

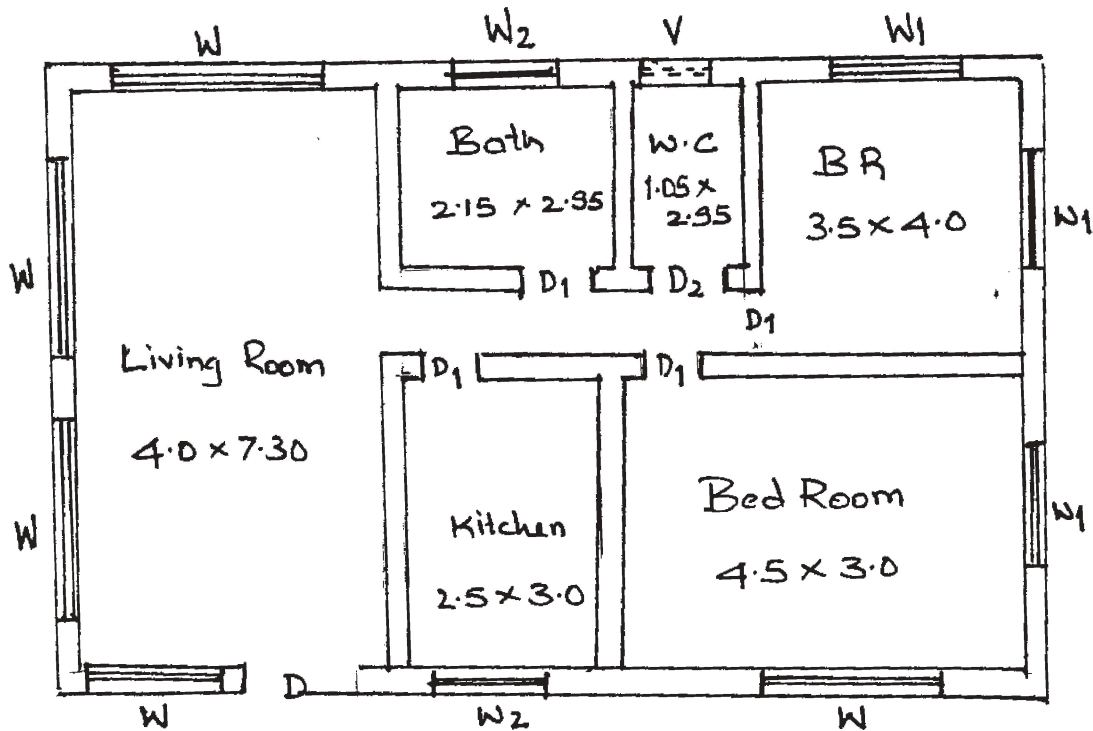
B.E. (Civil Engineering)

**QUANTITY SURVEYING, CONTRACTS AND TENDERS****(2008 Course) (401009) (Semester -II)***Time : 4 Hours]**[Max. Marks : 100**Instructions to the candidates:*

- 1) *Answer any 3 questions from each section.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 6) *Assume suitable data, if necessary.*

**SECTION- I**

- Q1) a)** A person wish to construct a building as per the following plan fig1. Explain the utility of plan, sectional elevation in working out the detailed estimate. [5]

**Fig (1) PLAN**

- b) Work out the cost of construction of the following items by (1) long and short method [13]

- i) PCC in foundation
- ii) DPC
- iii) RCC lintel and beam assuming steel at 1% of RCC
- iv) BM 1.6 for superstructure

OR

- Q2) a) What are the different methods of detail estimate? Explain centre line method of estimation and carryout the detailed estimate & obtain the quantity for following fig 2. [14]

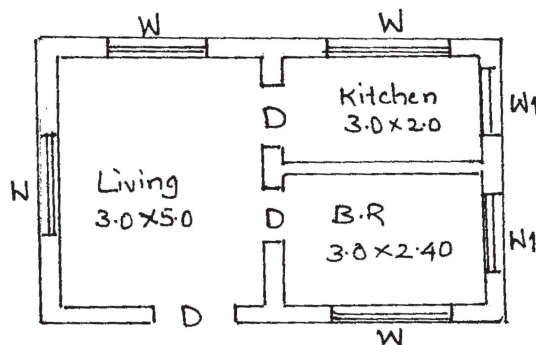


Fig 2 PLAN

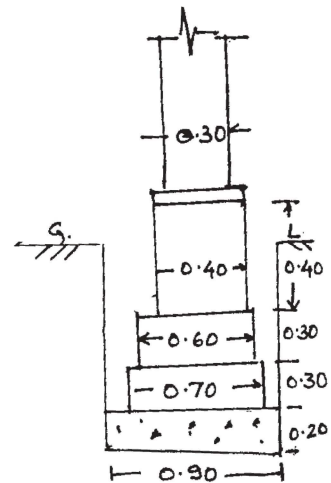


Fig 3a Foundation Detail

Fig(1)  
 Door, D =  $0.90 \times 2.10$   
 $D_1 = 0.75 \times 2.10$   
 $D_2 = 0.60 \times 1.80$   
 Window, W =  $1.50 \times 1.20$   
 $W_1 = 1.20 \times 0.90$   
 $W_2 = 0.90 \times 1.05$   
 Ventilator V =  $0.45 \times 0.60$

Fig(2)  
 Door D =  $0.90 \times 2.10$   
 Window W =  $1.20 \times 1.50$   
 $W_1 = 0.90 \times 1.20$

Note:- Foundation detail common to both Q.No 1(a) & 2(a) as per fig 2(a).

Door, window, etc common for both

All Dimension in metre.

Q.No. 1(a) & 2(a)

- i) Earth Work Excavation for foundation
  - ii) Brick Masonry in CM 1:6
  - iii) Damp Proof Course
- b) What is the unit of measurement of [4]
- i) Pointing
  - ii) Plastering
  - iii) RCC lintel
  - iv) Wood works for doors

**Q3) a)** What is approximate or preliminary estimate and what is the purpose of approximate estimate. Explain the annual maintenance estimate and revised estimate. [6]

- b) A (G+2) building has a carpet area of 800m<sup>2</sup> in each floor. The area occupied by corridor verandah, staircase, etc is 25% and area occupied by wall, column is 10%, water supply 7.5% Electrification 8.5%, contingency 4%. Prepare a preliminary estimate considering cost of ground floor Rs 1500/- sq-m, Rs 1700/- for I floor, Rs 1850/- for I floor. [10]

OR

**Q4) a)** Fig 3, shows section along the shorter span of a room of size 7×12m internal dimension. The thickness of slab is 15cm. Assume 5cm end cover and 2.5cm cover at top & bottom. [10]

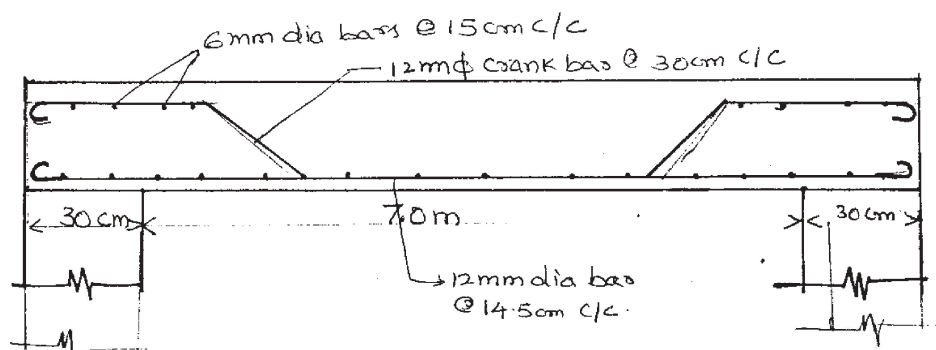


Fig 3

- b) What are the different methods of calculating sectional area of road in banking. Explain the Mid section method of calculating earthwork with typical table for calculation. [6]

**Q5) a)** Explain the importance of specification in preparing estimate and what are the objectives of Specifications. What are standard specification and specification for performance? Explain How control over quality of material and workmanship is achieved by specification. [8]

- b) Draft a detailed specification for earthwork embankment (without OMC). [8]

OR

**Q6) a)** Explain importance of Rate Analysis and what are the factors affecting rate analysis. Explain in detail the procedure for rate analysis. [4]

- b) Explain task work and how does it vary. Work out the labour requirement for [4]

i) Reinforcement for R.C.C. work &

ii) I class brick masonry in CM 1:6 in super structure.

- c) Prepare rate analysis for RCC work in column with proportion 1:1.5:3, with cement course sand, 2.5cm ballast with all material, T & P complete. [8]

### **SECTION - II**

**Q7) a)** A construction equipment was purchased for Rs. 5,00,000/-with annual rate of interest of 6%. Determine life of the equipment ('n' years) if annual sinking fund is Rs. 3,000/- and salvage value is Rs. 60,000/-. [8]

- b) What is meant by 'Depreciation'? State its significance in valuation with example. Discuss merits and demerits of 2 methods of finding depreciation. [6]

- c) Enlist the factors that may affect the value of a building. Discuss any one factor in detail with example. [4]

OR

- Q8)** a) Determine book value of a property consisting of a land (plot of area 1000m<sup>2</sup>) and building (built-up area of 600m<sup>2</sup>) in the year 2013 assuming scrap value 10% of the original cost. The original land cost in 1973 was Rs. 100/- per m<sup>2</sup> and the cost of built-up area in the same year was Rs. 900/- per m<sup>2</sup>. Assume that the construction specifications are first class and the land cost has remained unchanged. [8]
- b) A rectangular plot has 35m width along the road and 95m depth at right angles to the road. Calculate the value of the land using method of belting. Assume that cost of the first belt of 20m depth is Rs. 200/- per m<sup>2</sup>. [6]
- c) State two differences each between: [4]
- Sentimental Value-Distress Value
  - Salvage Value - Scrap Value
- Q9)** a) Give the classification of 'works' as per the P.W.D. [6]  
Explain the essential pre-requisites as per the P.W.D. procedure before starting the execution of a 'work'.
- b) What is meant by a tender? Discuss importance of types of tenders and tendering procedure with respect to any one specific construction work. [5]
- c) State various methods of tendering systems with respect to civil engineering works. [5]

A billionaire lady wants to construct a bungalow with all possible modern security provisions and facilities in it. Suggest a suitable tendering method she should adopt for inviting tenders for construction of the bungalow. Justify your suggestion.

OR

- Q10)** a) State two differences each between: [6]
- Sentimental Value-Distress Value
  - Salvage Value - Scrap Value
- b) Discuss the terms: Retention Money, Acceptance of a Tender. [5]

- c) Discuss the following terms as per the P.W.D. [5]
- i) Original Works
  - ii) Revised administrative approval

**Q11)a)** State whether True or False, giving proper justification: (Zero marks will be given if justification is not written) [6]

- i) A wife approaches an arbitrator for her divorce case.
  - ii) A contractor may sign a contract with the divorced wife of an industrialist.
  - iii) Only a judge retired from High Court or higher court can be an arbitrator for dispute with respect to a dispute in the execution of a Civil Engineering contract.
- b) Briefly explain the contents of a typical contract. [5]
- c) What is the meaning of 'arbitration'? Discuss various types of arbitration. [5]

OR

**Q12)a)** Differentiate clearly between: Item Rate Contract and Lump-sum Contract. [6]

- b) State four issues that may be referred to an arbitrator. Discuss the powers of an arbitrator. [5]
- c) What is meant by 'General' and 'Special' conditions of contract? Clearly explain with appropriate examples. [5]

