Total No. of Questions : 12]

SEAT No. :

P3303

[Total No. of Pages : 6

[4959]-14

B.E. (Civil Engineering)

QUANTITY SURVEYING CONTRACTS & TENDERS

(2008 Pattern)

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

Instructions to the candidates:

1) ***Answer Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6. from Section-I, Q.No.7 or Q.No.8, Q.No.9 or Q.No.10, Q.No.11 or Q.No.12 from Section-II.***

2) ***Answers to the two sections should be written in separate answer books.***

3) ***Figures to the right side indicate full marks.***

4) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***

5) ***Assume suitable data if necessary.***

SECTION - I

Q1) a) Discuss the necessity of each of the following :

i) Cubic content and plinth area methods of estimation. **[4]**

ii) Contingencies and centage charges. **[4]**

b) Clearly explain the following :

i) Rules (Norms) in IS 1200 of 1960. **[4]**

ii) Direct and indirect costs involved in a project. **[4]**

OR

Q2) a) Discuss the following :

i) Preparing an approximate estimate for a proposed building. **[4]**

ii) Data required for preparing estimate for a building. **[4]**

b) A Trust wants to plan and arrange for funds for a polytechnic building meant for 600 students, knowing that carpet area required per student is 1.2 m^2. Prepare preliminary estimate of the polytechnic using following data. Assume areas under.

P.T.O.

i) verandah, wash-rooms, corridors, etc., and

ii) walls to be 20% and 15% of plinth area respectively.

- Rate of plinth area = Rs. 3500/- per m^2
- Cost of approach road, boundary wall, gates, etc. = 3% of the building cost.
- Cost of water supply, drainage, etc. = 12% of the building cost.
- Total cost of electrification = 12% of the building cost.
- Contingencies and work charged establishment are assumed as 5% and 2.5% of the total cost respectively. **[8]**

Q3) a) Plan and section of 2-rooms is shown in Fig.1 below. Determine quantities of :

i) Earthwork in excavation for the Foundation. **[2]**

ii) Lime Concrete in Foundation. **[2]**

iii) 25 mm thick cement concrete D.P.C. **[2]**

iv) 1st class brickwork (in C.M. 1:4) for the Foundation and Plinth. **[4]**

v) 1st class brickwork (in C.M. 1:6) for the superstructure. **[2]**

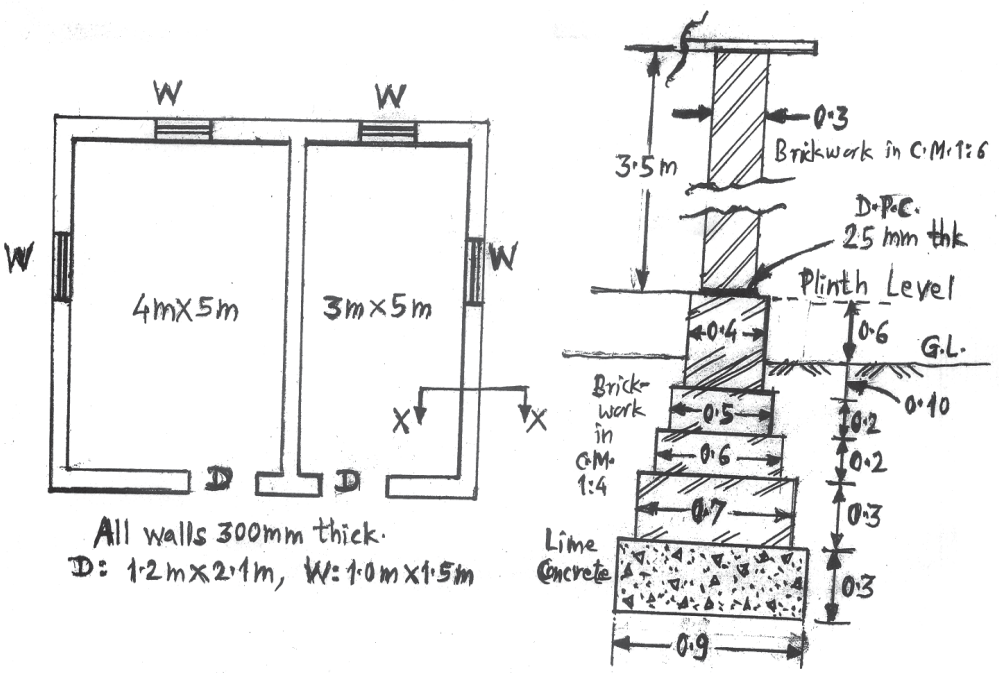

Fig-1 [Q.3(a)]

b) Explain the following terms clearly :

i) Bar bending schedule. **[3]**

ii) Deduction rules for openings to work out the item plastering. **[3]**

OR

Q4) a) Fig.2 shows section of R.C.C. (1:1.5:3) M20 weather shed (the height of which reduces from 100 mm at the wall to 80 mm at the free end) with lintel. Work out the quantities of the following with appropriate units:

i) Cement concrete (volume), cement, sand and coarse aggregates. **[4]**

ii) HYSD reinforcement, and **[4]**

iii) MS reinforcement. **[4]**

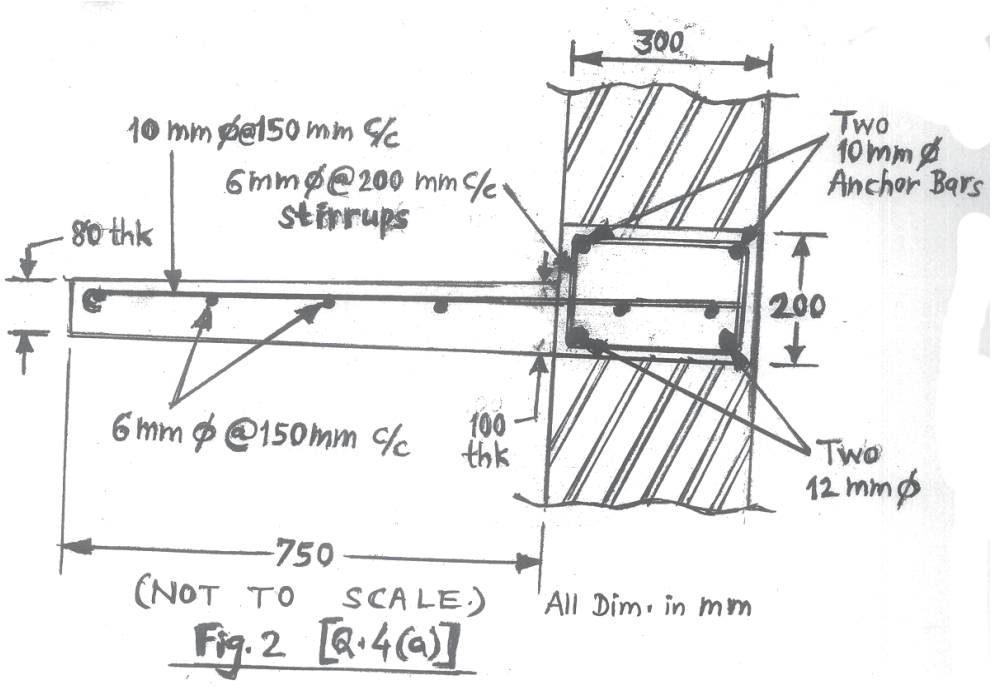

Fig. 2 [Q.4(a)]

b) Discuss 'long wall-short wall' method with neat sketch/sketches. **[6]**

Q5) a) A 200 mm thick brick wall (in C.M. 1:6) for a ground floor of a residential building has a total length of 40 m and a height of 3 m above plinth. Compute :

i) Cement, sand and number of bricks required for the wall. **[6]**

ii) Number of days required, assuming that 3 masons and 8 mazdoors (labours) are to be employed for the work. **[2]**

b) What is meant by rate analysis? State its purposes. Discuss in detail the factors affecting rate analysis. **[8]**

OR

Q6) a) Write all detailed specifications for the work 'excavation for foundation'. **[8]**

b) Determine quantities of cement sand, and coarse aggregate required for 80 m^3 of R.C.C. (1:1.5:3) Calculate the rate per cubic meter for providing and laying R.C.C. slab (1:1.5:3) excluding the steel reinforcement and formwork. **[8]**

SECTION - II

Q7) a) Valuation of a rectangular plot of 40 m width and 380 m depth is to be done. Adopting the standard belting method, calculate the value of land. Rate of land in the adjoining areas is found to vary from Rs.50/- to Rs.70/- per m^2. Show the belts and their rates/values in a neat sketch. Neglect the front margin. **[12]**

b) Define Depreciation. What is the necessity of calculating depreciation? State various methods used for finding depreciation. Discuss any one method in detail. **[6]**

OR

Q8) a) Determine present fair market value of a property having following details. **[12]**

- Plot area 800 m^2
- Built-up area 300 m^2
- Expected future life of construction is 50 years.
- Gross annual rent from the property Rs. 70000/-
- Present land value Rs. 1000/- per m^2
- Total outgoings are 30% of the gross annual rent.
- Returns on the capital investment @ 8% per annum.
- Capital redemption @ 6%
- Rate of interest is 7% for reversionary value of land

b) State two differences between each of the following : **[6]**

i) Building Lease - Occupation Lease

ii) Scrap Value - Salvage Value

iii) Value - Price

Q9) a) State whether following statements are true or false, giving reasons. (No marks will be given if reasons are not given) **[8]**

i) Highest tender must be selected for a work to ensure execution of the high standards.

ii) Earnest money of about 1 to 2% of the estimated cost serves as a guarantee that the contractor/bidder will not refuse the work if his/her tender is accepted.

iii) Chief engineer has the powers to undertake an original work with total amount of less than 10 lakh rupees.

iv) Works with small profit margin are completed departmentally through labours on daily wages.

b) Discuss the following with reference to PWD methods : **[8]**

i) Administrative Approval

ii) Scrunity of tenders

OR

Q10) a) Answer the following : **[8]**

i) What is meant by a 'Tender'? State various methods of inviting tenders and explain any one method.

ii) What is meant by a 'Tender Notice'? State the necessary contents of a typical (standard) tender notice.

b) Briefly explain the following : **[8]**

i) PWD method of executing minor works.

ii) Compare original works and repair works as per PWD.

Q11) a) Discuss merits and demerits of the following : **[8]**

i) Pre-qualification of contractors.

ii) Cost plus type of contract

b) Explain the following clearly : **[8]**

i) Merits and demerits of the arbitration procedure.

ii) Qualifications and powers of an arbitrator.

OR

Q12) a) Discuss the following : **[8]**

i) Process of arbitration as per Arbitration Act 1940.

ii) Matters that can be referred to an arbitrator.

b) Differentiate between : **[8]**

i) Liquidated Damages - Unliquidated Damages

ii) Item Rate Contract - Limp sum Contract

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