

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
END SEMESTER EXAM, DECEMBER 2019

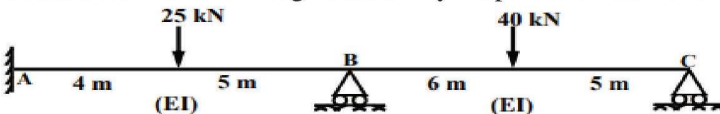
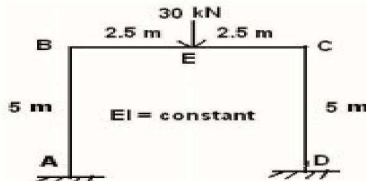
Course: Structural Analysis -II
Program: B. Tech (Civil)
Max. Marks: 100

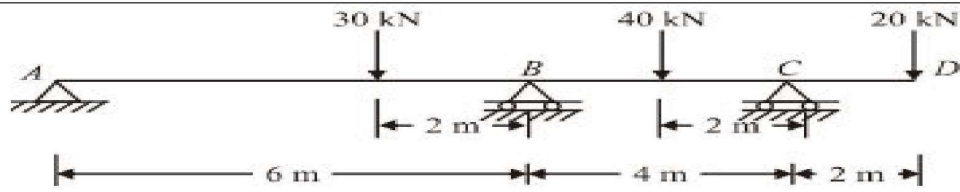
Semester: V
Time: 03 hrs.
SEM -Vth

SECTION A

S. No.		Marks	CO
Q.1	Explain the concept of Muller Breslau principle with suitable examples	4	CO1
Q.2	Define i) Stiffness of Member ii) Carry over factor	4	CO2
Q.3	Enlist the properties of Flexibility matrix	4	CO3
Q.4	Why stiffness method is more suitable for computer programming	4	CO4
Q.5	Define a) Shape factor b) Plastic Hinge	4	CO5

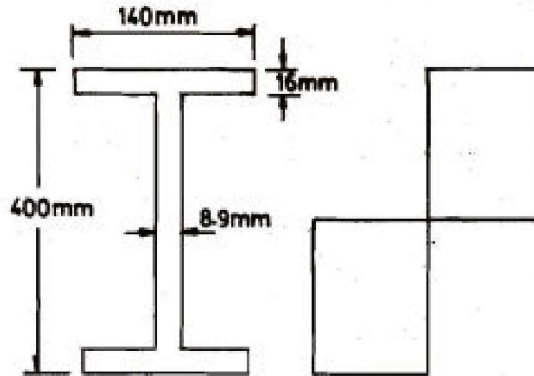
SECTION B

Q.6	Analyze the continuous beam shown in figure below by Slope deflection method. Draw B.M.D		10	CO1
Q.7	Analyze the portal frame shown in figure below by Moment distribution Method. Draw B.M.D for the frame. Also, draw the elastic curve.			
Q.8	Analyze the continuous beam shown in figure below by flexibility method Draw B.M.D also.		10	CO3
Q.9	Analyze the beam shown in figure below by Stiffness Method. Draw B.M.D for the frame. Also, draw the elastic curve			
OR		Analyze the continuous beam shown in figure below by Stiffness method Draw B.M.D also.		



SECTION-C

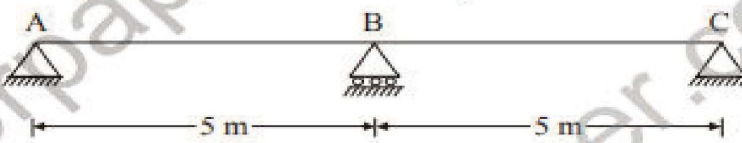
Q.8 Determine the shape factor for the I-section shown in figure below. Take $F_y = 250$ MPa.



20

CO5

Q.9 Determine the influence line diagram for reaction R_B at an interval of 2.5m using Muller Breslau principal



20

CO1

OR

Analyze the swayed frame shown in figure below by Slope deflection method. Draw B.M.D for the beam. EI is constant.

