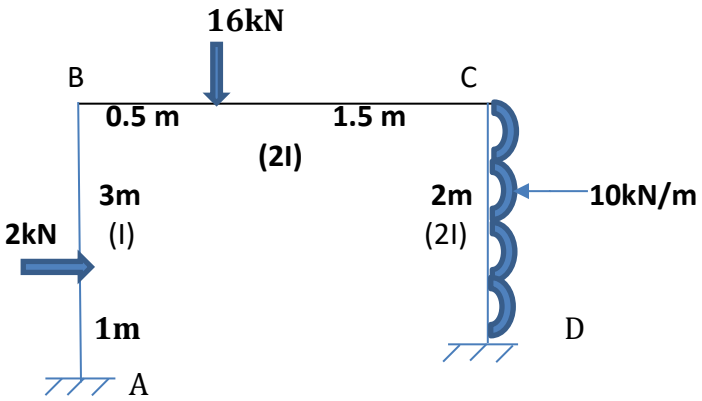
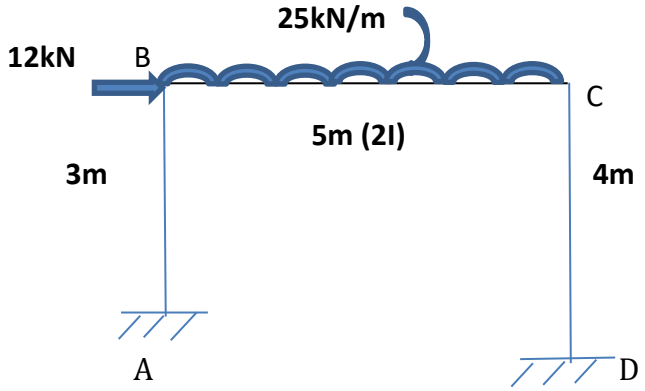
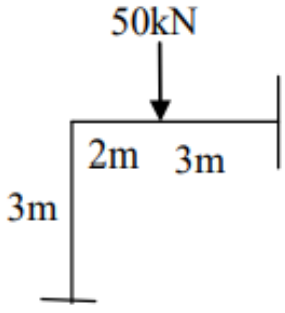
Assignment No: 01
Date: 08/08/2022

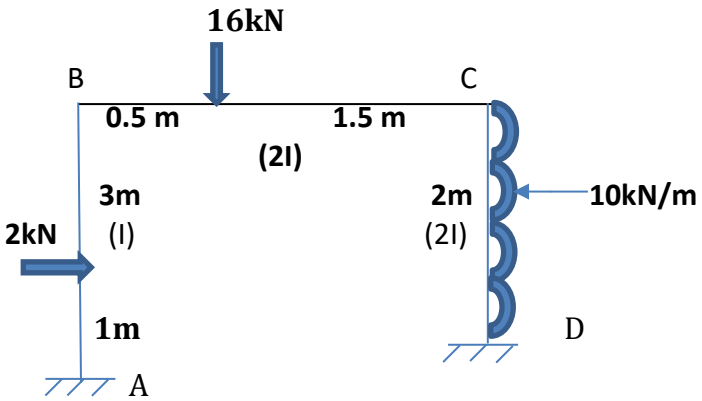
SLOPE DEFLECTION METHOD (REVISED)

Sub Code 3150614 **Title of Subject** Structural Analysis - II

#	Questions
1	Using slope deflection method analyses the beam as shown in ***FIGURE.*** Draw SFD and BMD both. 
2	Analyze the beam shown in ***FIGURE ,*** by slope deflection method and find unknown slopes at Joint B and C. Joint B sinks by 10 mm. E = 2 X 10^5 MPa and I = 16 X 10^7 mm^4. Also Draw SFD and BMD. 
3	Determine the support moments using slope deflection method for the continuous girder shown in ***FIGURE ,*** if the support B sinks by 2.5 mm. For all members Take E = 200 kN/mm^2 and I = 3.5 X 10^8 mm^4. 
4	Determine the support moments using slope deflection method for the frame as shown in ***FIGURE – 4***. Also draw Bending Moment diagram. 

5	A beam AB of uniform section of span 8 m and constant EI = 4.0 X 10^4 Nm^2 is partially fixed at ends when the beam carries a point load of 100 kN at distance of 4 m from the left end A. The following displacements were observed. (i) Rotation at A = 0.015 rad (clockwise) and settlement at A = 15 mm (ii) Rotation at B = 0.0080 rad (anticlockwise) and settlement at B = 20 mm Analyse using Slope Deflection Method.
6	Analysis the portal frame as shown in fig and draw BM diagram. 
7	Analysis the portal frame as shown in fig and draw BM diagram. 
8	For the continuous beam ABCD draw BM diagram, Support A rotates by 1/250 radians in clockwise direction. Support B sinks by 30 mm and Support C sinks by 20 mm. Take E = 200 Gpa & I = 38.20 X 10^5 mm^4 

09	Find the moments A,B,C & D for the portal frame and draw BM diagram. 
10	Analysis the portal frame as shown in fig and draw BM diagram. 
11	Analysis the portal frame (non sway) as shown in fig and draw BM diagram. 

12	A two-span continuous beam ABC has AB=6m and BC=9m. The span AB is loaded by a point load of 90kN at 4m form A and span BC is loaded by 2 point loads each of 45kN at 3m and 6m from B. Support A is fixed and supports B and C are roller supports. Analyze the beam by Slope-Deflection equations method and draw bending moment diagram.
13	Find the moments A,B,C & D for the portal frame and draw BM diagram. 

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