

CBCS SCHEME

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BESCK104A/BESCKA104

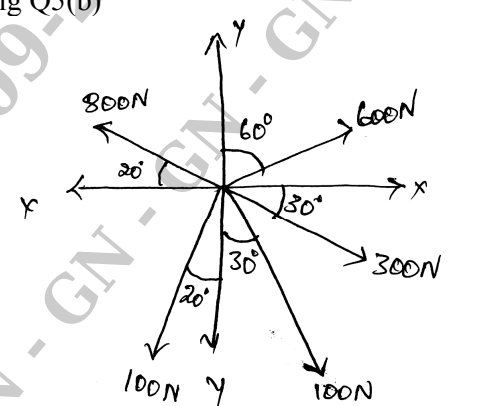
**First Semester B.E./B.Tech. Degree Supplementary Examination,
June/July 2024**

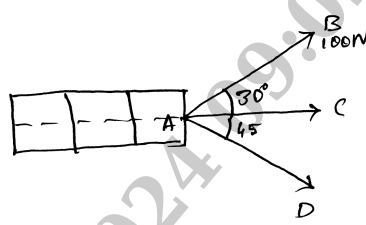
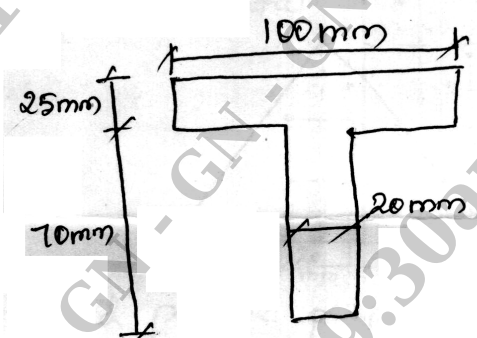
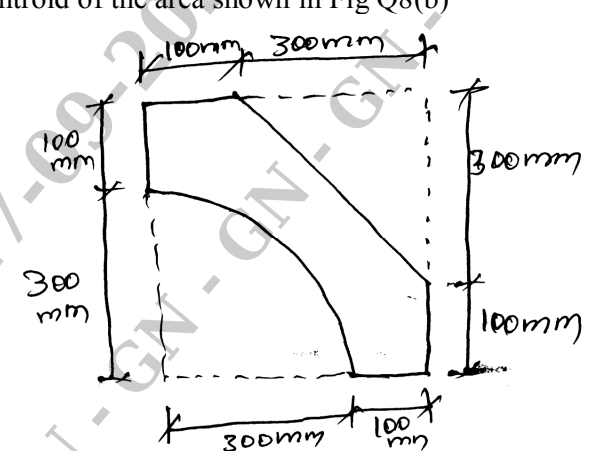
Introduction to Civil Engineering

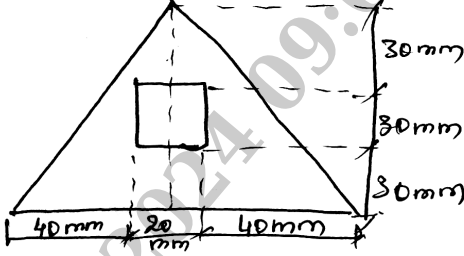
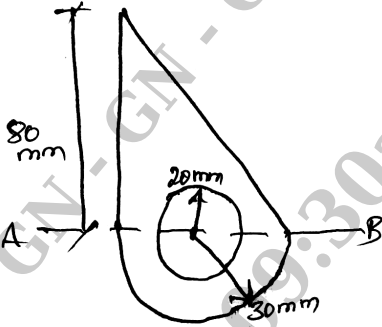
Time: 3 hrs.

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 of Civil Engineering : i) Surveying ii) Environmental Engineering.		10	L1	CO1
	b.	Explain the structural elements i) Plinth ii) Chejja iii) Staircases.		10	L1	CO1
OR						
Q.2	a.	Explain the scope of : i) Hydraulic and Water Resource Engineering ii) Transportation engineering		10	L1	CO2
	b.	Explain any five chemicals used in construction.		10	L1	CO2
Module – 2						
Q.3	a.	Explain the development made towards the sustainability of the earth.		10	L1	CO2
	b.	Explain the concept of recycling of waste materials.		10	L1	CO2
OR						
Q.4	a.	Differentiate between safe city and smart city.		10	L1	CO2
	b.	Explain different methods to control urban flood.		10	L2	CO2
Module – 3						
Q.5	a.	Explain the basic idealization of engineering mechanics.		5	L2	CO3
	b.	Find the magnitude and direction of the resultant of the coplanar force system shown in Fig Q5(b)		15	L3	CO3
 <p style="text-align: center;">Fig Q5(b)</p>						

OR					
Q.6	a.	State is explain principle of superposition and principle of transmissibility.	10	L2	CO2
	b.	Fig Q6(b) show that the top view of car pulled by two cables AB and AD. The car is moving along AC. If the force in cable AB is 100N. Calculate the force in AD and the resultant.	10	L3	CO3
 <p>Fig Q6(b)</p>					
Module – 4					
Q.7	a.	Derive an expression for determining centroid of a rectangle using first principle.	10	L2	CO4
	b.	Derive the centroid of the lamina shown in Fig Q7(b)	10	L3	CO4
 <p>Fig Q7(b)</p>					
OR					
Q.8	a.	Derive an expression for determining centroid of a triangle using first principle.	10	L2	CO4
	b.	Derive the centroid of the area shown in Fig Q8(b)	10	L3	CO4
 <p>Fig Q8(b)</p>					

Module – 5					
Q.9	a.	Explain moment of inertia, polar moment of inertia and radius of gyration with sketches.	10	L2	CO5
	b.	Determine the moment of inertia about centroidal horizontal X-X axis shown in Fig Q9(b)	10	L3	CO5
 <p>Fig Q9(b)</p>					
OR					
Q.10	a.	State and prove perpendicular axis theorem.	10	L2	CO5
	b.	Determine the moment of inertia about the given axis AB as shown in Fig Q10(b)	10	L3	CO5
 <p>Fig Q10(b)</p>					
