Total No. of Questions : 12]

SEAT No. :

P1918

[Total No. of Pages : 5

[5254]-14

B.E. (Civil Engineering)

QUANTITY SURVEYING, CONTRACTS & TENDERS

(2008 Pattern) (Semester - II)

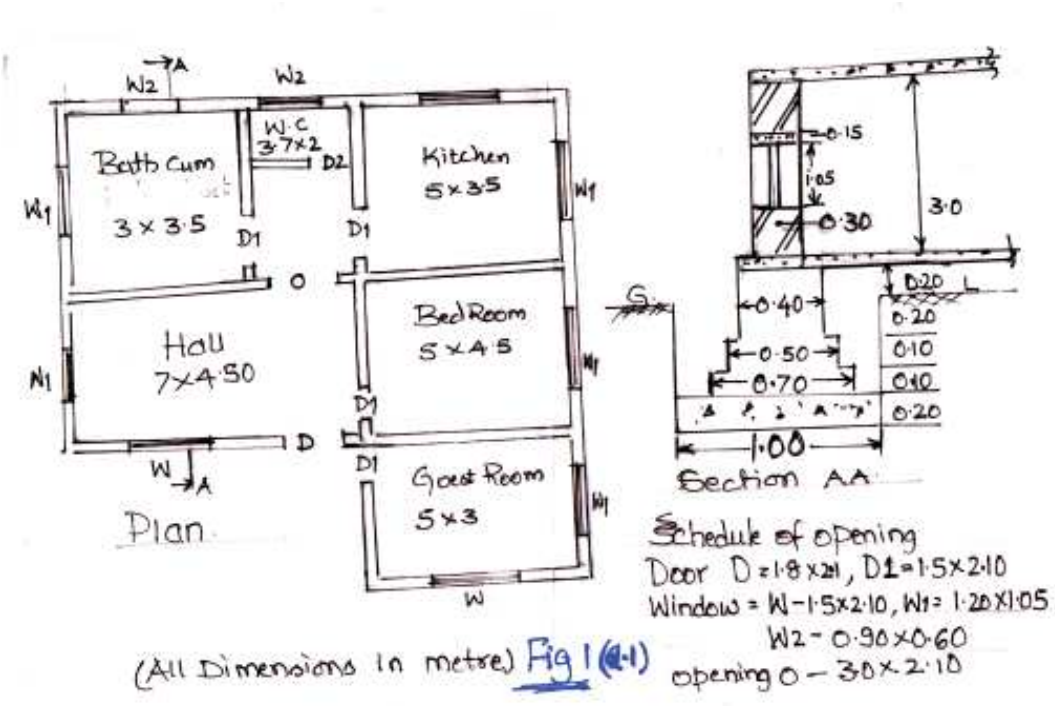
Time : 4 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) *Answer Q.1 or 2, Q.3 or 4, Q.5 or 6 from section - I and Q.7 or 8, Q.9 or 10, Q.11 or 12 from section - II.*
2) *Answers to the two sections should be written in separate books.*
3) *Figures to the right indicate full marks.*
4) *Neat diagrams must be drawn wherever necessary.*
5) *Use of electronic pocket calculator is allowed.*
6) *Assume suitable data, if necessary.*

SECTION - I

Q1) Estimate the quantity for the following item of work from fig. 1.



(All Dimensions in metre) Fig 1 (Q.1)

P.T.O.

i) Cement concrete in foundation. **[3]**

ii) Brick masonry in footing and plinth **[4]**

iii) Brick masonry in superstructure **[4]**

iv) RCC in beams and lintel, also find quantity of steel assuming 1% cement concrete **[4]**

v) Internal plastering in CM 1 : 6. **[3]**

OR

Q2) a) A college building is to be constructed requiring a total carpet area of 3500 sq-m, which includes all academic requirements. 10% of carpet area is to be occupied by walls, verandah, corridor, toilet etc. Find the approximate cost of construction by preliminary estimate. 7.5% of cost of building is to be used for water supply, 5% for electrification, 1.5% for architectural finishes. The plinth area cost may be taken as 1500 per sq-m. **[6]**

b) Explain in detail the method of preparing approximate estimate for irrigation project. **[4]**

c) Explain briefly the following : **[8]**

i) Revised and supplementary estimate

ii) Abstract and detailed estimate

iii) Work charge estimate and contingencies

iv) Annual maintenance and repair estimate

Q3) a) Find out the quantity of earthwork for portion of road between chainage 00.00m to 300m. **[8]**

Chainage (m)	0	30	60	90	120	150	180	210	240	270	300
GL(m)	160	160.50	160.90	161.30	162	162.5	161.8	161.25	160.50	160	159.5

The formation level chainage 0.00 is 159.50 and has an rising gradient of 1 in 150. The formation width is 10m , & side slope are 2:1 in banking and 1.5: 1 in cutting.

b) State the units of measurement as per IS 1200 for **[8]**

i) Earthwork excavation for RCC column footing

ii) Pointing

iii) Doorframe

iv) Skirting

v) Internal plastering

vi) Bending, binding and steel reinforcement

vii) White washing, color washing

viii) Railing for staircase

OR

Q4) a) Explain the utility of DSR and what information is available in the DSR. Explain difference between Labor item and completed item. **[4]**

b) State and explain the rules for deduction as per IS 1200 for : **[6]**

i) Plastering both internal and external

ii) Brickwork is superstructure

c) Explain the trapezoidal and prismoidal formula method for working out volume of earthwork for road construction and explain the application of load and lift in road construction. **[6]**

Q5) a) A building is to be provided with an RCC work in M25 grade. Draft detailed specification including formwork, steel reinforcement in slab and beams. **[8]**

b) Explain the general specification for a first class building. **[4]**

c) What are special specifications? Explain open specifications, its advantages and disadvantages. **[4]**

OR

Q6) a) Explain (i) Overheads (ii) Sundries (iii) Task work. **[6]**

b) Explain the detailed procedure for preparing the rate per unit of a construction item. **[4]**

c) Prepare the rate analysis for $1m^3$ of RCC work in beams, lintels and slabs considering centering and shuttering. Local rates for material & labour may be considered. **[6]**

SECTION - II

Q7) a) An equipment was purchased for Rs. 80000/- Assuming salvage value Rs. 10000/- at the end of 5 years, calculate depreciation & book value of the equipment for each year till the end of 5 years. Use constant percentage method. Give answer in tabular form. **[8]**

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

i) Building lease - Occupation lease

ii) Depreciation - Obsolescence

iii) Book value method of valuation - Rental method of valuation

c) Explain with sketch the belting method for valuation of a plot (land). **[4]**

OR

Q8) a) A self occupied bungalow constructed on a plot of area 600 m^2 in 1985 has built up area of 300 m^2. Present day land and construction costs (in year 2015) are Rs. 1000/- and Rs.2000/- respectively. Assume 1^{st} class specifications for the construction, future life 50 years and sinking fund accumulation is at the rate of 7%. Find the fair market value of the property in 2015. **[8]**

b) Differentiate between 'straight-line' and 'constant percentage' methods of calculating depreciation including formulas. **[6]**

c) State four types of value of a property and discuss any one of them. **[4]**

Q9) a) Distinguish clearly between prequalification & postqualification of contractors. **[4]**

b) Enlist various types of repair works as per the PWD procedure and explain methods of executing (carrying out) them. **[4]**

c) Discuss global tendering and BOT tendering with examples. **[4]**

d) Explain clearly the terms: technical sanction and administrative approval. **[4]**

OR

Q10) a) Draft a tender notice for an English newspaper for construction of Government Guest House on behalf of executive engineer PWD. Estimated cost of this load bearing G +1 construction of 280 m^2 built up area including the works for paving, garden, porch, etc. is Rs. 27,40,000/- (At least 8 tender essentials must be included in the draft). **[4]**

b) Write a detailed note on original PWD works. **[4]**

c) Explain briefly the precautions to be taken for scrutiny of tenders. **[4]**

d) Write a note on 'Daily Labour Work' by the PWD. **[4]**

Q11)a) What is meant by an 'arbitrator'? Explain the disabilities of an arbitrator. **[4]**

b) Explain the process of arbitration with respect to the Arbitration Act, 1940. **[4]**

c) What do you understand by termination of a contract? Briefly explain three ways in which a contract can be terminated. **[4]**

d) Discuss the requirements to be fulfilled for a contract to be legal or valid. **[4]**

OR

Q12)a) Discuss the meaning and necessity of a 'valid' or 'legal (lawful)' contract. **[4]**

b) State the advantages of 'Arbitration'. Briefly discuss the matters which cannot be referred to an Arbitrator as per the Arbitration Act of 1940. **[4]**

c) Compare the item-rate contract and lump-sum contract. **[4]**

d) State the expected qualities of an Arbitrator. Explain clearly meaning and necessity of 'sole' and 'joint' Arbitrators. **[4]**