
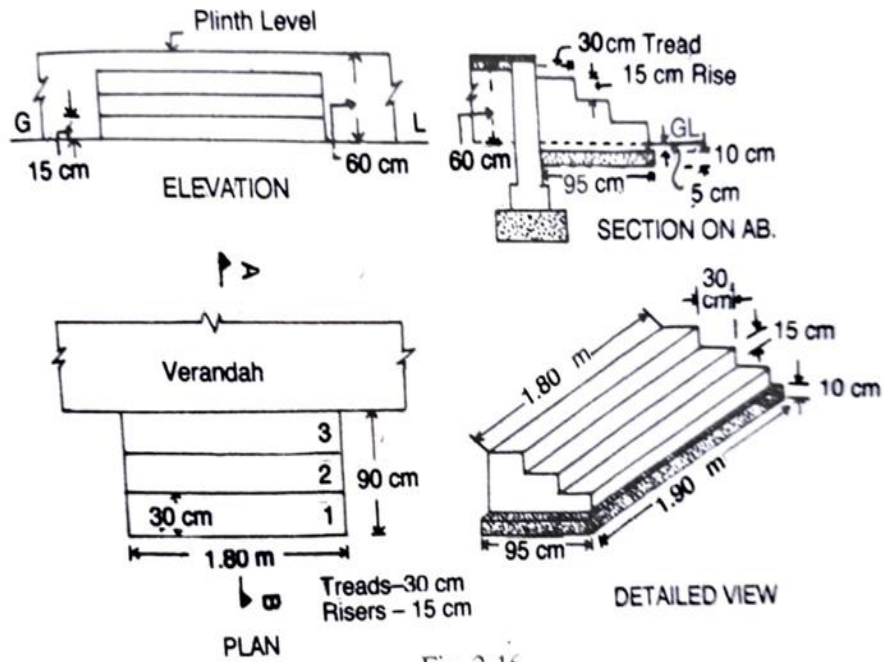
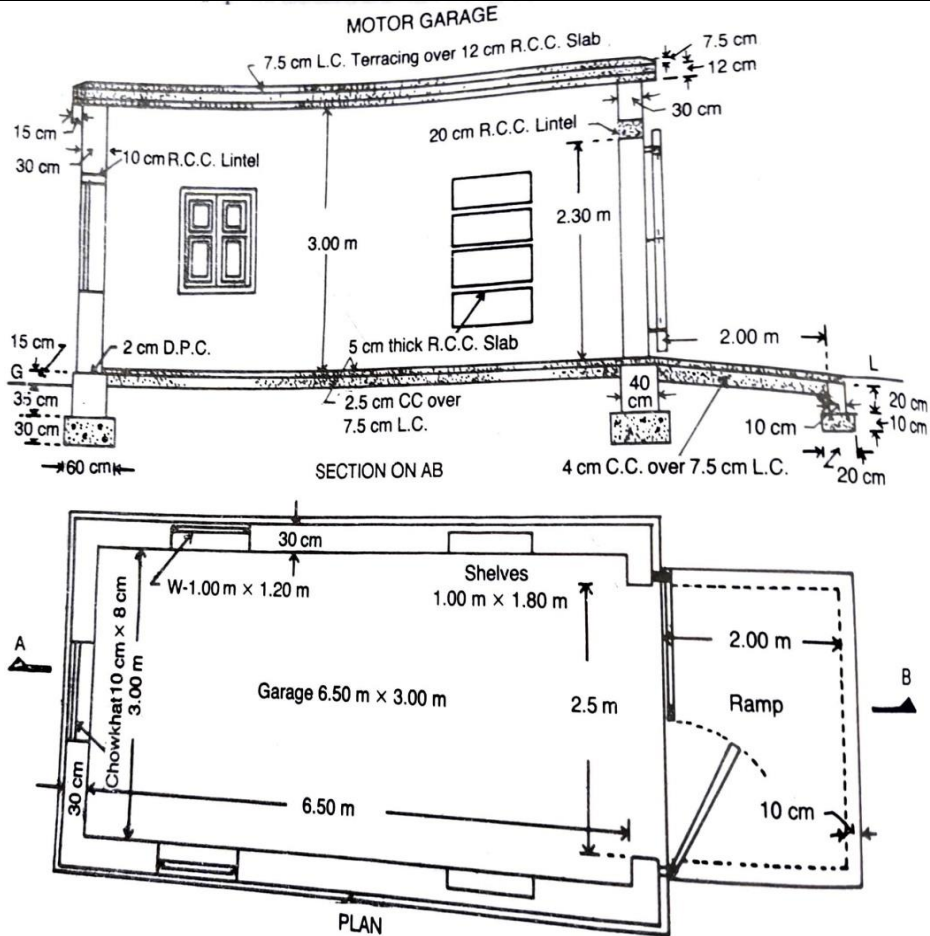


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, December 2024</b>			
<b>Course: Engineering Economics, Estimation and Costing</b> <b>Program: B.Tech. Civil Engineering</b> <b>Course Code: CIVL 4066</b>		<b>Semester: VII</b> <b>Time: 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: <u>Assume suitable values for any missing.</u></b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1.	What is the concept of break-even analysis, and how does it hold significance in economic decision-making?	04	CO1
Q 2.	Define open and closed economies and outline the primary ways in which countries engage in international interactions.	04	CO1
Q 3.	Explain the concept of “general specifications” and provide an example of general specifications details for any item of work.	04	CO2
Q 4.	What do you understand by Bar Bending Schedule? State its relevance.	04	CO4
Q 5.	What is the significance of a linear demand curve in market analysis?	04	CO1
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6.	a. State the importance of estimation in civil engineering projects and what are the main factors affecting it? b. Estimate the reinforcement steel required in 12m x 12 m continuous RCC slab of thickness 100 mm.	05+05	CO4
Q 7.	Explain the concept of Gross National Product (GNP), and why it is significant in macroeconomics? Additionally, how does GNP differ from Gross Domestic Product (GDP)?  OR Explain the concept of Gross National Income (GNI) along with its relevance in macroeconomics.	10	CO1
Q 8.	A project with a 5-year life and a cost of Rs. 3,25,000 generates revenue of Rs. 48,000 in year 1, Rs. 67,000 in year 2, Rs. 95, 000 in year 3, Rs. 1,00,000 in year 4 and Rs. 110,000 in year 5. If the discount rate is 15%, Can project be accepted? Year Cash Flow DCF @ 15% Present Value.	10	CO1
Q 9.	Estimate the quantities of earthwork, concrete, brickwork, and finishing work in the steps given below in the drawings:	10	CO2



**SECTION-C**  
(2Qx20M=40 Marks)

Q 10.	<p>As per the given plan and section, estimate the quantities of the following items for a motor garage using the Long Wall-Short Wall method.</p> <ol style="list-style-type: none"> <li>Earthwork in excavation in foundation</li> <li>Lime concrete in foundation</li> <li>1<sup>st</sup> class brickwork in foundation and plinth</li> <li>2 cm thick DPC</li> <li>1<sup>st</sup> class brickwork in superstructure</li> </ol>	<b>20</b>	<b>CO3</b>
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Q 11. Reduced levels (RLs) of the ground along the centre line of the proposed road from chainage 20 to chainage 27 are given below. The formation level at 20<sup>th</sup> chainage is 107.0m and the road is downward gradient of 1 in 100 up to chainage 23 and then gradient changes to 1 in 60 downwards. The formation width is 11 m, and the side slopes are 2.5:1 The length of the chain is 32m.

Longitudinal slope	1 in 100				1 in 60				
	Chainage	20	21	22	23	24	25	26	27
RL of ground (m)		105.0	105.6	105.4	105.9	105.4	104.3	105.0	104.1
RL of formation (m)		107.0	106.8	106.6	106.4	106.2	105.9	105.6	105.3

Estimate the earthwork for the road by mid-sectional area method. Also, determine cost for the work at the rate of Rs. 350 per cubic meter.

OR

Estimate the earthwork for the above question by mean-sectional area method. Also, determine cost for the work at the rate of Rs. 300 per cubic meter.

20

CO3