

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

BESCK104A

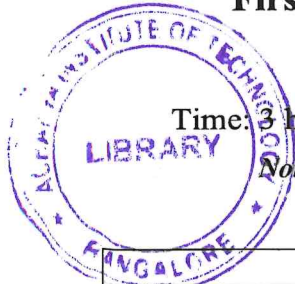
First Semester B.E./B.Tech. Degree Examination, June/July 2026

Introduction to Civil Engineering

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*



Module – 1				M	L	C
Q.1	a.	Explain the scope of following branches in Civil Engineering disciplines: i) Transportation Engineering ii) Environmental Engineering	10	L2	CO1	
	b.	Explain Bricks and their classification.	10	L2	CO1	
OR						
Q.2	a.	Briefly explain the structural elements of building with neat sketch.	10	L2	CO1	
	b.	Explain the following building materials with their applications : i) Construction chemicals ii) Cement and Mortar	10	L2	CO1	
Module – 2						
Q.3	a.	Explain the role of civil engineers in the infrastructural development of a country.	10	L2	CO2	
	b.	Discuss the importance of sustainable development goals in infrastructure development.	10	L2	CO2	
OR						
Q.4	a.	Explain the features of energy efficient buildings.	10	L2	CO2	
	b.	Explain different methods to manage solid waste in urban areas.	10	L2	CO2	
Module – 3						
Q.5	a.	State and prove parallelogram laws of forces.	8	L2	CO3	
	b.	A system of forces are acting on a body is shown in Fig.Q.5(b). Determine the magnitude and direction of resultant. Fig.Q.5(b)	12	L3	CO3	

OR

Q.6	a.	State and prove Varignons theorem of moments.	8	L2	CO3
	b.	Determine the magnitude and direction of force P, which keeps the concurrent system of Fig.Q.6(b) in equilibrium.	12	L3	CO3

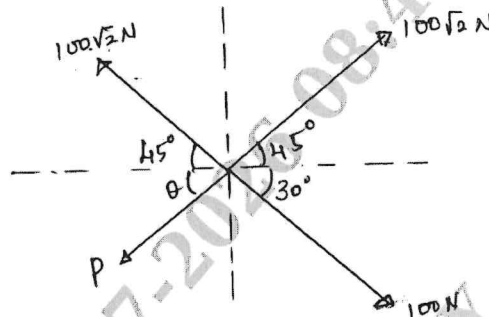


Fig.Q.6(b)

Module – 4

Q.7	a.	Derive an expression to locate centroid of rectangle.	8	L2	CO4
	b.	Determine the centroid of Fig.Q.7(b), shaded region about x and y axis	12	L3	CO4

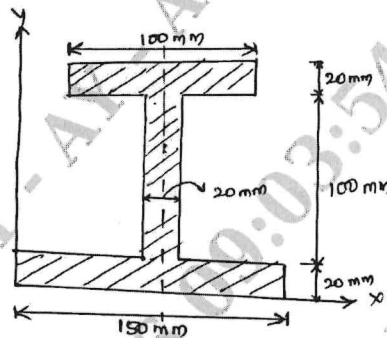


Fig.Q.7(b)

OR

Q.8	a.	Derive an expression to locate centroid of semi circle.	8	L2	CO4
	b.	Determine the centroid of the shaded region shown in Fig.Q.8(b) about x and y axis.	12	L3	CO4

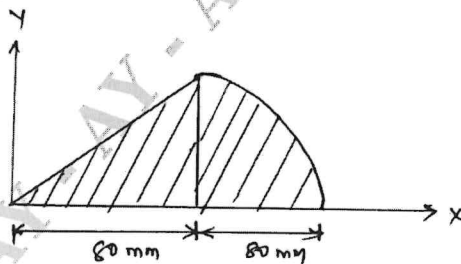
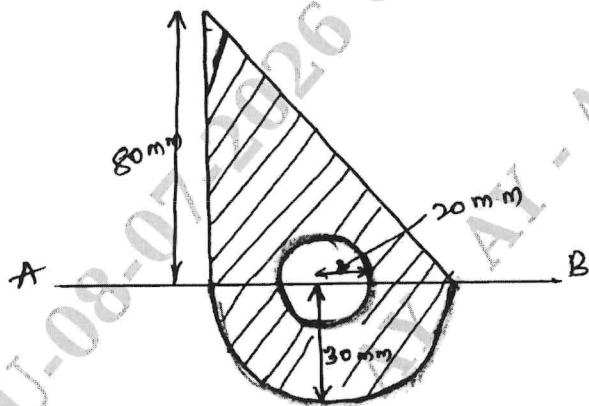
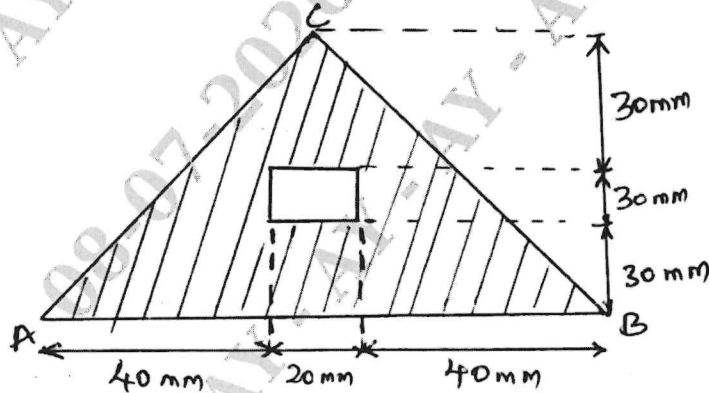


Fig.Q.8(b)

Module – 5

Q.9	a.	Derive an expression to locate moment of inertia of a rectangle.	8	L2	CO5
	b.	Compute the moment of inertia of the shaded region shown in Fig.Q.9(b) about the axis AB.  Fig.Q.9(b)	12	L3	CO5
OR					
Q.10	a.	Explain the following: i) Parallel Axis Theorem ii) Perpendicular Axis Theorem.	8	L2	CO5
	b.	Determine the moment of inertia and radius of gyration of the shaded area shown in Fig.Q.10(b) about the base AB and centroidal axis parallel to AB.  Fig.Q.10(b)	12	L3	CO5
