



R18 Regulation **Subject code: 2P5AA**
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: 23.12.2024

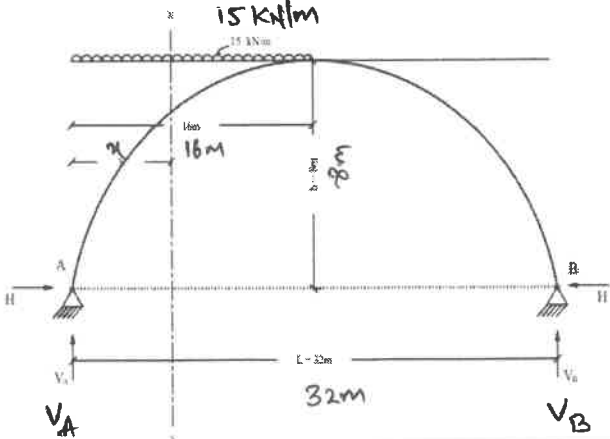
Duration: 3 hours

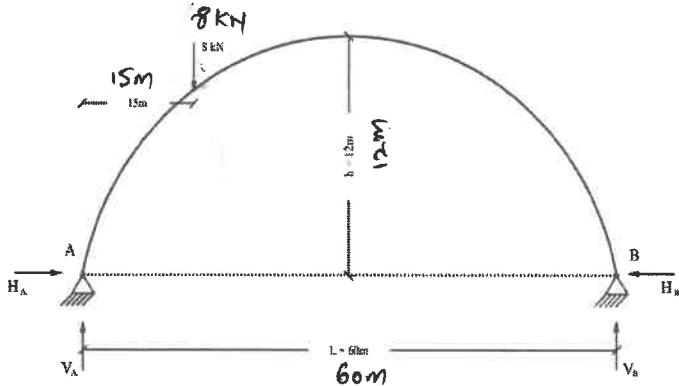
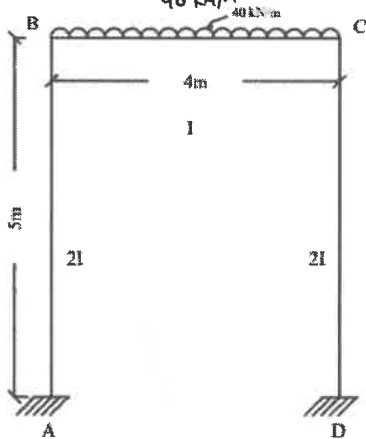
- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub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

Part-A

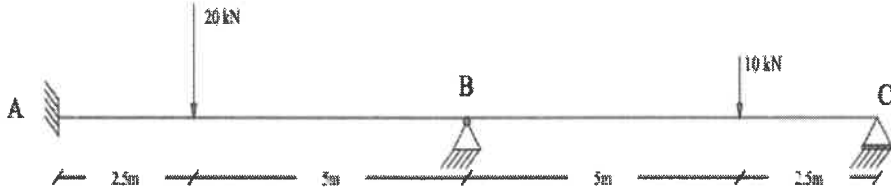
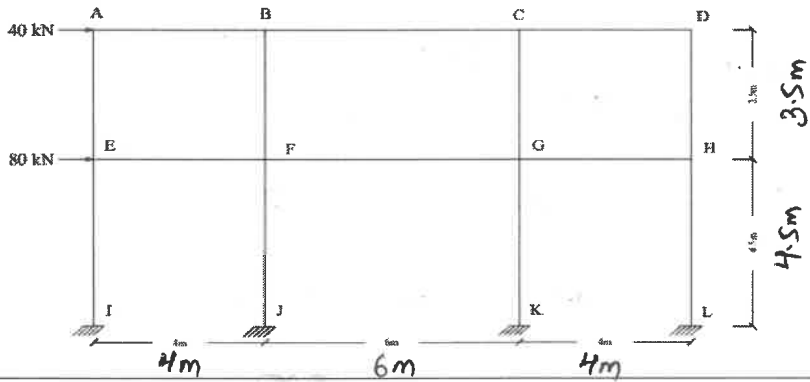
All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	Indeterminacy is sub classified into ?	1	L1
2	Write down the classification of two hinged arch.	1	L1
3	Formula for Normal thrust in two hinged arch.	2	L1
4	What is the maximum bending moment for point load 'W' kN acting on mid span, whose length is L.	2	L1
5	Fixed end moment M_{ab} & M_{ba} for Point load placed at mid span.	3	L1
6	Write general equation for Slope deflection method.	3	L1
7	Define Carry over factor?	4	L1
8	Write formula for Rotation factor?	4	L1
9	Draw Single bay-Single storey frame?	5	L1
10	Write Formula for distribution factor.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	A Two Hinged Parabolic Arch of span 32m central rise of 8m which carries a UDL of 15KN/m over a left half span. Calculate the support reactions and draw B.M.D. [10M] 	1	L2

	OR		
12	A Two Hinged Parabolic Arch of rise 12m and span 60m carrying a point load 8kN at a distance 15m from left support. [10M] (i) Calculate the horizontal thrust. (ii) Find binding moment at load for the Arch. 	1	L2
13	Identify the given frame is Sway or Non – Sway .Analyse the frame by moment distribution method and draw BMD. [10M] 	2	L2
	OR		
14	Using slope deflection method Analyse the frame loaded and supported as shown in fig. Also draw BMD and deflected shape of frame. [10M]	2	L2

15	Analyse the continuous beam which is fixed at A & D as shown in fig. Apply kani's method to analyse the given beam. [10M]	3	L2
OR			
16	Analyse the single bay-double storey frame carrying UDL as shown in fig. Apply kani's method on given frame. [10M]	3	L2

17	State Castigliano's Second Theorem. Derive the derivation. [10M]	4	L2
OR			
18	A Continuous beam whose left end is fixed and right end is roller supported as shown in figure. Analyse the beam by matrix method. [10M]	4	L2
			
19	Analyse the Frame by Portal method. [10M]	5	L2
			
OR			
20	Analyse the Frame by Cantilever method. [10M]	5	L2
