Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November – 2025

22BCVPC47001 – Estimation Professional Practice

(Civil Engineering)

Time: 3 hrs Maximum: 70 Marks

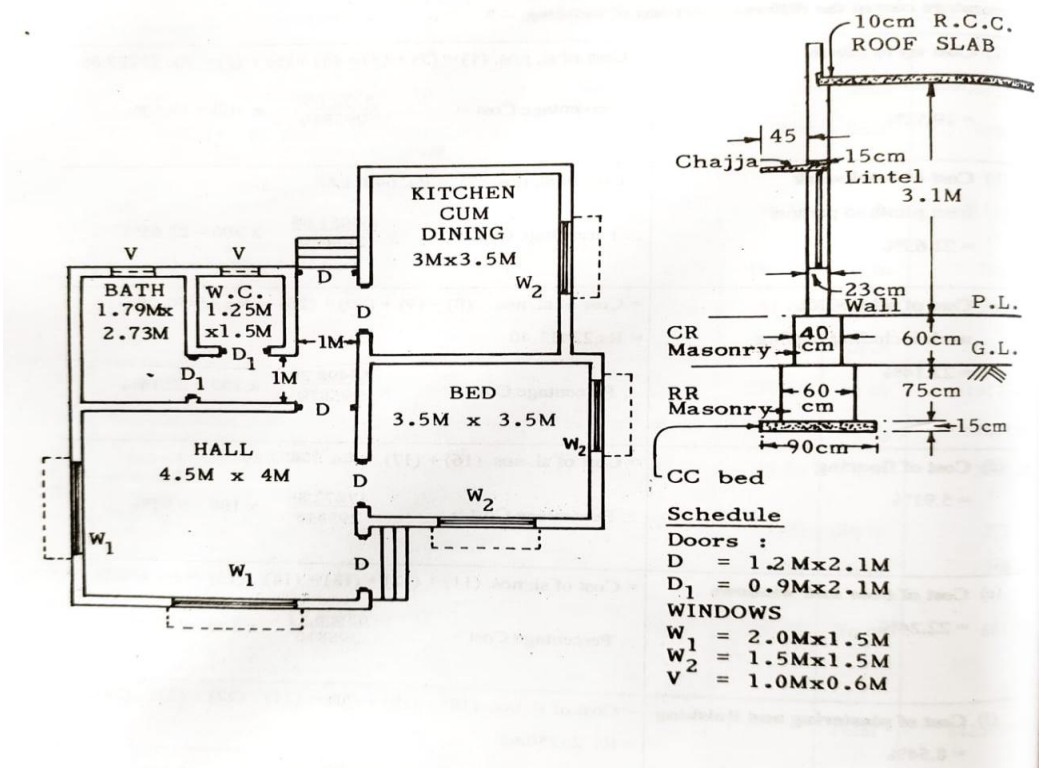
Answer ALL questions

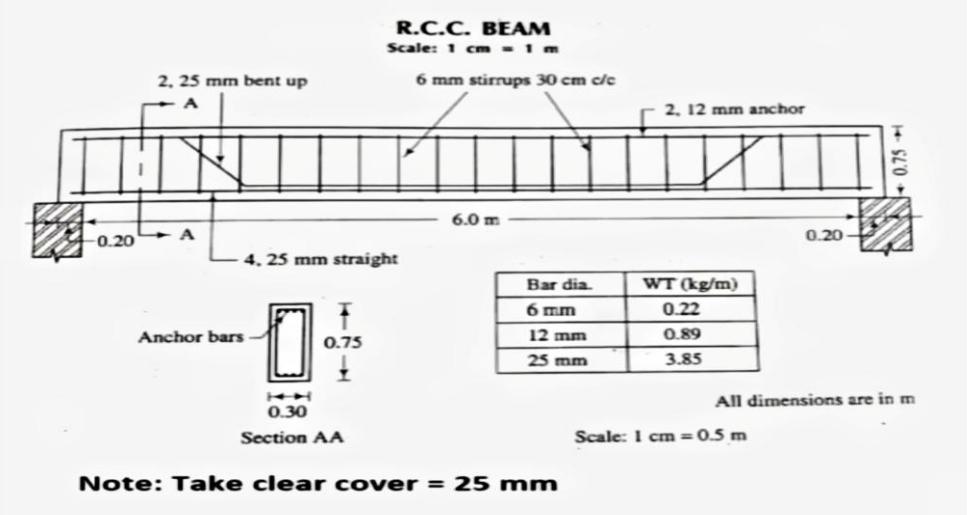
(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

		CO #	Blooms Level
Q.1.	Answer ***ALL*** questions		
a.	Describe the factors that influence the accuracy of an approximate estimate.	CO1	K2
b.	What are the main components or items included in an abstract estimate?	CO2	K1
c.	Describe how bar bending schedules are prepared for reinforced concrete members.	CO3	K3
d.	What is the significance of labour and material cost in rate analysis?	CO4	K4
e.	Describe the duties and responsibilities of parties involved in a construction contract.	CO5	K2

PART – B **(15 x 4 = 60 Marks)**

		Marks	CO #	Blooms Level
Answer ***all*** the questions				
2. a.	Explain the different types of estimates used in building construction with their purposes.	8	CO1	K2
b.	Write short notes on different approximate estimating methods such as plinth area and cubical content methods.	7	CO1	K3
	(OR)			
c.	 Estimate the Earth work excavation and concrete filling in the foundation for the figure given above	8	CO1	K3

d.	Estimate the DPC and Brick work for the figure given above	7	CO1	K3
3.a.	Explain the role of stirrups in a reinforced concrete lintel and how their spacing affects structural performance.	8	CO2	K4
b.		7	CO2	K3
	Workout the quantity of reinforcement by preparing bar requirement schedule of a Beam as per the drawing given above:			
	(OR)			
c.	Prepare bar bending schedule and calculate the quantity of reinforcement in a R.C.C (1:2:4) lintel as per data given below: Total Length of the lintel including bearing=1.50 m Thickness of wall=400 mm; Thickness of lintel=150 mm; Main reinforcement 5 bars of 12 mm φ (out of which 2 bars are bent up near support) Top reinforcement 2 bars of 10 mm φ; 6 mm φ, 2 legged stirrups are provided @175mm c/c uniformly.	8	CO2	K3
d.	Discuss the importance of preparing a Bar Bending Schedule before executing reinforcement work on site.	7	CO2	K4
4.a.	Calculate the unit rate for 1 cum of 1:5:10 cement concrete with brick ballast 40mm thick for foundation work (Total quantity: 10 cum).	8	CO3	K4
b.	Estimate the rate per cubic meter for reinforced brickwork in slab construction with 1:3 mortar, given 10 cum of work.	7	CO3	K4
	(OR)			
c.	Estimate the rate per square meter for 12 mm cement plastering in the ceiling using 1:3 cement mortar and coarse sand, total area 100 sqm.	8	CO3	K4
d.	Calculate the rate for 1 cum of 2nd class brickwork in superstructure using mud mortar (total quantity: 10 cum).	7	CO3	K4
5.a.	Compare the major forms of contracts used in civil engineering projects with suitable examples.	8	CO4	K2
b.	What information is generally included in a tender notice and tender document?	7	CO4	K4
	(OR)			
c.	Describe the different forms of contracts commonly adopted in public works departments.	8	CO4	K3
d.	Write the step-by-step procedure followed in the acceptance of tenders in government works.	7	CO4	K2

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