Model Question Paper -1 with effect from 2020-21(CBCS Scheme)

USN

Fifth Semester B.E. Degree Examination
ANALYSIS OF INDETERMINATE OF STRUCTURES

TIME: 03 Hours   **Max. Marks: 100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1		Marks
Q.1(a)	Analyze the continuous beam shown in **fig. Q.1a,** by slope deflection method. Draw BMD and SFD fig. Q.1a	20
	OR	
Q.2(a)	Analyze the frame shown in **fig. Q2 a**. Draw BMD fig. Q2 a	20
	Module – 2	
Q.3(a)	A continuous beam is supported and loaded as shown in **fig.Q.3a**. Analyze the beam and draw BMD and SFD. fig.Q.3a	20

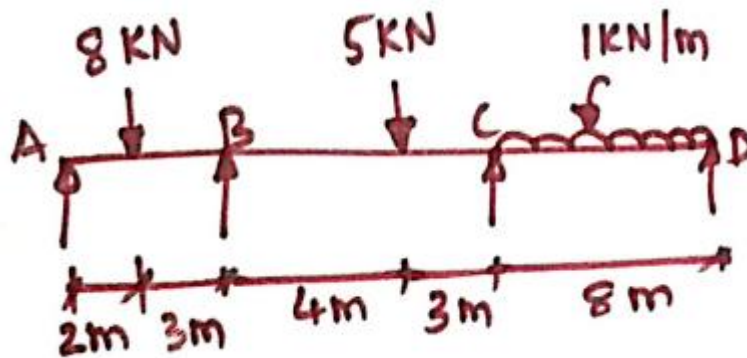|	OR	
Q.4(a)	Analyze the frame shown in **fig. Q4 a**. Draw BMD. **fig. Q4 a**	20
	Module – 3	
Q.5(a)	Analyze the frame shown in **fig. Q5 a by Kani's Method**. Draw BMD. **fig. Q5 a**	20
	OR	
Q.6(a)	A continous beam ABCD is simply supported at its ends and is propped at the same level at B and C as shown in fig 6(a). If support B sinks by 10mm , analyse the beam by kani's method Take E=2.1x10^5 N/mm^2 and I= 85x10^{5}mm^4 **fig 6(a)**	20
	Module – 4	
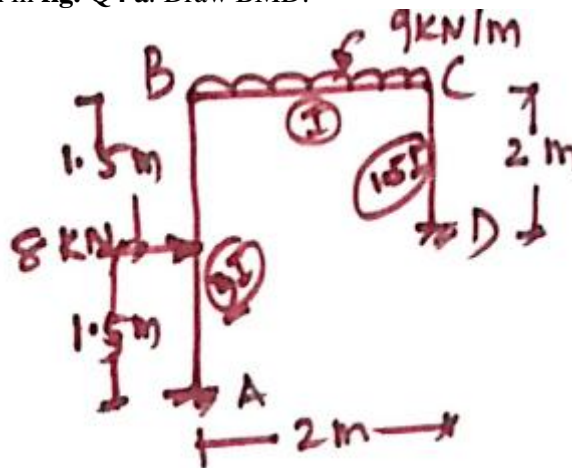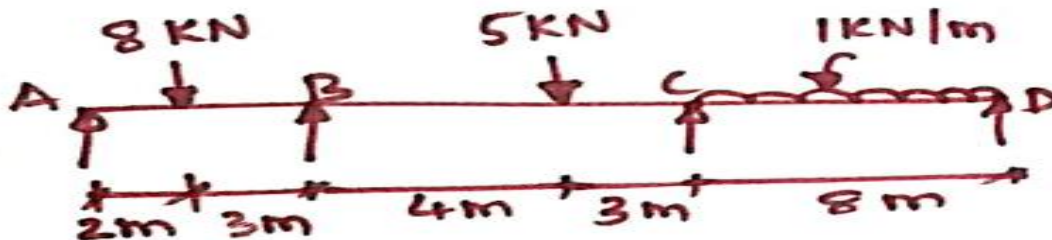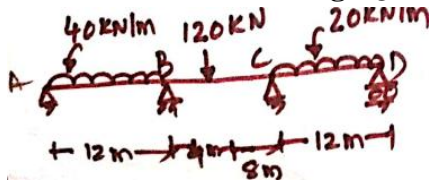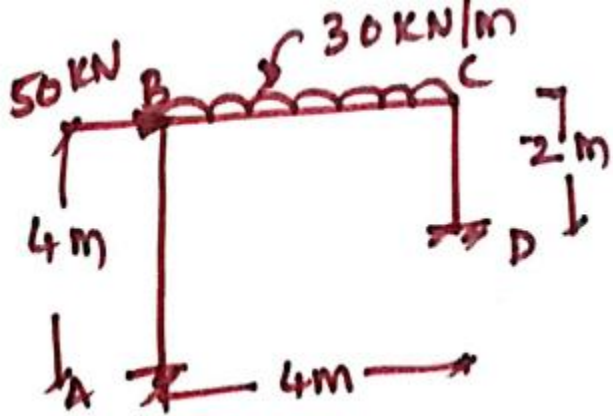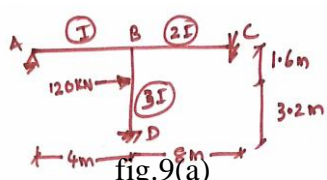
Q.7(a)	Analyze the continuous beam shown in **fig. Q.7.a,** by **Flexibility Matrix Method**. Draw BMD. **fig. Q.7.a**	20
	OR	
Q.8(a)	Analyse the portal frame ABCD shown in fig.8(a) by flexibility matrix method. Draw BMD **fig.8(a)**	20
	Module – 5	
Q.9(a)	Analyze the continuous beam shown in **fig. Q.9(a), by Stiffness Matrix Method**. Draw BMD and SFD. fig.9(a)	20
	OR	
Q.10(a)	Analyse the portal frame shown in fig.Q. 10(a) by stiffness matrix method and Draw BMD. **fig.Q.10(a)**	20
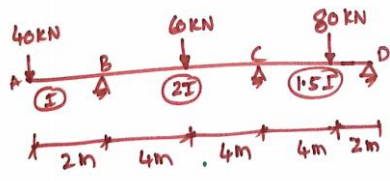
	Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome		
Question	**Bloom's Taxonomy Level attached**	**Course Outcome**	**Programme Outcome**
Q.1 (a)	L1,L2,L3,L4,L5	1	Po1,Po2,Po4,
(b)			
(c)			
Q.2 (a)	L1,L2,L3,L4,L5	1	Po1,Po2,Po4,
(b)			
(c)			
Q.3 (a)	L1,L2,L3,L4,L5	2	Po1,Po2,Po4,
(b)			
(c)			
Q.4 (a)	L1,L2,L3,L4,L5	2	Po1,Po2,Po4,
(b)			
(c)			
Q.5 (a)	L1,L2,L3,L4,L5	3	Po1,Po2,Po4,
(b)			
(c)			
Q.6 (a)	L1,L2,L3,L4,L5	3	Po1,Po2,Po4,
(b)			
(c)			
Q.7 (a)	L1,L2,L3,L4,L5	4	Po1,Po2,Po4,
(b)			
(c)			
Q.8 (a)	L1,L2,L3,L4,L5	4	Po1,Po2,Po4,
(b)			
(c)			
Q.9 (a)	L1,L2,L3,L4,L5	5	Po1,Po2,Po4,
(b)			
(c)			
Q.10 (a)	L1,L2,L3,L4,L5	5	Po1,Po2,Po4,
(b)			
(c)			

	Lower order thinking skills		
Bloom's Taxonomy Levels	Remembering(knowledge):L_1	Understanding Comprehension): L_2	Applying (Application): L_3
	Higher order thinking skills		
	Analyzing (Analysis): L_4	Valuating (Evaluation): L_5	Creating (Synthesis): L_6

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Fifth Semester B.E. Degree Examination
Analysis of Indeterminate Structures

TIME: 03 Hours

Max. Marks: 100

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

	Module – 1	
Q.1	Analyze the continuous beam shown in Fig.Q.1 by slope deflection method and draw BMD, SFD, EC, if support 'B' sinks by 5mm and E=210GPa, I=0.1Gmm⁴ Fig.Q.1	20 Marks
	OR	
Q.2	Analyze the rigid frame shown in Fig.Q.2 by slope deflection method and draw BMD, SFD, EC. Fig. Q.2	20 Marks
	Module – 2	
Q.3	Analyze the continuous beam shown in Fig.Q.3 by moment distribution method. Draw SFD, BMD & EC. Fig.Q.3	20 Marks

	OR	
Q.4	Analyze the rigid frame shown in Fig.Q.4 by moment distribution method and draw BMD. Fig.Q.4	20 Marks

Module – 3

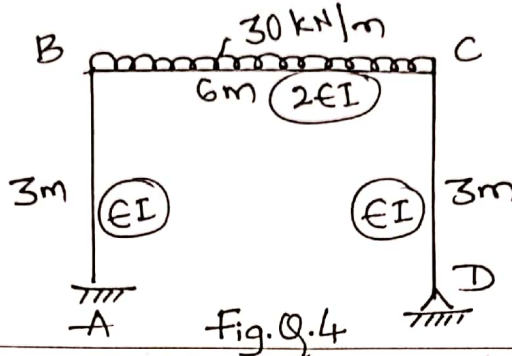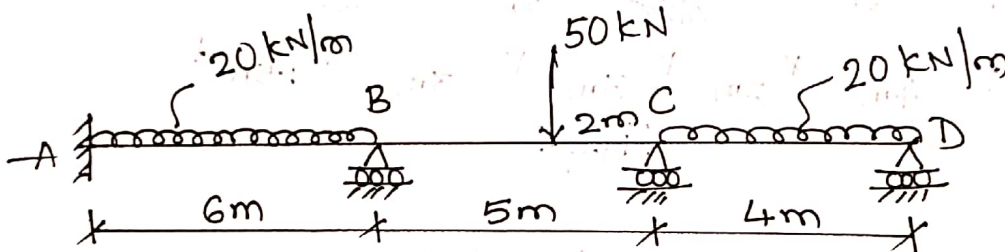|		
Q.5	Analyze and draw BMD for the continuous beam shown in Fig.Q.5 by Kani's method if support 'B' sinks by 10mm. Take $E=2\times10^5$ N/mm², $I=1.2\times10^{-4}$m⁴. Fig.Q.5	20 Marks

OR

Q.6	Analyze the rigid frame shown in Fig.Q.6 by Kani's method and draw BMD. Fig.Q.6	20 Marks

Module – 4

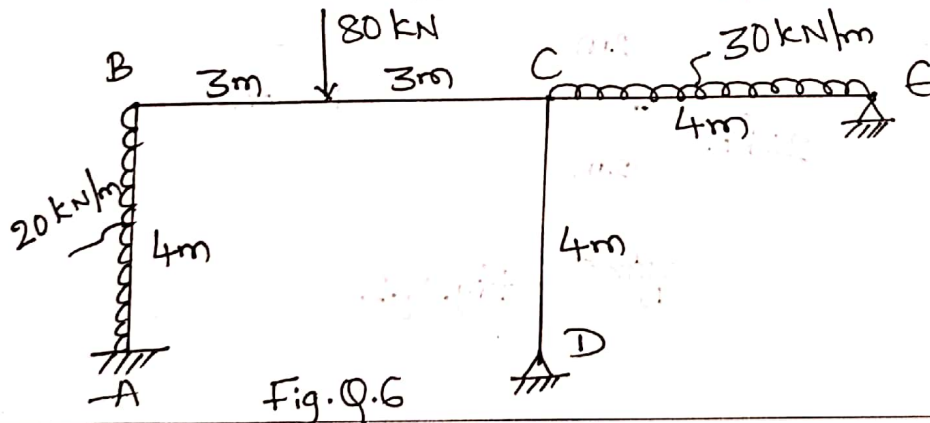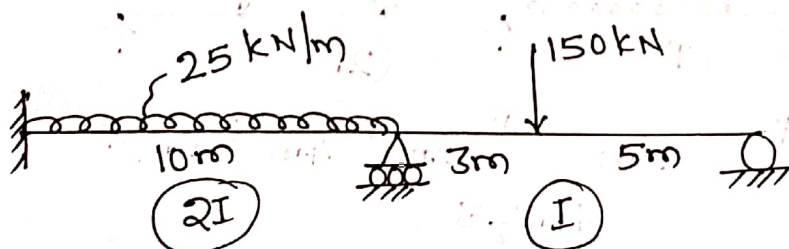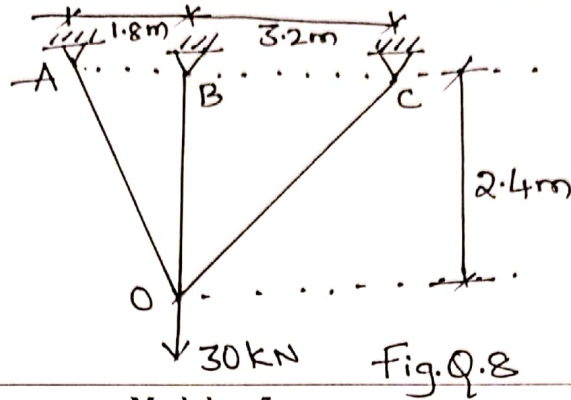|		
Q.7	Analyze the continuous beam shown in fig.Q.7 by matrix flexibility method using system approach and draw BMD. Take moments as redundant. Fig.Q.7	20 Marks

Q.8	Analyze the pin-jointed truss shown in Fig.Q.8 by matrix flexibility method of system approach and determine forces in all the members. Take force in member 'OA' as redundant.	20 Marks

Fig.Q.8

Module – 5

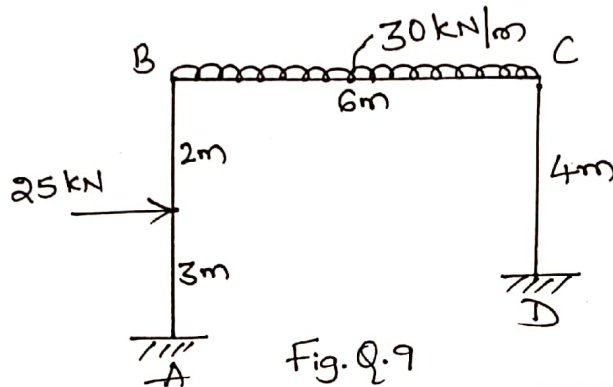| Q.9	Analyze the rigid frame shown in Fig.Q.9 by matrix stiffness method and draw BMD.	20 Marks

Fig. Q.9

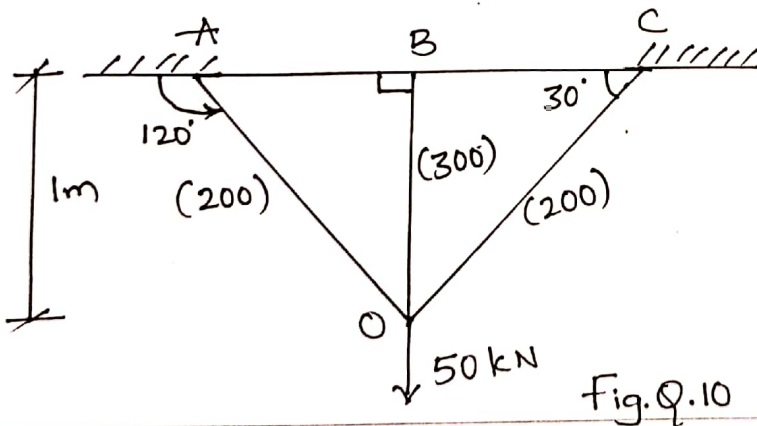| Q.10	Analyze the pinjointed frame shown in Fig.Q.10 by matrix stiffness method and find the forces in all the members. The numbers in parentheses are the C/S areas of members in sqmm.(Take E=constant).	20 Marks

Fig.Q.10