

**END SEMESTER EXAMINATION, August. – 2022**

Course Name: Fundamentals of Civil Engineering, Course Code: 201GEL107

Day and Date: .....day, .../.../2022

Seat No:

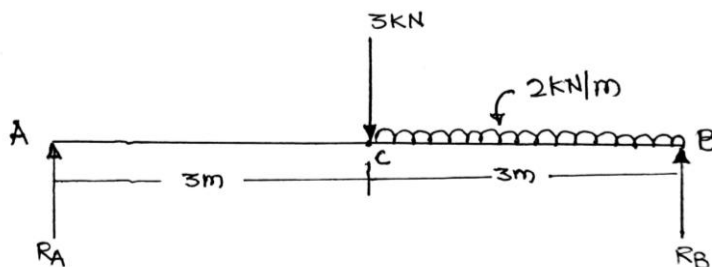
Time: 10.00 am to 12.00 pm

Max. Marks- 50

**Instructions:**

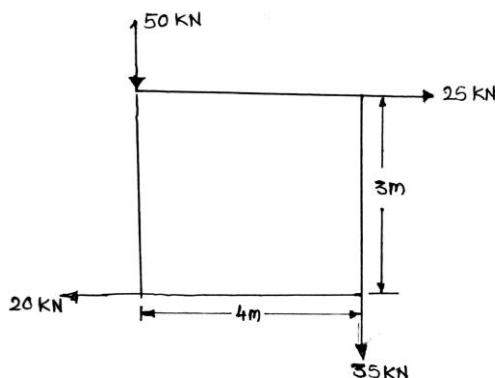
- Question No. 1 is compulsory.
- Figure to the right indicate full marks.
- Give suitable general Instructions
- Any other Course Specific Instructions.

BT	CO's	Q.No.		Marks
		<b>Q.1</b>	<b>All questions are compulsory</b>	<b>(20)</b>
1,2	107.1	a	Enlist the branches of civil engineering and explain any one in detail.	6
1	107.1	b	Define surveying and write down uses of GIS ,GPS.	7
3	107.2	c	Enlist various building construction materials and write down uses of any two building construction material.	7
		<b>Q.2</b>	<b>All questions are compulsory</b>	<b>10</b>
1,2	107.3	a	State varignon's theorem and state law of polygon of forces.	4
3	107.3	b	Find the support reaction of simply supported beam shown in following fig,	6



**OR**

Find the resultant in magnitude and direction for following forces shown in fig.



**Q.3 All questions are compulsory 10**

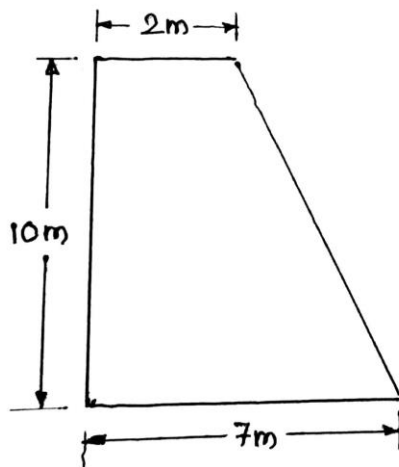
**1 107.4 a** *State law of conservation of momentum and D'Alembert's principle.* **4**

**3 107.4 b** *Body A and B is moving in the same direction with a velocity of 5m/s and 3m/s respectively. The mass of body A is 6kg while that of body B is 5kg. If the coefficient of restitution is 0.6 Determine the velocities of two bodies after impact.* **6**

**Q.4 All questions are compulsory 10**

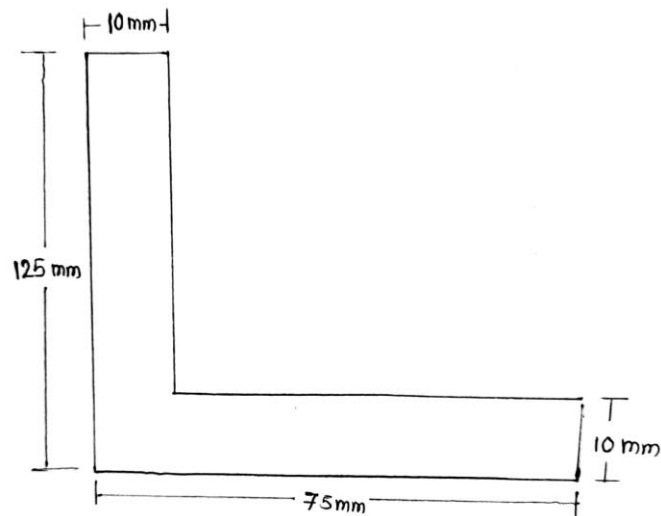
**1 107.5 a** *Differentiate between centroid and center of gravity.* **4**

**3 107.5 b** *Find the centroid of following lamina figure* **6**



**OR**

Find the moment of inertia ( $I_{xx}$  and  $I_{yy}$ ) of following section



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