



R20 Regulation

Subject code:3P5AB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Supplementary Examinations, December 2024

STRUCTURAL ANALYSIS - II

(Civil Engineering)

Maximum Marks: 70

Date:28.12.2024

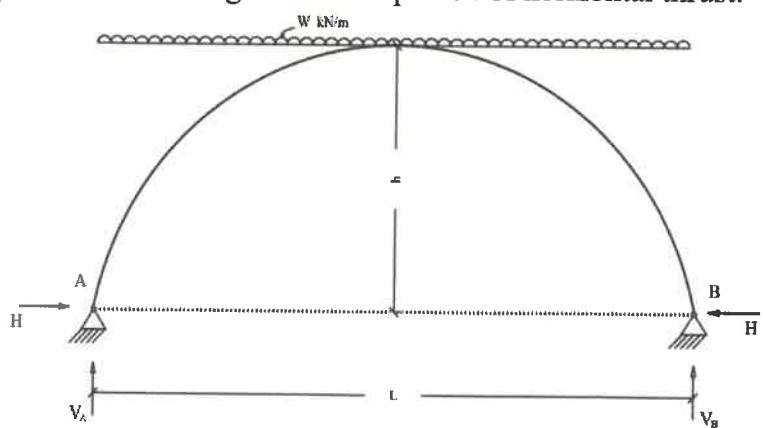
Duration: 3 hours

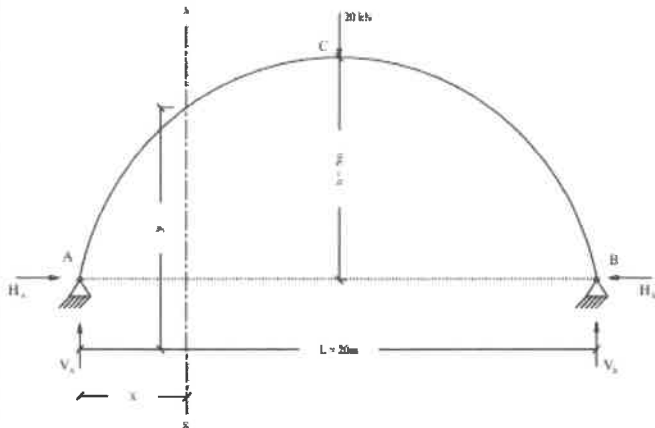
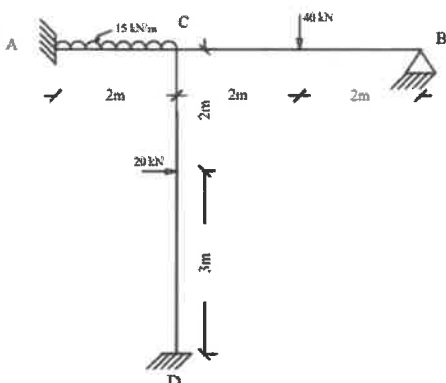
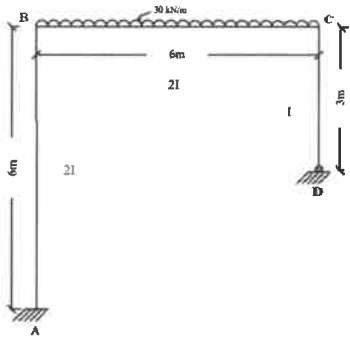
- Note:
- 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

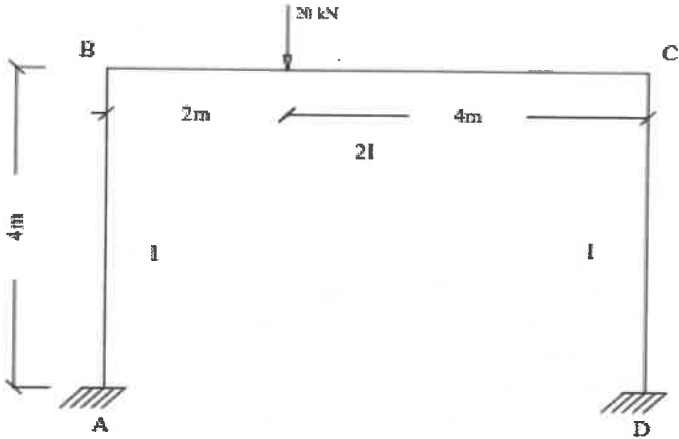
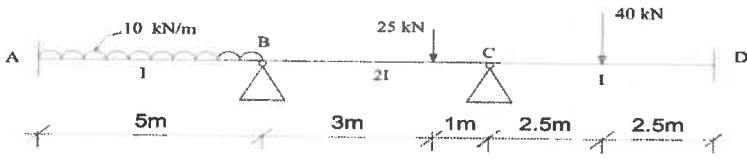
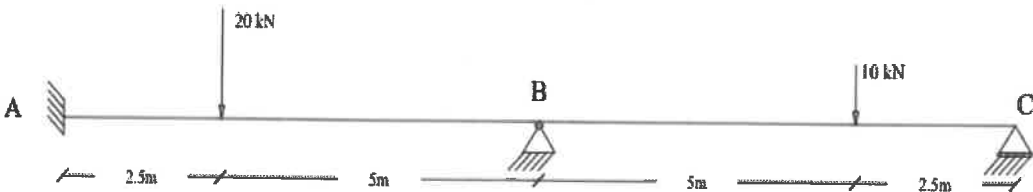
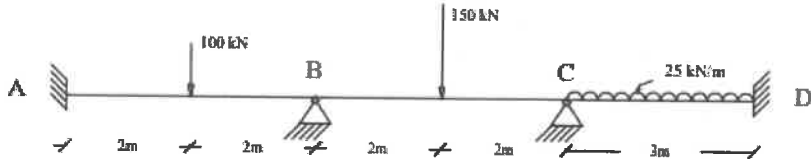
Part-A

All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	Define Static Indeterminacy and Kinematic Indeterminacy?	1	L1
2	Define the term Arches & different types of arches?	1	L1
3	Write general equation for slope deflection method?	2	L1
4	Define Stiffness and formula for beam having far end fixed?	2	L1
5	Write formula for Rotation factor?	3	L1
6	What are the conditions for sway analysis of frame in kani's method?	3	L1
7	Define stiffness coefficient?	4	L1
8	What is the effect of sinking of support for fixed beam?	4	L1
9	What are the assumptions made in portal method of analysis?	5	L1
10	State the Muller-Breslau's principle.?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	A parabolic two hinged arch carrying UDL of intensity 'W' kN/m throughout its span as shown in fig. Find the equation of horizontal thrust.  [10M]	1	L2
OR			
12	A Two Hinged Parabolic Arch of span 20m and central rise 5m carries point load of 20KN at the crown. Find the reactions at support and draw B.M.D for the Arch.	1	L2

	 [10M]		
13	Analyse the frame shown in figure. Draw B.M.D by using slope deflection method.  [10M]	2	L2
OR			
14	Apply sway analysis on the given frame using moment distribution method .  [10M]	2	L2
15	Analyse the frame whose both ends are fixed as shown using kani's method and the given frame is single bay-single storey.	3	L2

			
	[10M]		
	OR		
16	Analyse the three span continuous beam shown in fig. using Kani's method.	3	L2
			
	[10M]		
17	Analyse the beam shown in figure by Stiffness matrix method.	4	L2
			
	[10M]		
	OR		
18	Using matrix method of analysis. Analyse the three span continuous beam which is fixed at supports A & D, hinged at B & C shown in figure.	4	L2
			
	[10M]		
19	Using Cantilever method, Analyse the three bay-Double storey frame.	5	L2
	[10M]		

	OR		
20	Apply the portal method of analysis on given multi-storey frame. [10M]	5	L2