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

CRM08	Rev 1.8	FY	21/10/2019

CONTINUOUS INTERNAL EVALUATION- 1

Dept: FY	Sem/Div: 1st A, B & C	Sub: ELEMENTS OF CIVIL ENGINEERING	S Code: 18CIV14
Date: 26/10/19	Time: 9:30-11:00	Max Marks: 50	Elective: N

Note: Answer any 2 full questions, choosing one full question from each part.

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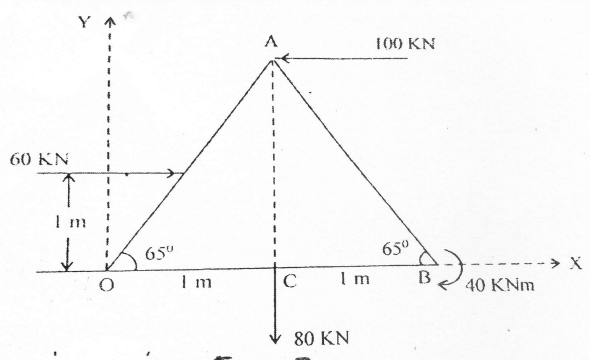
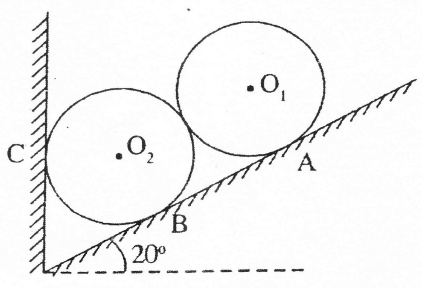
QN	Questions	Marks	RBT	COs
	PART A			
1 a	Explain the role of civil engineers in socio-economic development of country.	7	L2	CO1
b	State and prove Lami's theorem.	8	L2	CO2,3
c	Three forces and a couple is shown in figure. Find the magnitude, direction and position of resultant for Fig 1.	10	L2	CO2,3
	OR			
2 a	Two identical smooth spheres each of Weight 1000N are supported by an inclined plane and vertical wall. Determine the normal reaction at point A, B and C in Fig 2.	10	L3	CO2,3
b	Find the value of resultant of the system of forces shown in Fig 3.	7	L3	CO2
c	Define couple and its characteristics.	8	L2	CO1,2
	PART B			
3 a	Explain Limiting friction and angle of repose	6	L2	CO3
b	Replace the longitudinal 600N acting on the lever by an equivalent system constiting of a force and a couple at point O as shown in Fig 4.	5	L2	CO2
c	Determine the forces developed in the system of cables in equilibrium under two vertical loads of 300N and 500N in Fig 5.	8	L3	CO2,3
d	State and prove Varignon's theorem.	6	L2	CO2
	OR			
4 a	Replace the force system shown by single force passing through A and moment of a couple in Fig 6.	8	L4	CO3
b	Determine value of W to cause motion downwards. Take co efficient of friction for all contact surfaces as 0.3 in Fig 7.	8	L3	CO3
c	Explain briefly scope of civil engineering in, 1)Structural engineering. 2)Transportation engineering 3) Geotechnical engineering	9	L2	CO1



[Fig 1]



[Fig 2]

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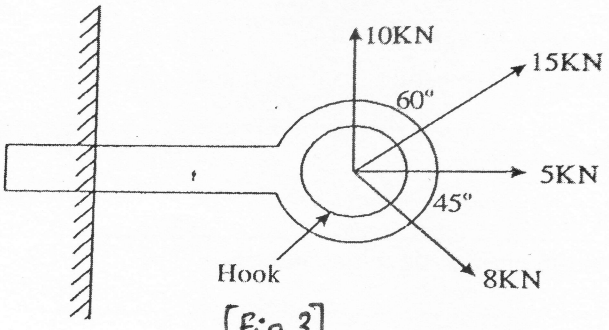
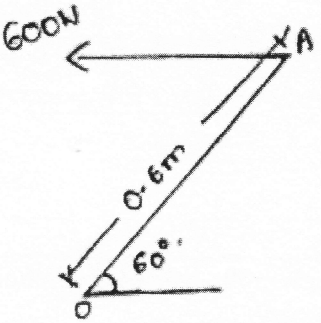
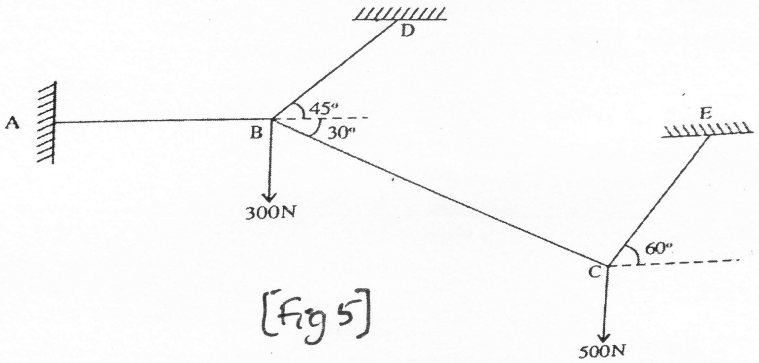


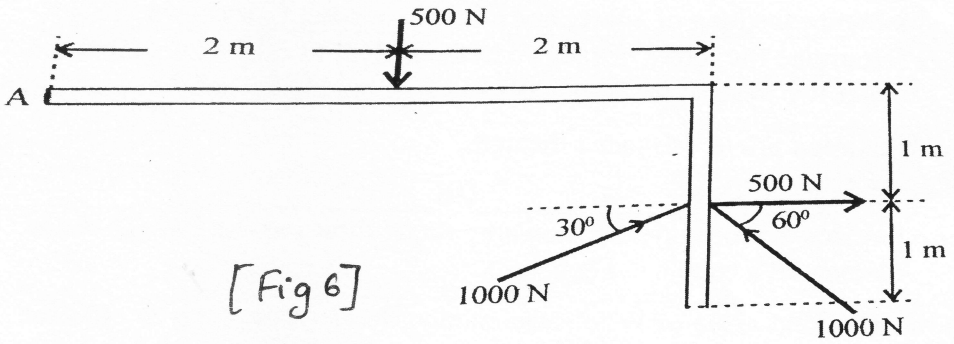
[Fig 3]



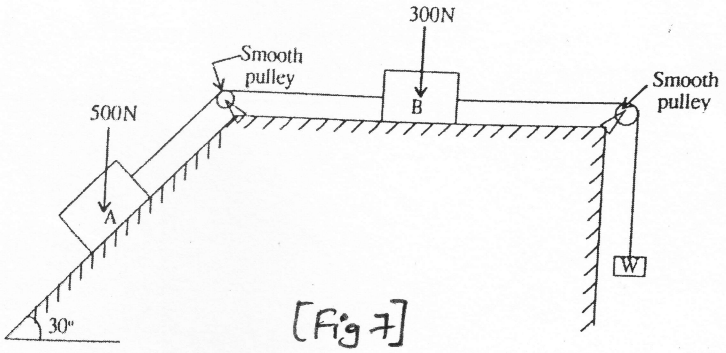
[Fig 4]



[Fig 5]



[Fig 6]



[Fig 7]

Prepared by: Prof. Manasa K

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