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## 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; Dec - 2017/Jan - 2018

Quantity Surveying and Estimation

Time: 3 hrs

Max. Marks: 100

**Note:** i) **UNIT - I** is compulsory.

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

iii) Missing data, if any, may suitably be assumed.

### UNIT - I

1. Prepare a detailed estimate of the quantities of the following components of a residential building (by centerline method). The line diagram of which is shown in Fig – 1.

- |  |    |
|--|----|
| a) Earthwork excavation for foundation                                       | 10 |
| b) 1 <sup>st</sup> class burnt brick masonry in C.M. 1 : 6 (without parapet) | 10 |
| c) Teakwood doors and windows  | 10 |
| d) Cement concrete flooring of 1: 3: 6.                                      | 10 |

### UNIT - II

2. Prepare a detailed estimate of the Manhole for the following items of the given sketch Fig - 2 and general specifications.

- |  |    |
|--|----|
| a) Earth work excavation in hard soil.                     |    |
| b) 1 <sup>st</sup> class burnt brick masonry in C.M. 1: 4. | 20 |
| c) Pointing with C.M. 1: 2.                                |    |
| d) 20 mm thick cement planter 1: 3 in floors channels.     |    |

3. Write a detailed technical specifications for the following item of works in building:

- |  |    |
|--|----|
| a) Earthwork excavation in foundation.           |    |
| b) 1: 2: 4 cement concrete.                      | 20 |
| c) 1 <sup>st</sup> class brickwork in C.M. 1: 6. |    |
| d) Teakwood doors and windows.                   |    |

### UNIT - III

4. Workout the quantities and rates for the following items :

- |  |    |
|--|----|
| a) 1: 4: 8 cement concrete using 40 mm down size coarse aggregate.                               |    |
| b) Coursed rubble size stone masonry in CM 1: 6 for foundation.                                  |    |
| c) 25 mm thick 1: 2: 4 cement concrete for flooring using 12.5 mm nominal size coarse aggregate. | 20 |
| d) 12 mm thick cement mortar plastering of proportion 1: 6.                                      |    |

5. R.L. of grand along the centre line of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10<sup>th</sup> chainage is 107 and the road is downward gradient of 1 in 150 upto chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of the road is 10 m side slopes of 2:1 and 1.5: 1 for banking and cutting respectively. Length of the chain in 30 m. Calculate the quantity of earthwork. (Use Mean sectional area method).

20

Chainage	10	11	12	13	14	15	16	17	18	19	20
R.L. of Ground m	105.00	105.6	105.44	105.90	105.42	104.30	105.00	104.10	104.62	104.00	103.3

UNIT - IV

- 6 a. What is contract? Write a note on agreement, legal aspect and penal provision (on breach) of contract. 10
- b. Illustrate the muster roll and preparation of muster roll. 4
- c. Explain earnest money and security money. 6
- 7 a. Write a note on Measurement Book (M.B.) and preparation of bills. 10
- b. Discuss Administrative approval and technical sanction. 10

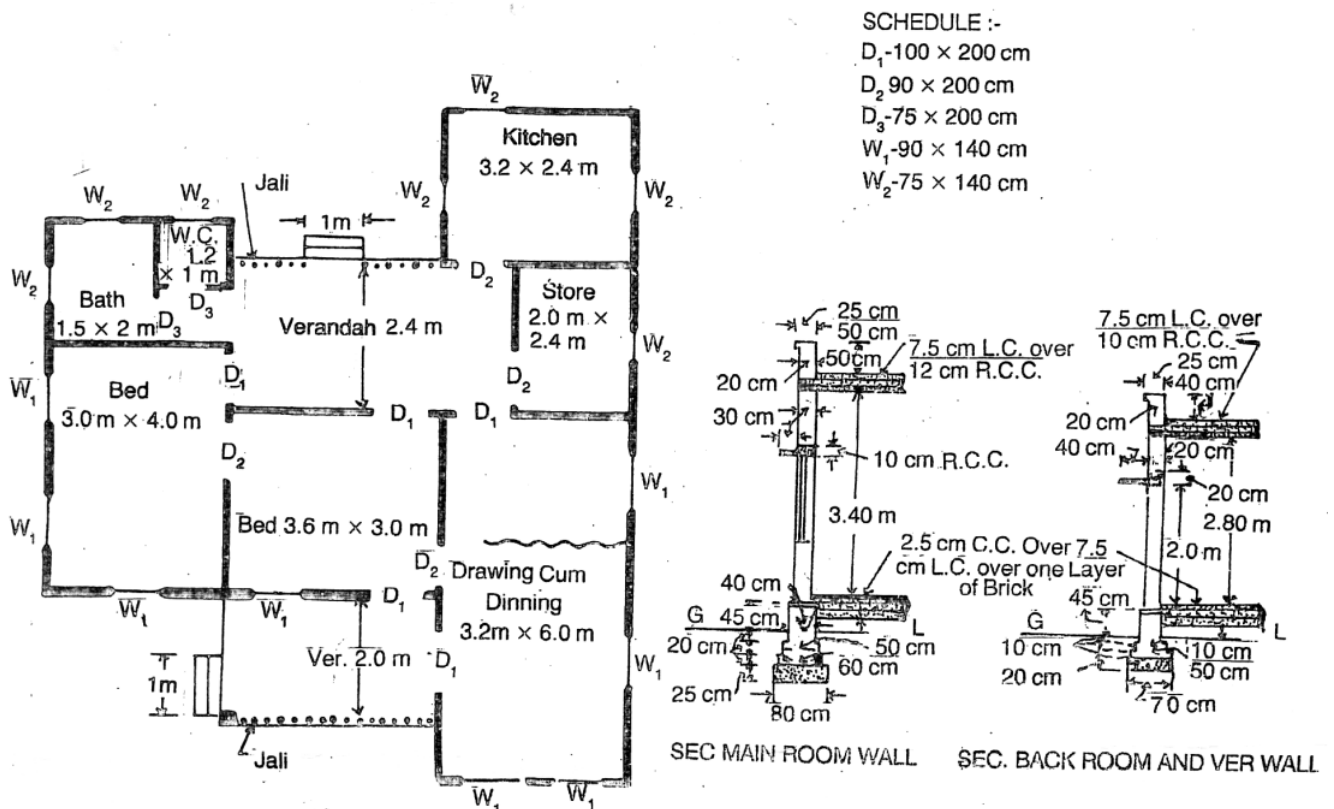


FIG-1

Contd...3

MAN HOLE

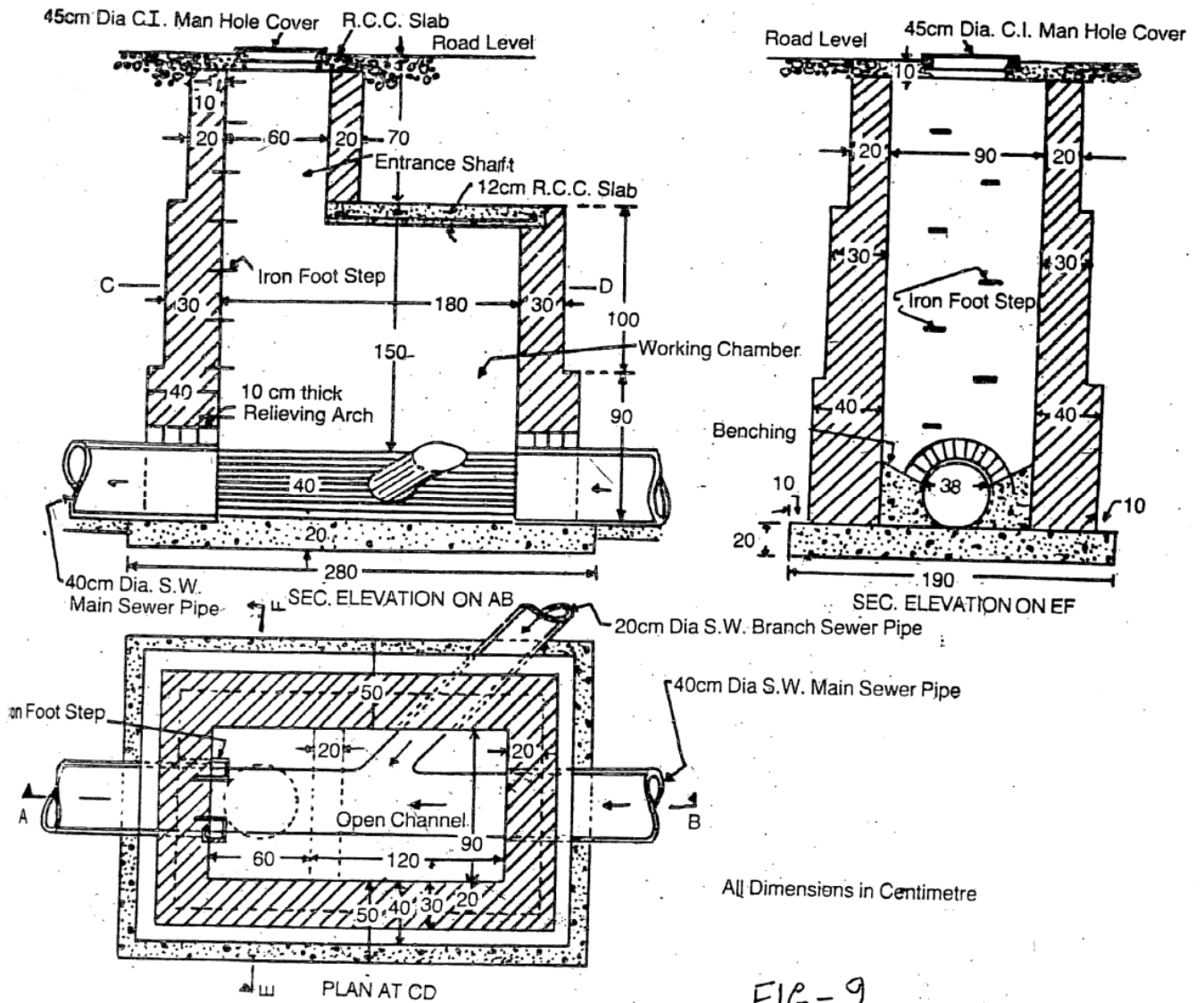


FIG-2.

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