



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Civil Engineering

Semester End Examination; February - 2022

Quantity Surveying and Contract Management

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Apply the knowledge of engineering fundamentals for quantifying and cost estimate of buildings, roads, steel truss, man holes and septic tanks.

CO2: Evaluate the rate analysis for different items of buildings as per applicable specifications.

CO3: Demonstrate the calculation of Earth quantity for roads and canals.

CO4: Understand how to prepare a notice inviting tender document for bidding.

Note: i) UNIT - I is compulsory.

ii) Answer **THREE** full questions by selecting **ONE** full question from UNIT - II, UNIT - III & UNIT - IV.

iii) Missing data if any, suitably assume

Q. No.	Questions	Marks	BLs	COs	POs																							
UNIT - I		40																										
1.	Prepare a detailed bill of quantities of the following items of works for the residential building as shown in Fig. Q1a and Fig. Q1b. Adopt centre line method.																											
	a) Earth work excavation in hard soil for foundation.	10	L4	CO1	PO1																							
	b) M 7.5 grade concrete for foundation.	05																										
	c) Size stone masonry in 1:6 CM for foundation and basement.	10																										
	d) First class brickwork for super structure in 1:6 CM	15																										
UNIT - II		20																										
2.	Prepare a detailed bill of quantities for the following items of works for the manhole as shown in Fig. Q2.																											
	a) Earthwork excavation in hard soil.	05	L4	CO1	PO1																							
	b) M10 grade concrete.	05																										
	c) First class brickwork in 1:4 cm.	10																										
3.	Estimate the quantity of earthwork for the following details:																											
	<table border="1" style="width: 100%; border-collapse: collapse; margin-left: 40px;"> <thead> <tr> <th style="width: 15%;">Chainage</th> <th style="width: 15%;">Ground level</th> <th style="width: 15%;">RL of formation</th> <th style="width: 55%;">Gradient</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0.0</td> <td style="text-align: center;">51.20</td> <td style="text-align: center;">50.0</td> <td rowspan="6" style="text-align: center; vertical-align: middle;">1 in 100 upgrade</td> </tr> <tr> <td style="text-align: center;">40.0</td> <td style="text-align: center;">52.0</td> <td style="text-align: center;">50.40</td> </tr> <tr> <td style="text-align: center;">80.0</td> <td style="text-align: center;">52.5</td> <td style="text-align: center;">50.80</td> </tr> <tr> <td style="text-align: center;">120.0</td> <td style="text-align: center;">52.10</td> <td style="text-align: center;">51.20</td> </tr> <tr> <td style="text-align: center;">160.0</td> <td style="text-align: center;">51.50</td> <td style="text-align: center;">51.60</td> </tr> <tr> <td style="text-align: center;">200.0</td> <td style="text-align: center;">51.0</td> <td style="text-align: center;">52.0</td> </tr> </tbody> </table>	Chainage	Ground level	RL of formation	Gradient	0.0	51.20	50.0	1 in 100 upgrade	40.0	52.0	50.40	80.0	52.5	50.80	120.0	52.10	51.20	160.0	51.50	51.60	200.0	51.0	52.0	20	L3	CO3	PO3
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Formation width of the road: 8 m, Side slopes; cutting 1½: 1.

Filling 2 : 1

Use mid-sectional area method

UNIT - III

20

4. Write a detailed technical specifications for the following terms of works:

- a) Size stone masonry in 1:6 CM.
- b) M20 grade concrete for RCC roof slab.
- c) 15 mm thick plastering in 1:6 CM for brick wall.
- d) Teak wood panelled doors.

20 L2 CO2 PO
2,4,8

5. From first principles work out the rates for the following items of works:

- a) M 7.5 grade plain cement concrete for flooring.
- b) Size stone masonry in 1:6 CM for foundation.
- c) M20 grade concrete for RCC roof slab using 20 mm and 12.5 mm size aggregate.
- d) 20 mm thick plastering in 1:6 CM.

20 L3 CO2 PO
2,4,8

UNIT - IV

20

6 a. Explain the different types of contracts.

8 L2 CO4 9

b. Explain the following:

- i) Technical sanction ii) Security deposit iii) Completion certificate

6 L2 CO4 PO9

c. Explain the recording the works in measurement book.

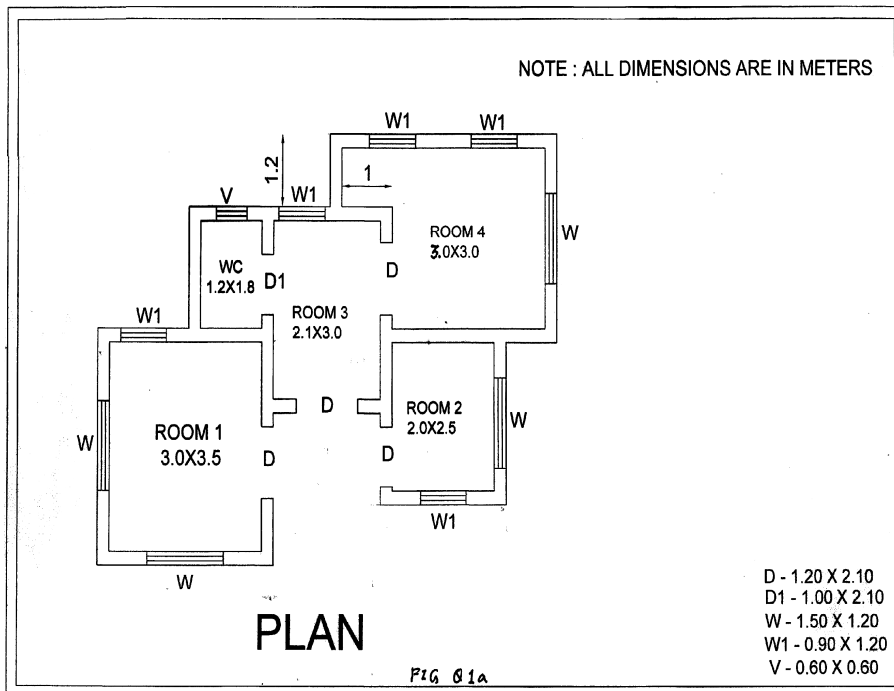
6 L2 CO4 PO9

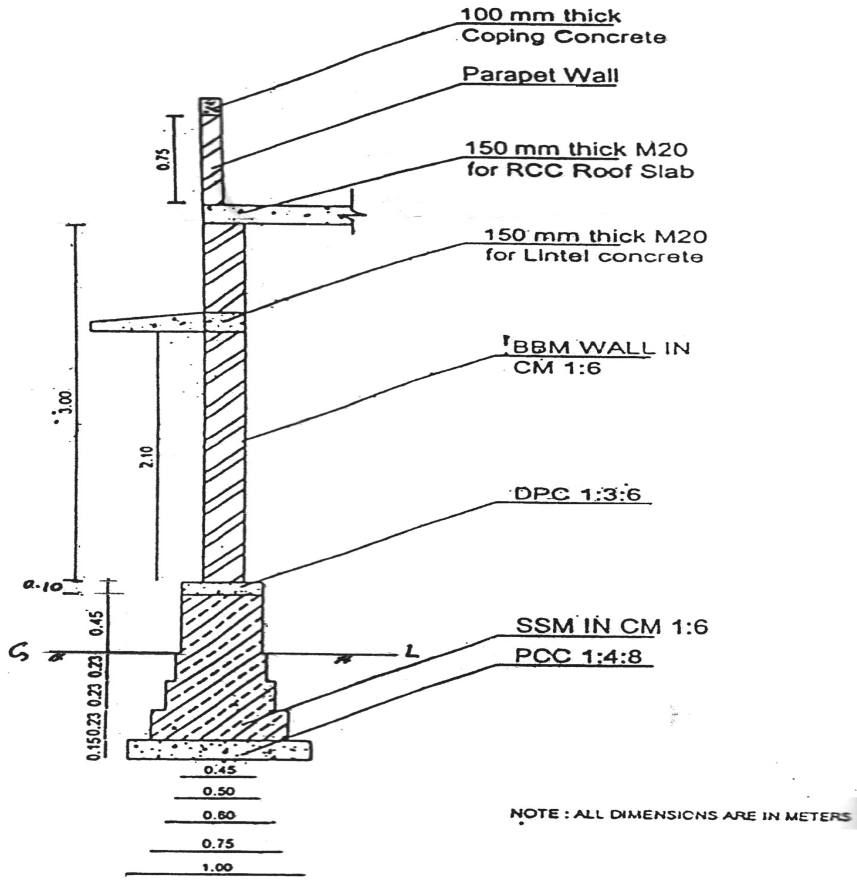
7 a. Discuss the essential features of contract agreement.

10 L3 CO4 PO9

b. Explain the different methods of depreciation.

10 L2 CO4 PO9





C/S OF 230 MM THICK WALL

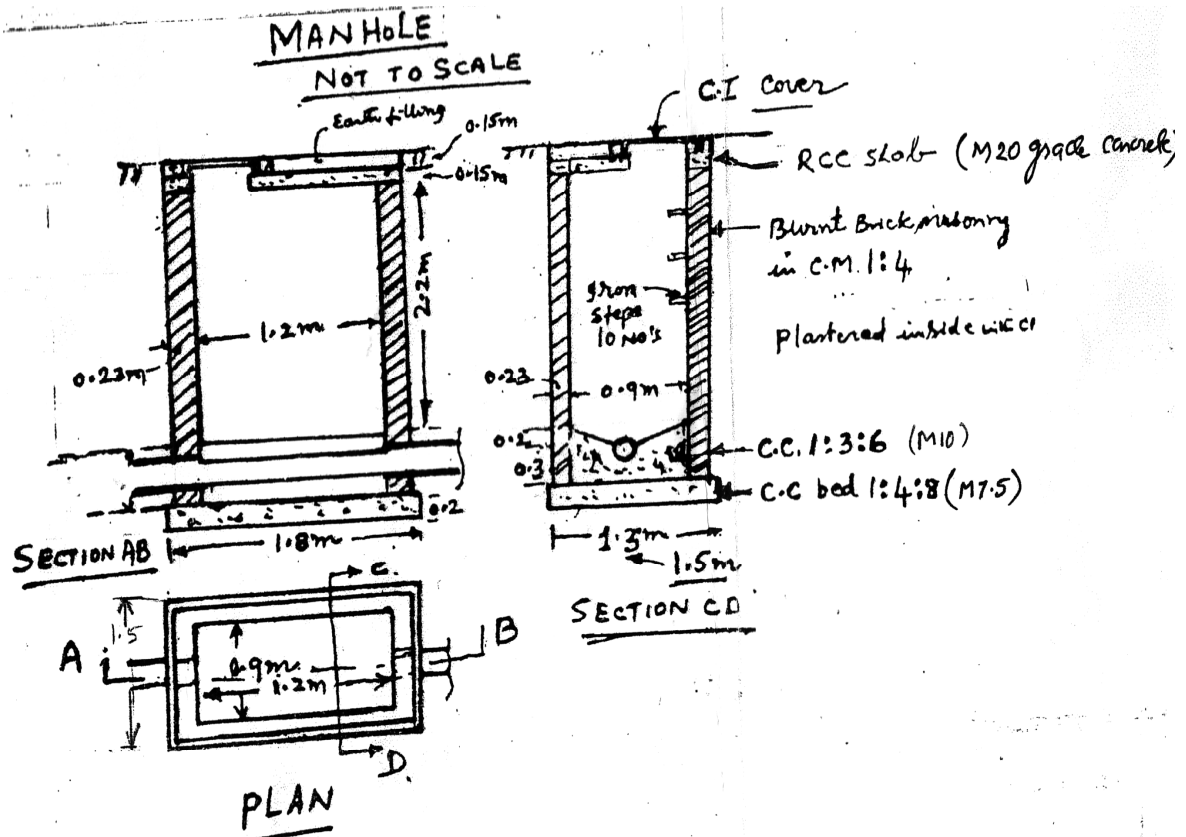


Fig 02
