U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January / February 2025 Semester End Main Examinations

Programme: B.E. **Semester: VII**

Branch: CIVIL ENGINEERING **Duration: 3 hrs.**

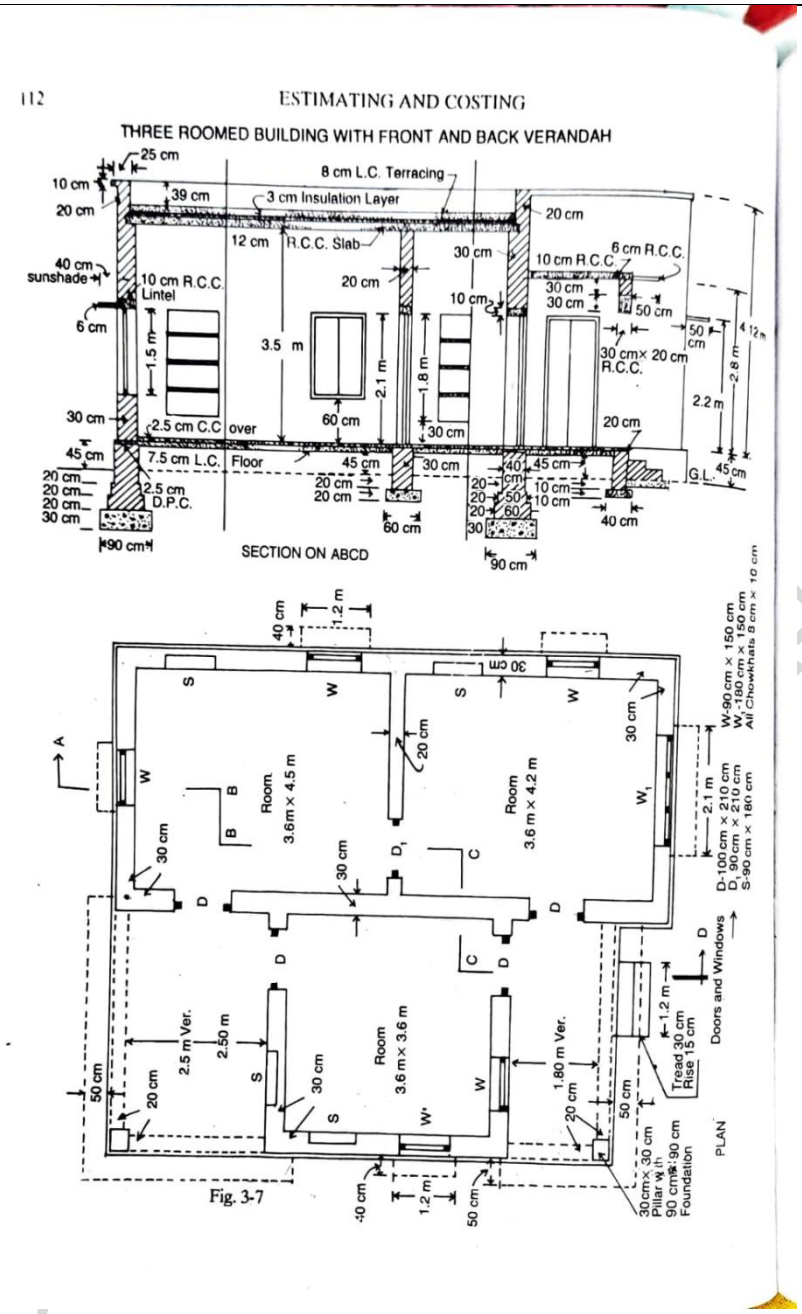
Course Code: 22CV7PCQSE **Max Marks: 100**

Course: Quantity Surveying and Estimation

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Briefly explain estimate and different types of estimates	C01	P01	**8**
	b)	Explain the following i. Tender Notice and tender documents ii. Technical Sanction and Administrative Approval iii. Earnest Money Deposit and Security Deposit	C01	P01	**3X4 = 12**
		OR			
2	a)	Briefly explain objectives of contract and different types of contracts	C01	P01	**08**
	b)	Write short notes on i. Acceptance of contract and issue of work order ii. Scrap value Salvage value and market value iii. Comparative statements and quotations	C01	P01	**3X4 =12**
		UNIT - II			
3		Plan and sectional elevation of a building is shown in **figure1**. Estimate the quantities of the following items of work of the building using centre line method. i. Earthwork in excavation in foundation ii. Lime concrete in foundation iii. First class brick work in lime mortar in foundation and plinth	C01	P03	**20**

						
			Figure 1			
			OR			
	4		Plan and sectional elevation of a building is shown in **figure1**. Estimate the quantities of the following items of work of the building using centre line method. i. 2.5cm damp proof course ii. First class brick work in 1:6 CM in super structure with parapet walls iii. RCC work 1:2:4 in roof slab.	*C01*	*P03*	**20**
			UNIT - III			
	5		Prepare a detailed estimate of a manhole from given **Figure 2**. Foundation shall be of 1:3:6 CC with brick ballast. Brick work shall be 1st class in CM 1:4, inner faces shall be pointed. Inside	*C01*	*P03*	**20**

channels and benching shall be finished with 20mm thick plastering in CM 1:3

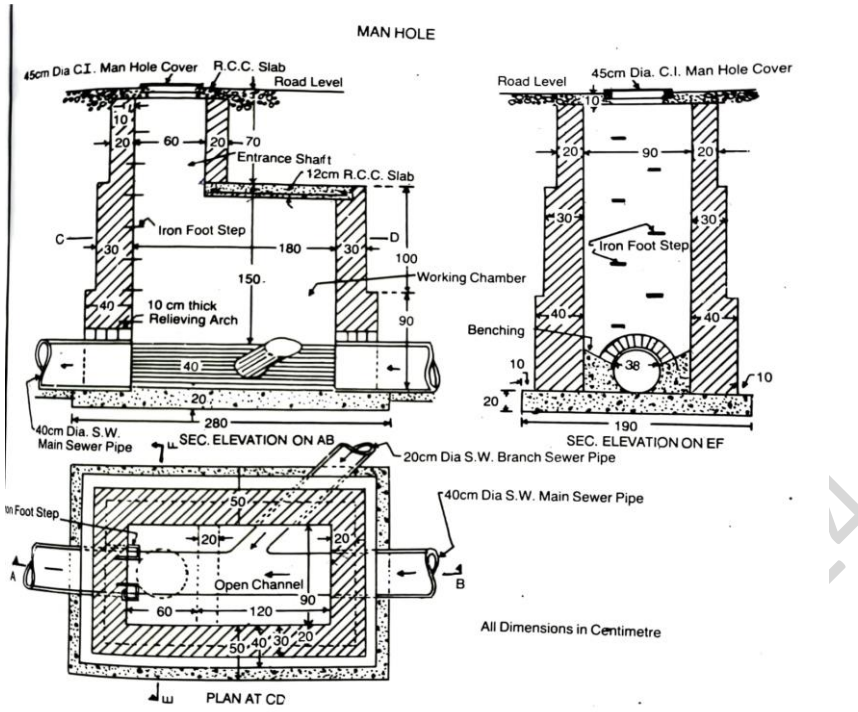


Figure 02

OR

6		Prepare detailed estimate of slab culvert shown in **figure 3** of 1.5m span and 4m road way from the given drawing. Foundation concrete shall be of cement concrete1:3:6 with stone ballast and coarse sand. Masonry shall be of first-class brick work in1:4 cement coarse sand mortar. Slab shall be of RCC 1:2:4 with reinforcement as per drawing. Exposed surface of brick masonry shall be cement pointed 1:2. Road shall be provided with 10cm thick wearing coat of 1:2:4 cement concrete.	*C01*	*P03*	**20**

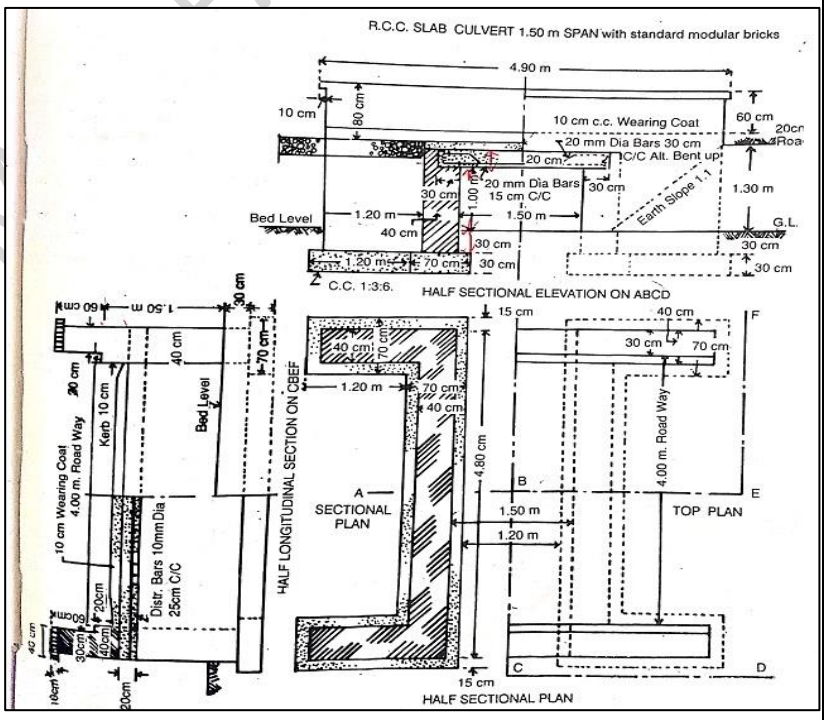


Figure 3

			a) Estimate quantity of Earthwork in excavation b) cement concrete 1:3:6 in foundation with stone ballast c) 1st class brick work in 1:4 cement mortar d) RCC work in 1:2:4 slab e) steel bars including bending in RCC work.			
			UNIT - IV			
	7		Reduced level of ground along the centre line of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10th chainage is 107 and the road is in downward gradient of 1 in 150 upto the chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of road is 10m and side slopes of banking are 2:1(H:V). length of chain is 30m. Draw longitudinal section of the road and a typical cross section and prepare an estimate of earthwork at the rate of Rs.275.00/- per cum.	*C02*	*P03*	**20**

Chainage	10	11	12	13	14	15	16	17	18	19	20
RL of Ground	105.00	105.60	105.44	105.90	105.42	104.30	105.00	104.10	104.62	104.00	103.3
RL of formation	107.00										
Gradient	Down gradient 1 in 150					Down gradient 1 in 100					

			OR				
	8		Calculate the volume of earthwork using prismoidal formula for the proposed road having following details: i. Formation width of road 10m ii. Side slopes are 2:1 (H:V) iii. Formation level is 112.60 at 0 chainage iv. Road has no slope in longitudinal direction.	*C02*	*P03*	**20**

Chainage (m)	0.00	30	60	90	120	150	180
RL of ground (m)	112.00	111.80	111.70	111.60	111.50	111.30	111.40

			UNIT - V				
	9		Carryout the rate analysis for the following i. 2.5 cm thick cement concrete 1:2:4 floor ii. RCC roofing with 1:2:4 proportions.	*C03*	*P03*	**20**
			OR				
	10		Give the detailed specification for the following i. Earthwork excavation ii. I class brick masonry in CM 1:4	*C03*	*P01*	**20**

****