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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular Examinations Feb-2021
ESTIMATION, COSTING AND VALUATION
(Civil Engineering)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions 5 x 2 = **10** Marks)

1	a	Enumerate any eight items of estimate of a building.	2M
	b	List different items of estimation in metalled road construction.	2M
	c	What are percentages of steel of concrete in general in different types of RCC members?	2M
	d	What are the factors on which rate of particular item of work depends?	2M
	e	What is the difference between scrap value and salvage value?	2M

PART-B
(Answer all Five Units 5 x 10 = **50** Marks)

UNIT-I

|		
2	List and explain different types of estimates in detail	10M

OR

3   Estimate the quantities of the following items of a two roomed building from the given   10M
plan and section. The general specifications are as follows:
(a) Earthwork in exaction in foundation,
(b) Lime concrete in foundation
(c) 1st class brickwork in cement mortar in foundation and plinth
(d) 2.5 cm cement concrete damp proof course, and
(e) 1st class brickwork in lime mortar in super structure. Adopt Centre Line method.
Refer Fig.1.

PLAN
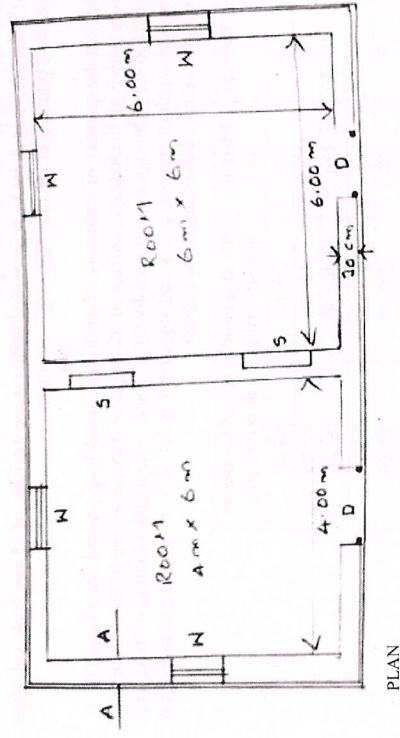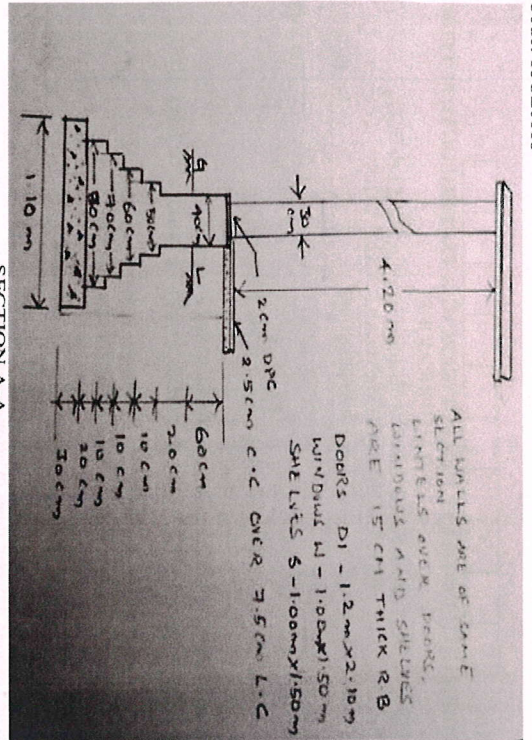
SECTION A-A
SECTION AA
Fig.1

UNIT-II

4. A road portion of 200 m length is having heights 1.00 m and 1.60 m in banking at the two ends. The road portion in an uniform ground with a formation width 10 m and side slopes being 2:1 (horizontal: vertical). Assume that there is no transverse slope.
(i) Calculate the quantity of earthwork using Mid Sectional Area Method. Mean Sectional Area Method and Prismoidal Formula Method.
(ii) Compare the two methods with Prismoidal Formula Method and report the difference of quantities in percentage.
(iii) If the side slopes are to be provided with a stone pitching of 15 cm thick, calculate the cost of pitching at the rate of Rs.220/- per cu.m   **10M**

OR

5. Calculate the quantity of earthwork of a hill road in sidelong ground, for a length of 200 m from 5 to 10 chainage, tangent of the angle of transverse slop of ground (tanθ) is equal to 0.2 although as measured by Ghat Tracer. The length of chain is 20 m. The formation width of the road is 7 m and slope bank is 2:1. R.L. of ground and formation level at the centre of the road are as follows:-   **10M**

Chainage	Distance (m)	RL of ground at centre (m)	RL of formation at centre (m)
5	100	200.00	201.20
6	120	199.75	201.80
7	140	200.50	202.40
8	160	201.70	203.00
9	180	202.40	203.60
10	200	201.50	204.20

UNIT-III
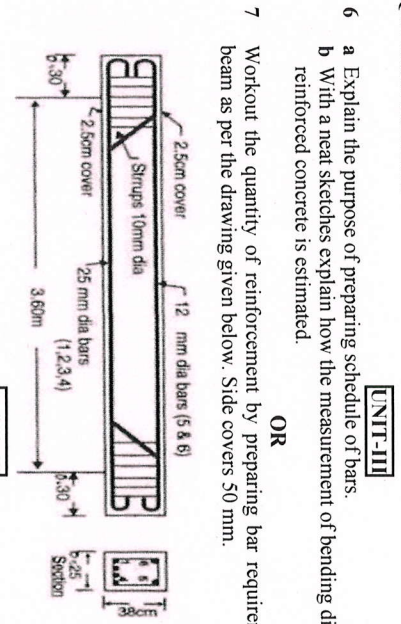
6. a Explain the purpose of preparing schedule of bars.   **3M**
   b With a neat sketches explain how the measurement of bending dimension of bars for reinforced concrete is estimated.   **7M**

OR

7. Workout the quantity of reinforcement by preparing bar requirement schedule of a beam as per the drawing given below. Side covers 50 mm.   **10M**

UNIT-IV

8. a Prepare the reate per cu.m for constructing rubble stone masonry in superstructure in 1:6 cement sand mortar.   **5M**
   b What is the rate per sq.m for constructing 12 mm thick cement plastering in ceiling with 1:3 cement sand mortar?   **5M**

OR

9. a Prepare rate per cu.m for constructing rubble stone masonry in superstructure 1:6 cement sand mortar.   **5M**
   b Prepare rate per sq.m for painting one coat over a coat of priming.   **5M**

UNIT-V

10. a Write detailed specifications for white washing and colour washing.   **5M**
    b Mention detail specifications for doors and windows.   **5M**

OR

11. Calculate the standard rent of a Government residential building newly constructed from the following data –   **10M**
(i) Cost of land – Rs.10,000.00
(ii) Cost of construction of the building – Rs.40,000.00
(iii) Cost of roads within the compound, and fencing – Rs.20,00.00
(iv) Cost of sanitary and water supply works – 8% of the cost of building
(v) Cost of electric installation including fans – 10% of the cost of building
(vi) Municipal House tax – Rs.400.00 per annum
(vii) Water tax – Rs.250.00 per annum
(viii) Property tax – Rs.140.00 per annum

END