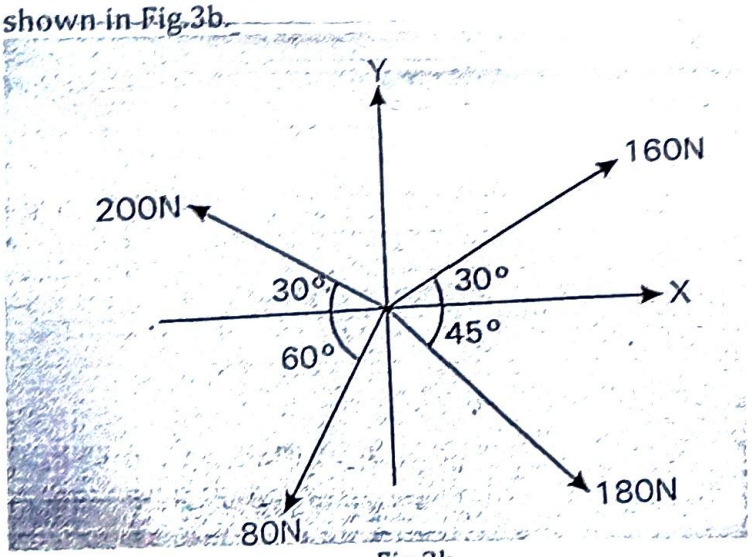
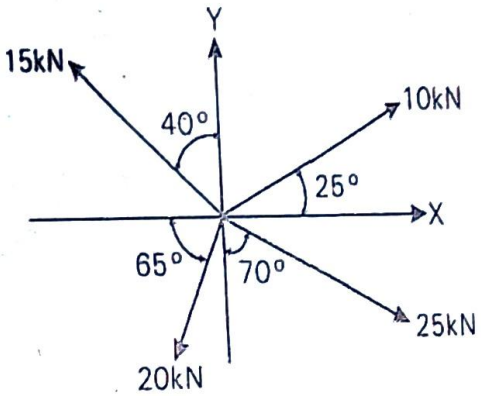
360

[redacted]	MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE Dept. of Civil Engineering 1st Internal Assessment 2nd Sem.	Sub. Name : Introduction to Civil Engineering(BESCK204A) Schedule: 09/05/2024 and 2.15 pm – 3.30 pm Total Marks: 30

Instructions to students

1. Answer ONE full question from each part
2. Assume any missing data suitably

Q#		Question Description	M	BTL	COs
		PART A			
1	a	Mention the disciplines of civil engineering and explain any two.	7	2	1
	b	Summarize the chemicals which are used in the field of construction.	8	2	1
2	a	Summarize cement and its types.	7	2	1
	b	Summarize the different types of foundation.	8	2	1
		PART B			
3	a	Summarize the classification of force system.	8	3	2
	b	Identify the system of forces and determine the horizontal and vertical components of the given system of forces as shown in Fig.3b.  Fig 3b	7	3	2

4	a	State and **prove the** parallelogram law of forces.	8	3	2
	b	Identify **the system** of forces and determine the **horizontal** and vertical **components** of the given system of **forces** as shown in **Fig.4b.**  Fig. 4b	7	3	2

3rd Internal ... Total ...

2nd Sem

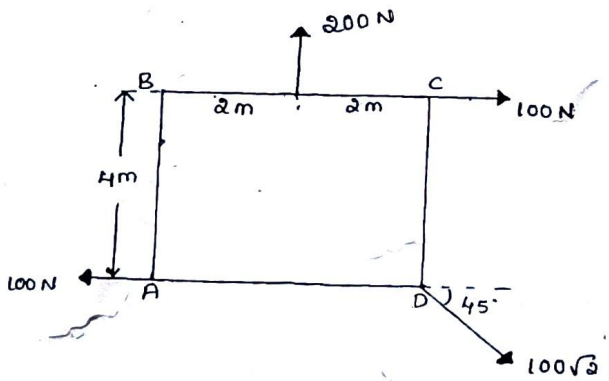
420

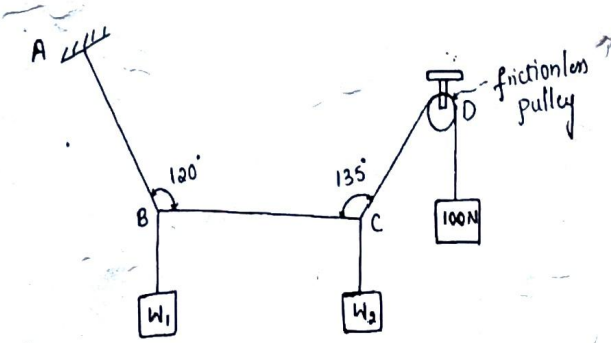
Q#

	MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE **Department of Civil Engineering** **2nd Internal Assessment** **2nd Semester**	**Sub. Name : Introduction to Civil Engineering (BESCK204A)** Schedule: **11 / 06 /2024** and **2.15 pm – 3.30 pm** **Total Marks: 30**

Instructions to students

1. Answer ONE full question from each part
2. Assume any missing data suitably

Q#		Question Description	M	BTL	COs
		PART A			
1	a	Define Sustainable Development Goals. List and Summarize the various goals of sustainable development set by United Nations.	8	2	1
	b	Summarize the factors to be considered for identification of landfill sites.	7	2	1
2	a	Summarize the sources of urban air pollution and strategies to manage air pollution.	8	2	1
	b	Summarize the "Smart buildings" with their major benefits.	7	2	1
		PART B			
3	a	Calculate the magnitude, direction and position of the resultant force for the force system shown in Fig.3(a). Locate the resultant force with respect to point A.  **Fig.3(a)**	8	3	2

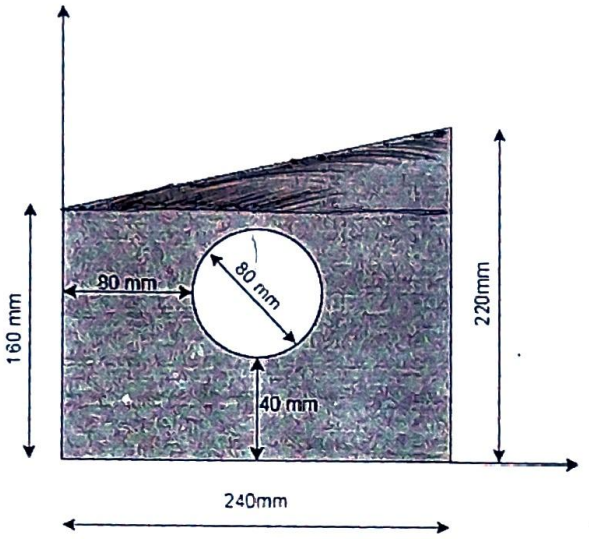
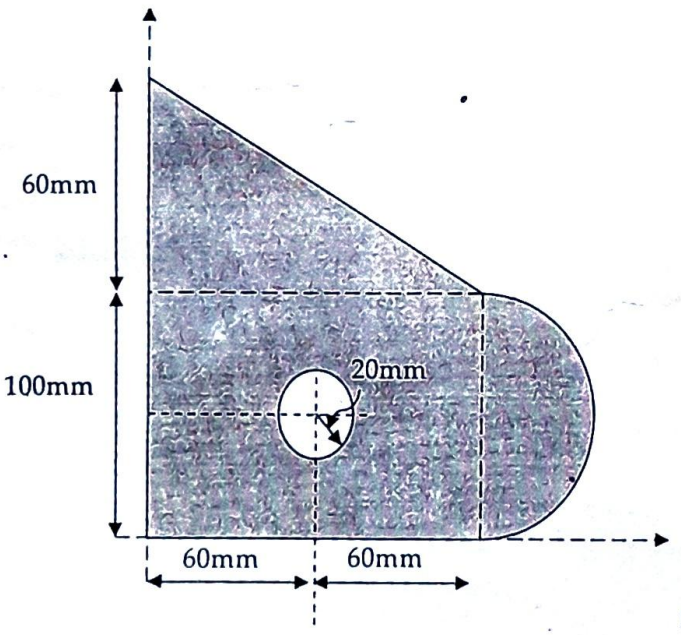
	b	State and prove Varignon's theorem of moments.	7	3	2
4	a	Calculate the tension in different parts of the strings and the load W_1 and W_2 to keep the system in equilibrium with BC horizontal and Pulley is frictionless.  **Fig.4(a)**	8	3	2
	b	Summarize Couple and its Characteristics.	7	3	2

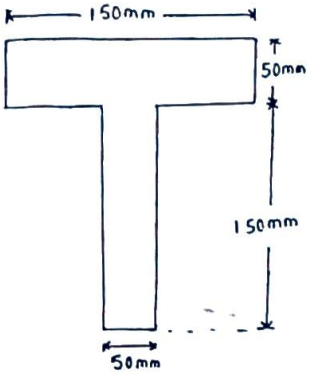
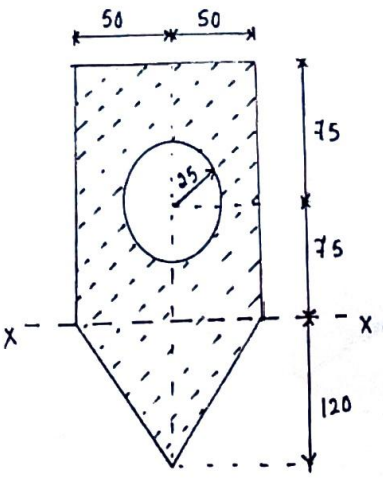
MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE
Dept. of Civil Engineering

CV

Introduction to Civil Engineering (M23BESCK204A)
Schedule: 16/07/2024 and 02:15pm - 03:30pm
3rd Internal Assessment
2nd Sem. Total Marks: 30

Instructions to students
1. Answer ONE full question from each part

Q#		Question Description	M	BTL	COs
		PART A			
1	a	Derive the equation to locate the centroid of Rectangular lamina from first principle	7	3	3
	b	Locate the centroid of lamina shown in figure 1.b  Figure 1.b	8	3	3
2	a	Derive the equation to locate the centroid of triangular lamina from first principle	7	3	3
	b	Locate the centroid of lamina shown in figure 2.b  Figure 2.b	8	3	3

		PART B			
3	a	Determine an expression to find the moment of inertia of a rectangle about the centroidal X- axis using first Principle or by the method of integration.	7	3	4
	b	Determine the radius of gyration of the T section about the co-ordinate axes shown in the Figure 3(b).  Fig.3(b)	8	3	4
4	a	Determine an expression to find the moment of inertia of a Triangle about the centroidal X- axis using first Principle or by the method of integration.	7	3	4
	b	Determine the moment of inertia and also the radius of gyration of the shaded area about the x-x axis shown in Figure. 4(b). All dimensions are in mm.  Figure. 4(b)	8	3	4