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

CRM08	Rev 1.11	Civil	04/01/22

CONTINUOUS INTERNAL EVALUATION- 1

Dept:CV	Sem / Div: A,B,C	Sub:Elements of civil Engineering and Mechanics	S Code:21CIV14
Date:13/01/22	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	In brief explain the scope of following civil engineering fields Construction technology, Geotechnical engineering, Structural engineering and transportation engineering.	10	L2	CO1
	b	Explain briefly, i) Force and its characteristics ii) Law of physical independence of forces. iii) Law of superposition of forces.	10	L1,2	CO2
		OR			
2	a	A 100N vertical force is applied to the end of the lever which is attached to a shaft as shown in figure 2(a). • Find the moment of a force about point O • The horizontal force applied at A which makes same moment about O • The smallest force applied at A which makes same moment about point O	10	L3	CO2
	b	Briefly explain the role of civil engineers in the infrastructural development. What are the effects of infrastructural facilities on socioeconomic development of a country?	10	L2	CO1
		PART B			
3	a	Determine the magnitude, direction of the resultant force for the force system shown in figure 3(a). Locate the resultant force with respect to point D.	10	L3	CO2
	b	Determine the resultant force acting on the structure at point 'o' both in magnitude and direction as shown figure 3(b)	10	L3	CO2
		OR			
4	a	Four forces acting on a hook are shown in figure 4(a). Determine the direction of force 150N such that the hook is pulled in X direction. Also determine the magnitude of resultant.	10	L3	CO2
	b	A rigid plate ABCD is subjected to forces as shown in figure 4(b). Compute the magnitude, direction and line of action of the resultant of the system with reference to the point A	10	L3	CO2

Prepared by: Jayakrishna Bhat D

HOD

CONTINUOUS INTERNAL EVALUATION- 1

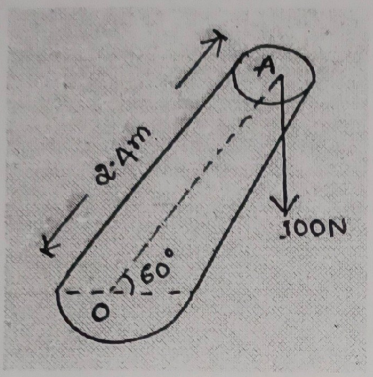

Figure 2(a)

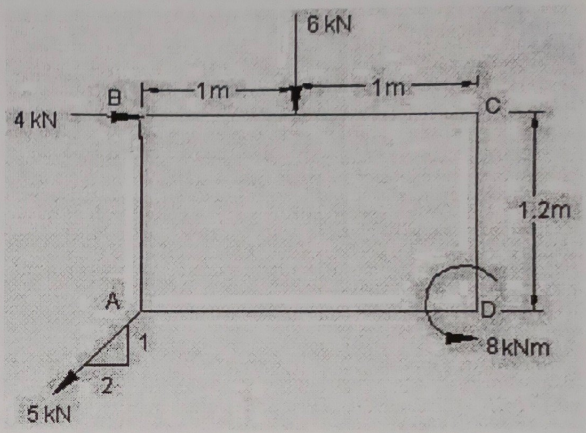

Figure 3(a)

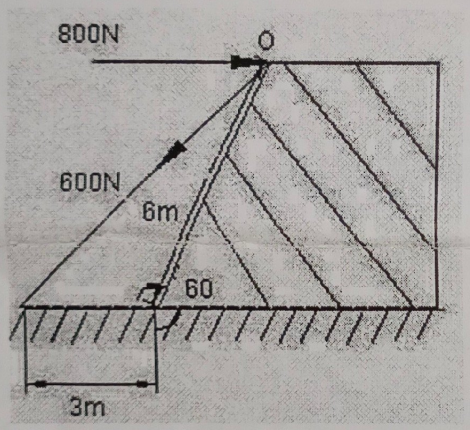

Figure 3(b)

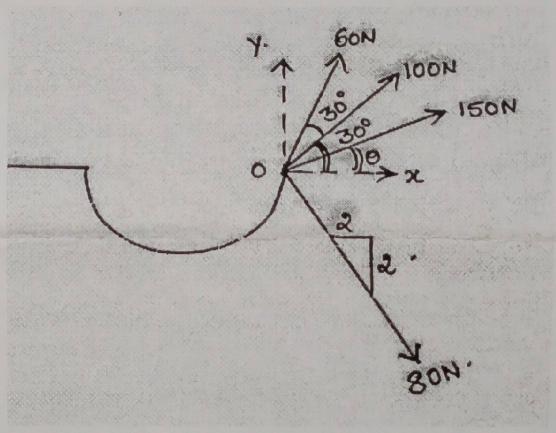

Figure 4(a)

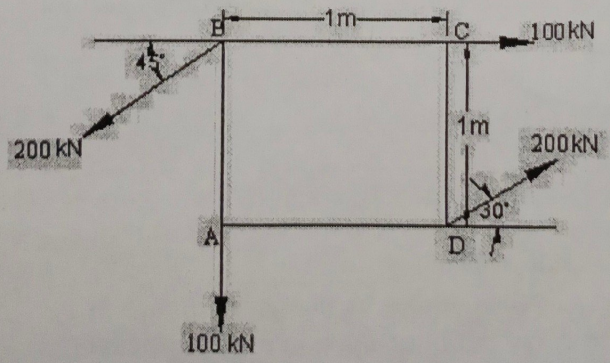

Figure 4(b)