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Question Paper Code: 41162

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Sixth Semester

Civil Engineering

14UCE602 - ESTIMATION COSTING AND VALUATION ENGINEERING

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- The order of booking dimensions is
 - Length, breadth, height
 - Height, breadth, length
 - None of these
 - Breadth, length, height
- A portion of an embankment having a uniform up-gradient 1 in 500 is circular with radius 1000 m of the centre line. It subtends 180° at the centre. If the height of the bank is 1 m at the lower end, and side slopes 2:1, the earth work involved
 - 27, 000 m³
 - 26, 000 m³
 - 27, 500 m³
 - 27, 500 m³
- In long and short wall method of estimation, the length of long wall is the centre to centre distance between the walls and
 - Breadth of the wall
 - Half breadth of wall on each side
 - One fourth breadth of wall on each side
 - None of these
- The rate of payment is made for 100 cu m (per % cu m) in case of
 - Earth work in filling the plinth
 - Excavation in trenches for foundation
 - Earth work in excavation
 - All the above

5. The main factor to be considered while preparing a detailed estimate, is
- (a) Quantity of the materials
 - (b) Availability of materials
 - (c) Transportation of materials
 - (d) All the above
6. The brick work is not measured in cu m in case of
- (a) One or more than one brick wall
 - (b) Brick work in arches
 - (c) Reinforced brick work
 - (d) Half brick wall
7. The expected out turn of 2.5 cm cement concrete floor per mansion per day
- (a) 2.5 sqm
 - (b) 5.0 sqm
 - (c) 7.5 sqm
 - (d) 10 sqm
8. The expected out turn of cement concrete 1 : 2 : 4 per mason per day is
- (a) 1.5 m³
 - (b) 2.5 m³
 - (c) 3.5 m³
 - (d) 5.0 m³
9. In long and short wall method of estimation, the length of long wall is the centre to centre distance between the walls and
- (a) Breadth of the wall
 - (b) Half breadth of wall on each side
 - (c) One fourth breadth of wall on each side
 - (d) None of these
10. For the construction of buildings, the subheads of the estimate are
- (a) Earthwork, Concrete work, Brick work
 - (b) Brickwork, Stone work, Roofing
 - (c) Brickwork Flooring, Wood work, Steel work
 - (d) All the above

PART - B (5 x 2 = 10 Marks)

11. What are the methods of taking out estimates?
12. Estimate the quantities of brickwork and plastering required in a wall 4 m long, 3 m high and 30 cm thick. Calculate also the cost if the rate of brickwork is Rs.32.00 per cu.m and of plastering is Rs. 8.50 per sq.m.
13. What is specification?
14. Write the essentials requirements of contract.
15. Define valuation.

PART - C (5 x 16 = 80 Marks)

16. (a) Different types of estimate and briefly explain any four. (16)

Or

(b) (i) The thickness of metal crust of an existing macadam road is 15cm and the surface has become patchy and rough. It is proposed to modernize the road by providing one layers of stone macadam and two coats of surface painting. The metallad width of the road is 3.7 meter. Prepare a detailed estimate for modernizing one kilometer length of the road. (8)

(ii) Estimate the quantities of the following item of a two roomed building from the given plan and section figure 1. (a) Earthwork in Excavation in foundation
 (b) 1st class brickwork in 1:6 cement mortar in foundation and plinth
 (c) 1st class brickwork in lime mortar in superstructure. (8)

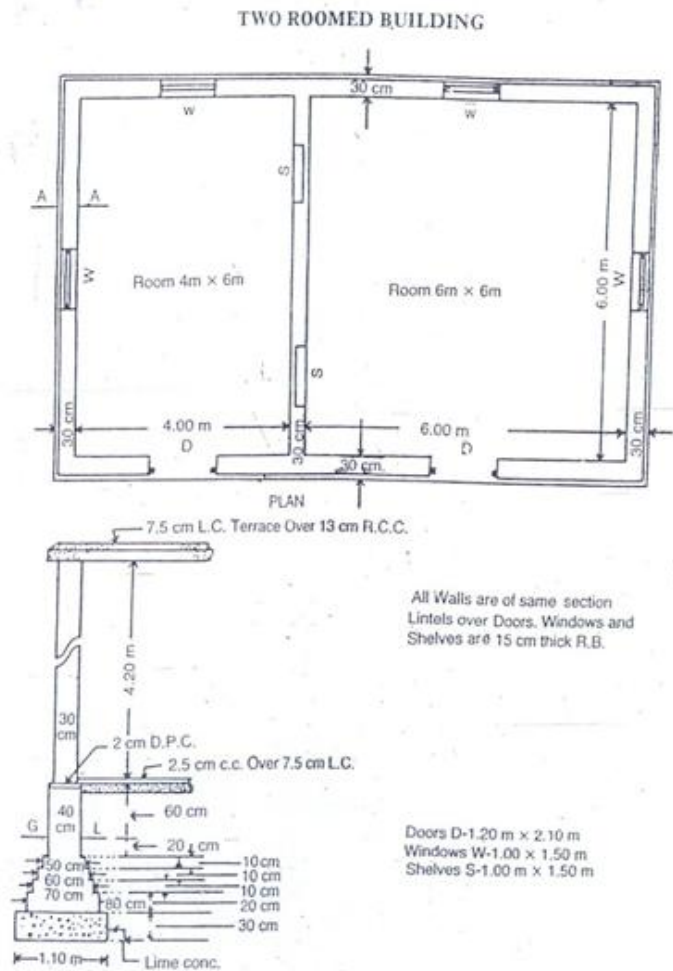


Figure 1

17. (a) Calculate the analysis of rates for the following and assuming suitable rate for the work.:

(i) Lime concrete in foundation with 40mm gauge brick ballast unit 1cu.m (With white lime and surkhi 1:2(proportion-16:32:100;i.e 1:2:6 approx). (8)

(ii) Cement concrete 1:5:10 in foundation or floor with brick ballast 40mm(11/2”) thick guage unit 1 cu.m. (8)

Or

(b) Explain the terms below: (i) Analysis of rates (ii) Particular of item in rate analysis (iii) Schedule of rates (iv) Market rate. (16)

18. (a) Define specification and explain types of specification in detail. (16)

Or

(b) Briefly explain about tender documents and tender notice with example. (16)

19. (a) Explain contract and types of contract, Explain any two in details. (16)

Or

(b) Briefly about arbitration and legal requirements in construction contracts. (16)

20. (a) Define valuation and also explain methods of valuations. (16)

Or

(b) (i) Write down the necessity of valuation. (4)

(ii) An old shop in the main market has been purchased by a person as a cost of Rs20,000/- work out the amount of annual sinking fund at 3% interest assuming future life of the building of 15 years and scrap value of the building as 10% of the cost of purchase. (4)

(iii) An RCC framed structure building having estimated future life of 80 years fetches a gross annual rent of Rs 2200 per month. Work out its capitalized value on the basis of 6% net yield. The rate of compound interest for sinking fund may be 4%. The plot measure 400sq.m and cost of land may be taken as Rs 120/sq.m. The other out goings are (a) Repair and maintenance=1/12 of gross income (b) Municipal and property taxes= 25% gross income (c) Management and miscellaneous=7% gross income. The plinth area of the buildings is 800 Sq.m and cost per sq.m may be taken as Rs 500/per sq.m. (8)