Total No. of printed pages = 4

CE 131704 (NR)

Roll No. of candidate | | | | | | | | | | |

3/3/22 2021

B.Tech. 7th Semester End-Term Examination

CE

QUANTITY SURVEY AND ESTIMATION

(New Regulation)

Full Marks – 70 Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer Question No. 1 and any *four* from the rest.

1. Choose the correct answer : $(10 \times 1 = 10)$

(i) For 12 mm thick plastering of 100 sqm net brickwork with 1 : 6 cement mortar, the quantity of cement mortar, the quantity of cement required is

(a) 0.200 m^3 (b) 0.247 m^3

(c) 0.274 m^3 (d) 0.295 m^3

(ii) Terrazzo floor is measuréd in

(a) Square per metre (b) Cubic per metre

(c) Kilogram per metre (d) Any of the above

(iii) The most reliable estimate is

(a) Plinth area estimate (b) Cubical content estimate

(c) Detailed estimate (d) Service unit method

(iv) In plastering the deduction is carried out from one face of the wall while calculating quantity if the opening is

(a) Less than 3 m^2 (b) More than 5 m^2

(c) Between 3 to 5 m^2 (d) Any of above

(v) Steel work and iron work are measured in

(a) Quintal (b) Kilogram

(c) Cubic metre (d) All of the above

[Turn over

(vi) The order of sequence according to ISI method of measurement is

(a) B, L, H (b) H, B, L

(c) L, H, B (d) L, B, H

(vii) The value that is obtained by dismantling a building after the completion of its life is called

(a) Present value (b) Scrap value

(c) Salvage value (d) Market value

(viii) One of appropriate method of calculating value of open land is

(a) Straight line method (b) Sinking fund method

(c) Rental method of valuation (d) Belting method

(ix) Along with tender a contractor has to deposit

(a) Security deposit (b) Earnest money

(c) Registration (d) All of above

(x) The overhead cost includes

(a) Travelling expenses (b) Amenities of labour

(c) Depreciation of T & P (d) All of above

2. (a) Define estimate. What are the different types of estimate? (2 + 8 = 10)

(b) Explain the different methods of valuation of open land. (5)

3. (a) What do you mean by schedule of rates? (3)

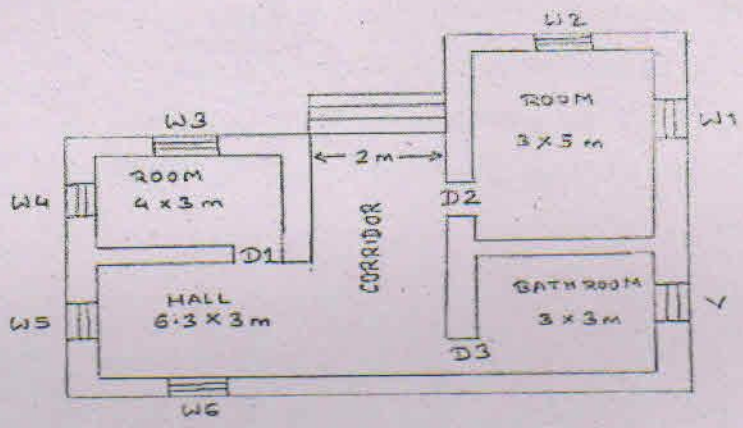
(b) What is rate analysis? What are the purposes of rate analysis? (2 + 4 = 6)

(c) Differentiate between center line method and long wall short wall method of building estimation. (6)

4. (a) Analyse the rate of 1st class brick work with (20 × 10 × 10) bricks with cement sand mortar 1 : 6 for 10 m^3. Given data. (8)

Cement	= Rs. 360/bag
Sand	= Rs. 350/m^3
CA of 20 mm size	= Rs. 1500/m^3
Bricks	= Rs. 20000/3000 nos
Head mason	= Rs. 500/day
Mason	= Rs. 400/day
Labourers	= Rs. 300/day
Bhisti	= Rs. 200/day

(b) The figure below shows the plan of a single storied residential building. Evaluate the preliminary estimate of construction for 2 stories along with the cost of building, cost of water supply and sanitation, cost of electrification. The rate for 1000 sqm is Rs. 12,000. Use plinth area method. (7)



5. (a) Explain the methods which are available to determine depreciation of a property. (7)

(b) A plot of land having an area of 12000 m^2 and rectangular in shape is situated near NH. It has the frontage of 30 m and is surrounded by adjoining properties in the remaining three sides. The rate of land for the particular locality of the city was found to be Rs. 180 per m^2. Workout the value of property using belting method. (8)

6. (a) Differentiate item rate contract and percentage rate contract. (5)

(b) Estimate the quantity of earthwork using Mean sectional area formula from two stations A to B measured with a standard 30 m chain from the following data. Width of road is 10 mat the formation level and side slope is 2 : 1. Rate for earthwork in banking and cutting may be taken as Rs. 10 per cubic metre including a lead up to 150 m with a condition that portion of earthwork available from cutting is to be utilized for banking within the same lead of 150 m. The data of field book for the portion of road are as below : (10)

Chainage	0	1	2	3	4	5	6
Reduced level	123.90	125.00	124.60	122.90	121.60	121.00	120.40
Above datum	123.20	123.60	124.00	123.60	123.20	122.80	122.40

7. (a) Discuss the Trapezoidal formula method of computation of earthwork. (3)

(b) Estimate the cost of following items of the building shown in figure : (12)

(i) Earthwork in excavation

(ii) CR masonary in cement mortar (1 : 6) in the basement

(iii) 1st class brickwork in superstructure.

Rates may be taken as :

Rs. 80/cum for earthwork in excavation

Rs. 3000/cum of CR masonary

Rs. 1500/cum for 1st class brickwork in superstructure