Total No. of Questions : 12]

SEAT No. :

P3132

[Total No. of Pages : 4

B.E. (Civil Engineering)
QUANTITY SURVEYING, CONTRACTS AND TENDERS
(2008 Pattern) (Semester-II)

Time : 4 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate answer books.***
2) ***Answer either Q.1 or 2, Q.3 or 4, Q.5 or 6 from section-I and either Q.7 or 8, Q.9 or 10, Q.11 or 12 from section-II.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***
5) ***Use of non-programmable Calculator is allowed.***
6) ***Assume Suitable data if necessary and state it clearly.***

SECTION-I

Q1) a) Explain the importance of preparing estimate for any construction activity with reference to, 1. Financial management required for construction, 2. Time limitation for completion of construction, 3. Resources management required for completion of construction activity. **[6]**

b) What are the different data necessary for preparing the estimate? What information is available from such data? **[6]**

c) A building has a plinth area of 200 sq.m. If the prevailing rate of completed work is Rs. 16,140/- per sq.m. Prepare a preliminary (approximate) estimate by considering: **[4]**

i) Contingencies at 5% of cost of building,

ii) Work charge establishment at 1.5% of cost of building,

iii) Water supply & sanitary at 7.5% of cost of building,

iv) Electrification at 5% of the cost of building.

OR

Q2) a) Explain in brief: **[6]**

i) Supplementary estimate

ii) Supplementary & revised estimate and

iii) Cube rate estimate.

b) Prepare typical format of measurement sheet and abstract sheet for detailed estimate. Explain the difference in the two types of measurement sheet. **[6]**

c) What is the difference between preliminary (approximate) estimate and detailed estimate?

List out the different methods of preliminary estimate. **[4]**

Q3) Plan of building is shown in fig. 1.

All walls are 300 mm thick.

Lintel has a depth of 150 mm.

Floor to roof height = 3.0m

Doors

D: 1.2m x 2.1m, D1: 0.9m x 2.1m, D2: 0.75m x 2.1m.

Windows

W: 1.5m x 1.2, W1: 1.5m x 1.0m, W2: 1.2 x 1.0m

Estimate the quantities of:

i) P.C.C. in foundation **[4]**

ii) Stone masonry in the footing for foundation. **[6]**

iii) Brick masonry in CM (1:6) for the superstructure. **[4]**

iv) RCC roof slab including steel reinforcement at 2% of the concrete volume. **[4]**

OR

Q4) a) Work out the quantity of steel and concrete for the column and its footing as shown in fig. 2. **[6]**

b) A compound has a length of 10m and a height of 1.5m.

An iron gate of width 1.2m is to be provided at the center of the compound wall. **[8]**

Calculate the quantities of:

i) Earthwork excavation.

ii) P.C.C (1:4:8) in foundation.

iii) Brickwork in superstructure.

iv) 12mm thick CM (1:6) plastering.

c) Explain prismoidal method for calculating earthwork for a road. **[4]**

Q5) a) Justify the statement: "Quality of any construction depends on its specifications". Explain different principles involved in drafting the specifications. **[6]**

b) Draft a detailed specification for cement concrete construction with reference to: **[10]**

i) Material of construction.

ii) Proportioning.

iii) Mixing.

iv) Laying and curing.

v) Consistency.

OR

Q6) a) What is rate analysis? Clearly mention its purpose. Briefly explain various factors affecting the rate per unit of a construction. **[6]**

b) i) What is a 'task work' or 'out-turn work'? **[4]**

Work out the labor team requirement for the following work:

1) Laying 2.83 cubic m. of cement concrete.

2) 40 sq. m. plastering 12mm thick in any proportion.

ii) Prepare the rate per cubic m. for providing and laying RCC (1:1. 5:3) for beams and slab including formwork and steel reinforcement. **[6]**

SECTION-II

Q7) a) A property owner desires a net return of 6% on his capital. Sinking fund is at the rate of 6% for replacing the capital. If he expects a net annual income of Rs. 16,000/- for the next 40 years, determine the value of the property.

If the rate of redemption of capital is at 3%, what will be the value of the property? **[8]**

b) State four methods of computing depreciation. Explain any one in detail. **[5]**

c) Discuss five factors that affect the value of a property. **[5]**

OR

Q8) a) Concrete formwork was purchased for Rs. 80,000/- by a contractor. Assuming Rs. 10,000/- as the salvage value at the end of 5 years, determine depreciation for each year using constant percentage method. Also indicate book value for each year in a tabular form. **[8]**

b) Explain with examples five purposes of Valuation. **[5]**

c) Write a detailed explanation of belting method of land valuation. **[5]**

Q9) a) Enlist the methods of minor works execution in P.W.D. Discuss any one method in detail. **[6]**

b) What is meant by a tender? Explain tender documents for any civil engineering work. **[5]**

c) Briefly explain various types of tenders for civil engineering works. **[5]**

OR

*Q10)*a) What is meant by a tender notice? Discuss the essential contents of a typical tender. **[6]**

b) Explain the terms clearly. Earnest Money, Security Deposit. **[5]**

c) State the meaning and necessity of the following terms: **[5]**

i) Administrative Approval

ii) Technical Sanction

*Q11)*a) State whether True or False, giving proper justification: (*No marks will be given if justification is not written*) **[6]**

i) A 90 years old owner signed a building contract when he is admitted in the hospital. In this case the contract is claimed by his son to be void.

ii) The contractor signing a contract must be registered with the Government.

iii) As on today, the registered contractors are classified into categories I to VII.

b) Briefly explain administrative and organizational responsibilities of contractors. **[5]**

c) What is meant by 'Arbitration'? Briefly discuss three types of arbitration. **[5]**

OR

*Q12)*a) Explain liquidated damages, unliquidated damages by penalty in case of breach of contract. **[6]**

b) State four qualities of a good arbitrator. Discuss the powers of an arbitrator. **[5]**

c) Explain five conditions of contract related to the execution of work. Give appropriate examples. **[5]**

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Q NO 3

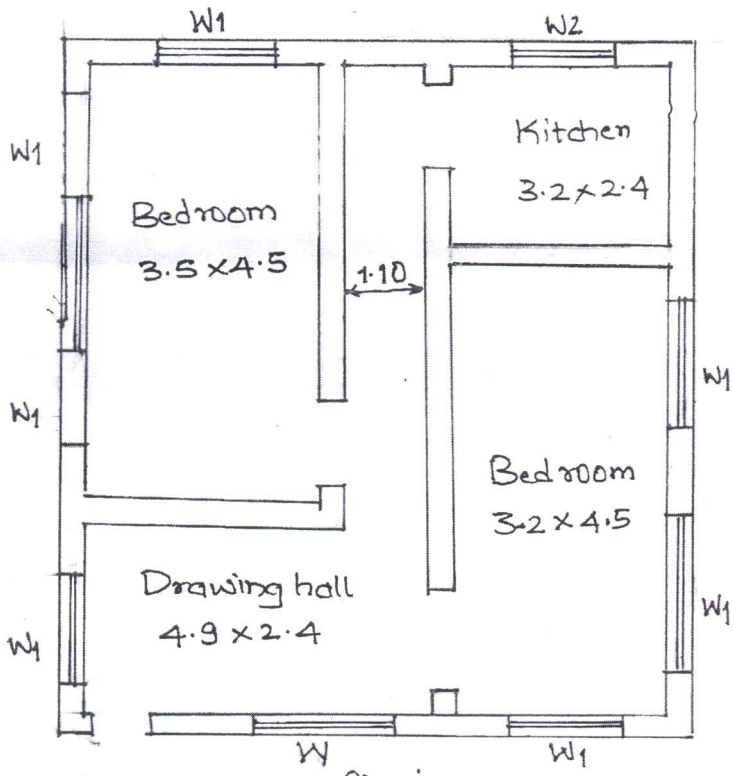
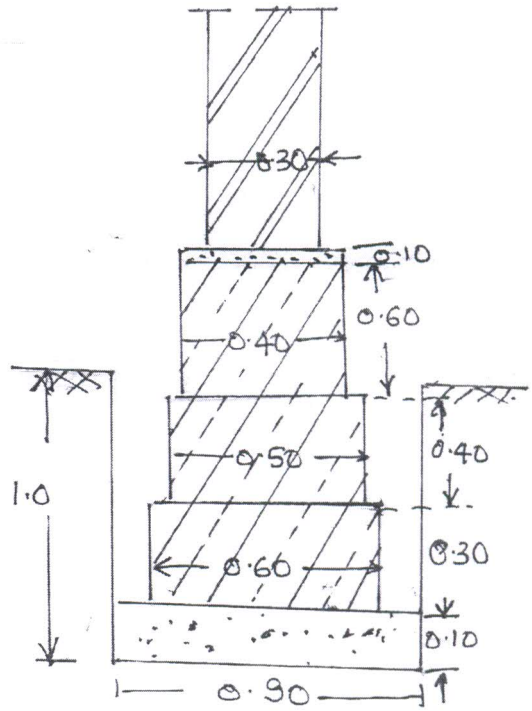
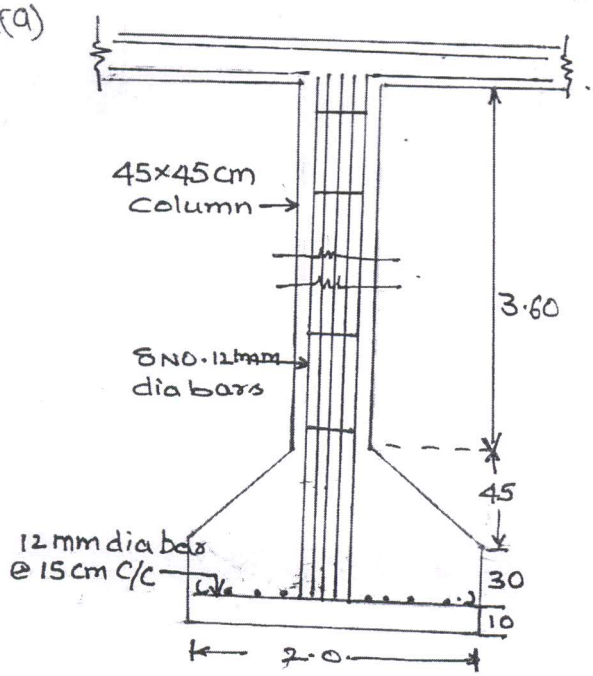


fig (i)



Q NO 4(a)



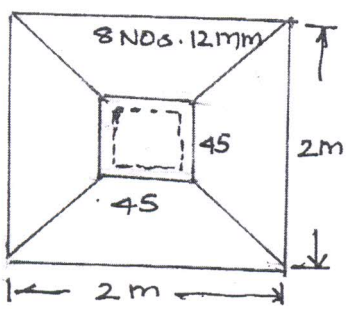


fig 2.