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

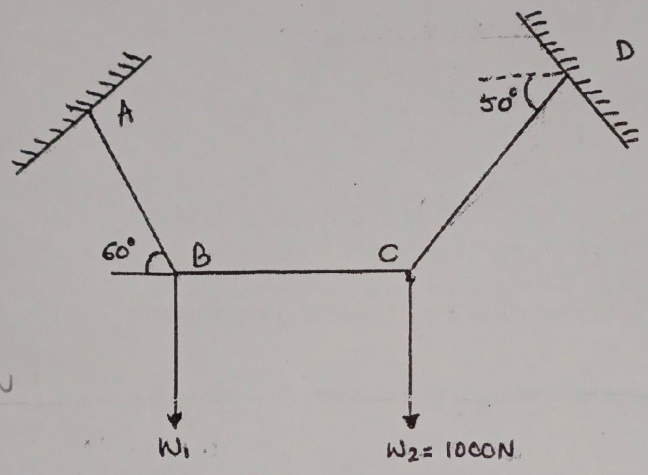
CRM08	Rev 1.10	<CV>	<09/02/2022>

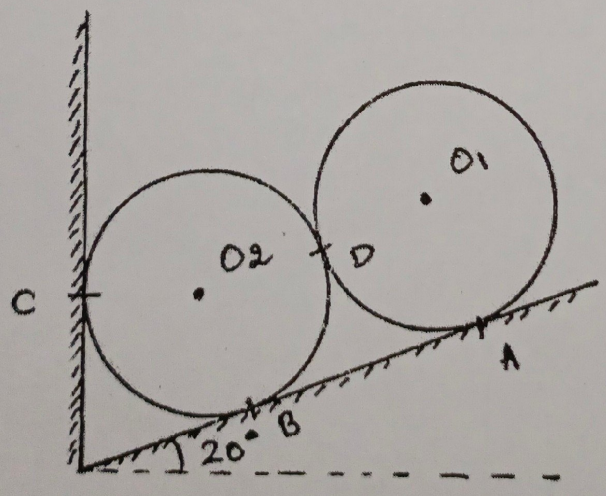
CONTINUOUS INTERNAL EVALUATION- 2

Dept: Civil	Sem / Div: 1st A, B & C	Sub: Elements of Civil Engineering & Mechanics	S Code: 21CIV14
Date:18/02/2022	Time: 9:30-11:00 am	Max Marks: 40	Elective: N
Note: Answer any 2 full questions, choosing one full question from each part.			

QN		Questions	Marks	RBT	COs
		PART A			
1	a	Find the forces in all the wires (AB, BC, and CD) and the load W_1 to keep the system in equilibrium with BC horizontal. Take W_2=1000N.	10	L3	CO2,3
	b	Two identical rollers each of weight 1000N are supported by an inclined plane and vertical wall. Find the actions at A, B and C.	10	L3	CO2,3
		OR			
2	a	The coefficients of friction are μ_s=0.3 and μ_k=0.25 between all surfaces of contact. Determine the smallest force P required to just start block D moving if,	10	L3	CO2,3

W_1 = 1453.34 N
T_{AB} = 1678.17 N
T_{BC} = 839.09 N
T_{CD} = 1305.40 N





Prepared by: Shishirakrishna S.

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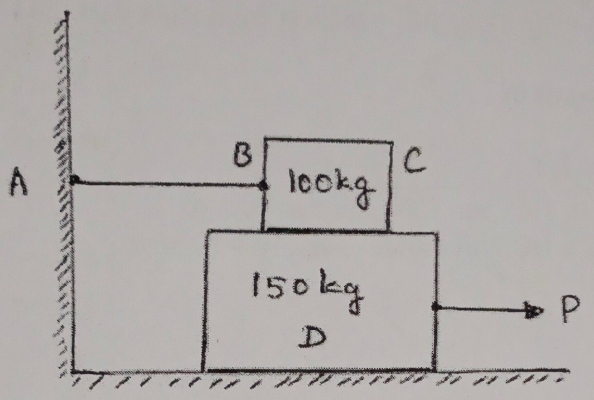
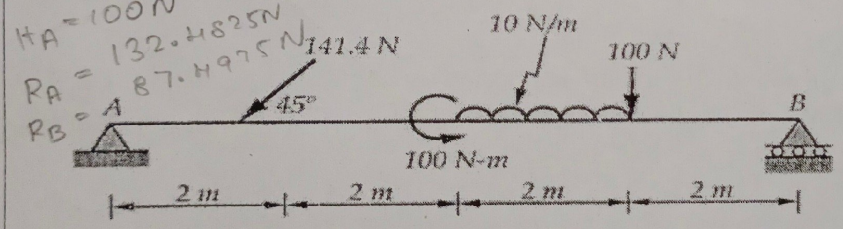
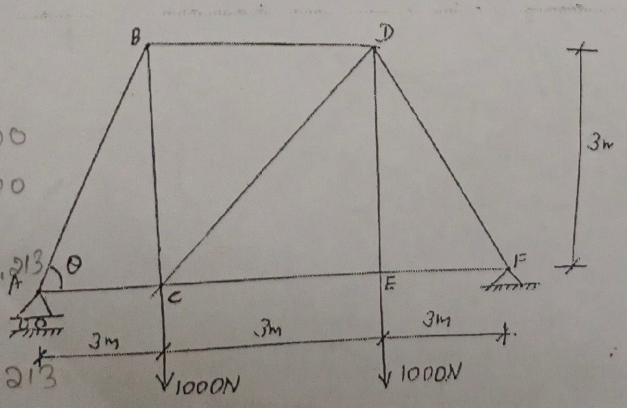
CONTINUOUS INTERNAL EVALUATION- 2

		a. Block C is restrained by cable AB as shown. b. Cable AB is removed. 			
	b	Briefly explain laws of friction, angle of friction and types of friction.	10	L2	CO2,3
		PART B			
3	a	Explain briefly with neat sketch types of beams, types of supports and types of loads.	10	L2	CO2,3
	b	Determine the reactions at supports at A and B for loaded beam shown in following figure. 	10	L3	CO2,3
		OR			
4	a	Analyse the following truss by method of joints. Tabulate the results and sketch the results. 	20	L3	CO2,3