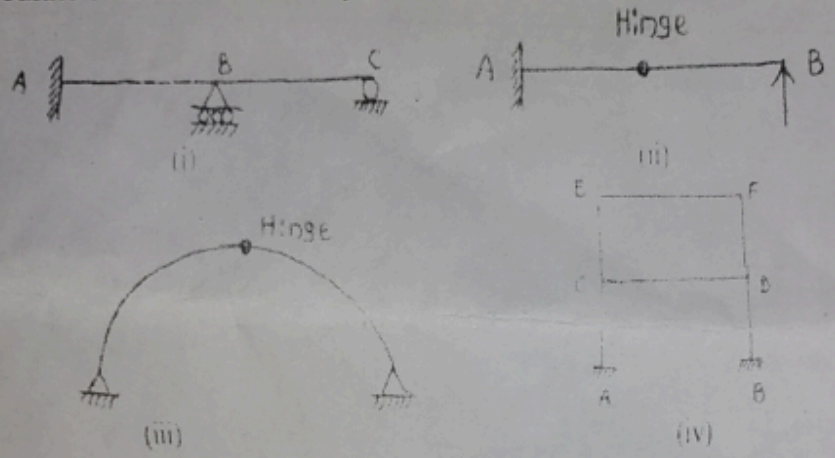
Vivekananda College of Engineering & Technology, Puttur
[A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]
Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

CRM08	Rev 1.10	<Civil>	<17/08/2022>

CONTINUOUS INTERNAL EVALUATION- 3

Dept: CV	Sem / Div: 4th	Sub: Analysis of Determinate Structures	S Code: 18CV42
Date: 30/08/2022	Time: 3:00-4:30 pm	Max Marks: 50	Elective: N
Note: Answer any 2 full questions, choosing one full question from each part.			

QN		Questions	Marks	RBT	COs
		PART A			
1	a	Differentiate between Statically determinate structures and statically indeterminate structures.	7	L2	CO1
	b	Discuss various structures forms with examples.	8	L2	CO1
	c	Calculate static indeterminacy for following structures. 	10	L3	CO1
		OR			
2	a	Differentiate between linear analysis and non linear analysis of structures.	7	L2	CO1
	b	Explain the terms degree of freedom, influence line diagram, applications of influence diagrams and absolute maximum bending moment.	8	L2	CO1
	c	Derive the expression for maximum reactions and shear force for a simply supported beam due to uniformly distributed loads. (UDL longer than span of beam)	10	L3	CO1
		PART B			
3	a	A uniformly distributed load of intensity 2kN/m and 5m long crosses a simply supported beam of 20m span from left to right. Calculate i. Maximum shear force and bending moment at a section 8m from left support. ii. Absolute maximum bending moment.	5	L3	CO1,2
	b	A train of four concentrated loads 40kN, 50kN, 60kN and 30kN with 30kN load leading crosses a simply supported girder of 18m span. The four loads are separated by a distance of 1.5m each. Determine the maximum bending moment at 6m from left support and absolute	20	L3	CO1,2

Prepared by: Shishirakrishna S

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CONTINUOUS INTERNAL EVALUATION- 3

		maximum bending moment anywhere in the girder.			
		OR			
4	a	A load of 150kN crosses a beam of 20m span. Find the values of maximum positive and negative shear force at a section 8m from the left support.	5	L3	CO1,2
	b	The multiple point loads 100kN, 120kN, 80kN and 150kN with a spacing 2m crosses a girder of span 30m from left to right with 100kN load leading. Calculate reactions, maximum SF at a section 10m from left, maximum BM at a section 10m from left, absolute maximum SF and absolute max BM.	20	L3	CO1,2

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