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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; Jan. / Feb. - 2021

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**.*

UNIT - I

1. Work out the quantities and individual cost of following items of work from Fig. 1 using Center line method.

   i) Earth work in excavation for foundation in hard soil @ 175 Rs/m^3 8

   ii) Plain cement concrete for bed in foundation @ 3800 Rs/m^3 8

   iii) 1st Class brickwork in cement motor 1:6 for all walls of 3.1 m height @ 5600 Rs/m^3 8

   iv) Size stone masonry in cm 1:5 @ 4800 Rs/m^3 8

   v) Abstract of estimated cost 8

UNIT - II

2. The details of man-hole are shown in Fig. 2. Estimate the following items of work:

   i) Earth work excavation in foundation

   ii) First class brick work with C.M. 1:4 20

   iii) 20 mm thick cement plaster

   iv) RCC slab of 100 mm thick

3. Prepare a detailed estimate for earthwork for portion of a road from following data using midsection area method. The road formation is proposed at a uniform falling gradient of 1 in 200, passing through ground level @ chainage 14. Length of 1 chain being 30 m. Side slope is 1.5:1 in cutting and 2:1 in banking. Also, calculate the cost of earthwork for a rate of 180 Rs/m^3 for filling and 120 Rs/m^3 for cutting. Formation of road is 12 m. 20

Chainage	14	15	16	17	18	19	20	21	22
RL@ GL	108.60	109.25	109.40	108.85	108.50	107.25	106.80	107.15	107.20

UNIT - III

4. Write the detailed specification for following items:

   i) C.C bed 1:4:8 in foundation

   ii) 20 mm thick plastering with C.M.1:4 20

   iii) Earthwork in excavation

   iv) Brick work mansory in C.M. 1:6 for superstructure

Contd....2

5. From first principle carryout rate analysis for any four from the following: 20

   i) RCC roofing with 1:2:4 proportion

   ii) SSM in C.M 1:6

   iii) 12 mm thick plastering wall with C.M. 1:6

   iv) First class brick work in C:M 1:6 in superstructure

   v) C.C bed 1:4:8 for foundation

UNIT - IV

6. Write a short note on any four of the following: 20

   i) Earnest money deposit and security deposit

   ii) Technical sanction

   iii) Administrative approval

   iv) Measurement book

   v) Muster rool system

7a. What is tender? Discuss different types of tender. 6

b. Write a brief note on; 8

   i) Gross income

   ii) Net income

   iii)Termination of contract

   iv) Comparative statement

c. Explain duties and liabilities of contractor. 6

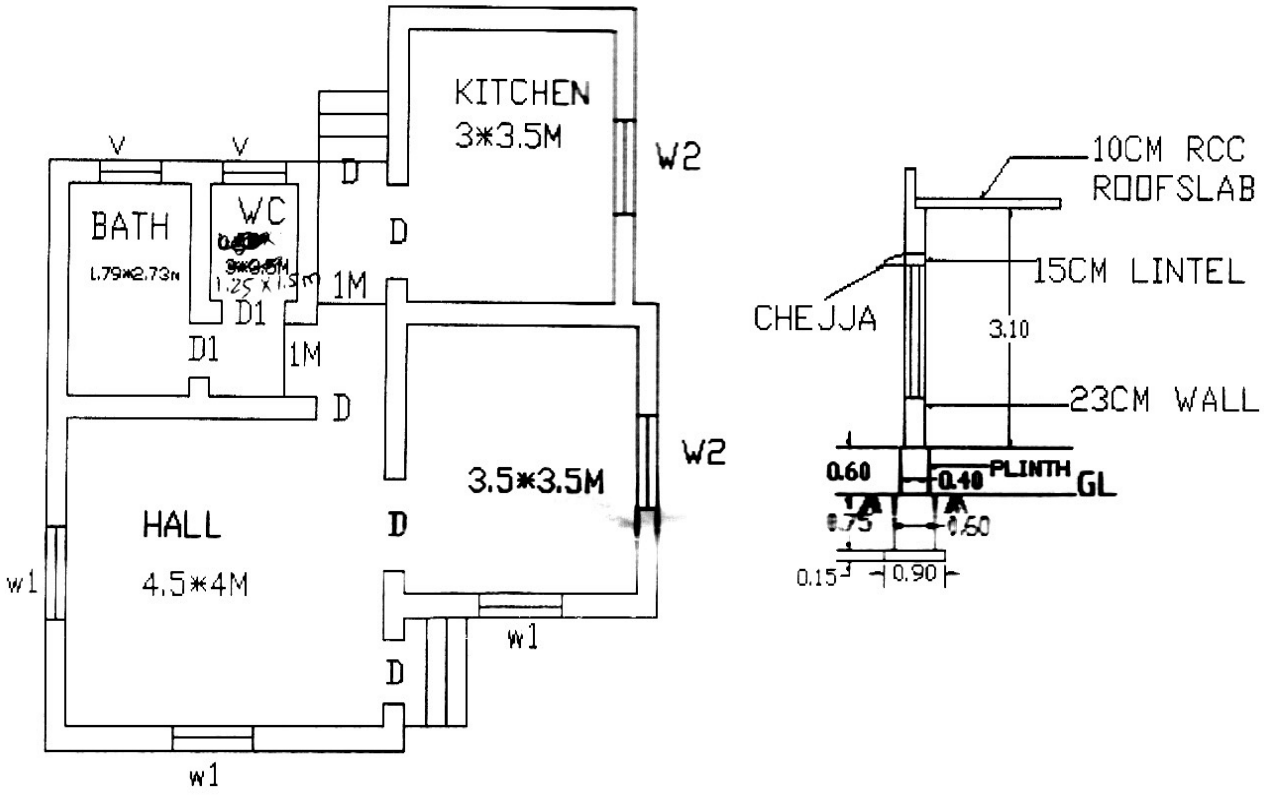

FIG 1

Contd....3

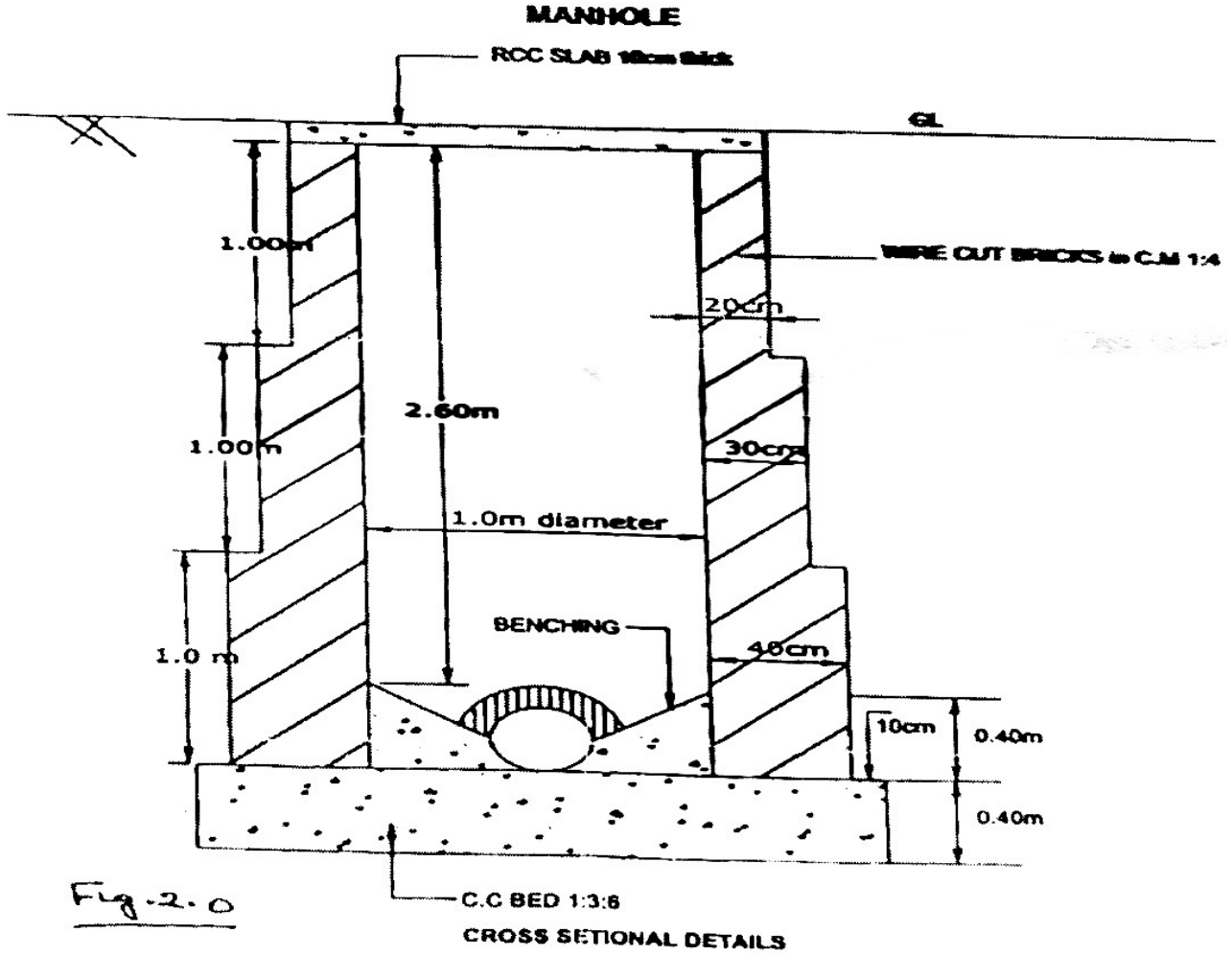
MANHOLE
RCC SLAB
GL
1.00m
WIRE CUT BRICKS in C.M 1:4
20cm
2.60m
1.00m
30cm
1.0m diameter
BENCHING
1.0 m
40cm
10cm
0.40m
0.40m
C.C BED 1:3:6
CROSS SETIONAL DETAILS

Fig-2.0

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