Code No: 117DE 14 A C, 1 A 0 1 0 1 **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November/December - 2017
ESTIMATING AND COSTING
(Common to CE, CEE)

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a) What is meant by a detailed estimate? [2]
b) Define Abstract estimate [3]
c) What is Lead and Lift? [2]
d) For an embankment 90m long of uniform gradient when the height of bank is 2.4m at one end and 1.8m at the other end the width of embankment at top is 8m and its side slopes 2 vertical to 1 Horizontal. Calculate the quantity of earth work by Mean sectional area method. [3]
e) What is S.O.R.? Why it is periodically revised? [2]
f) Explain in brief about M Book. [3]
g) What information should a contract document contain? [2]
h) Define 'Earnest money deposit (EMD)'.Why and when are they collected? [3]
i) Define salvage value. [2]
j) State the different types of specifications. [3]

PART-B

(50 Marks)

2. Prepare a preliminary estimate for a framed four storied office building having a carpet area of 250 sq m for each floor. Assume areas occupied by corridor, verandah, lavatories, staircase etc as 25% of built up area and that occupied by walls and columns as 8.5% of the same. The following details may be used for estimation
a) Built-up area rate for ground floor (excluding foundation) = Rs1,500/- per sqm
b) Built-up area rate for 1st and 2nd floor = Rs1,650/- per sq m
c) Built-up area rate for 3rd floor = Rs1,800/- per sq m
d) Extra for foundation = 20% of superstructure cost
e) Extra for special architectural treatment = 1% of building cost
f) Extra for water supply and sanitary = 7% of building cost.
g) Extra for electrical installation = 8% of building cost
h) Extra for contingencies = 4% of overall cost
i) Extra for other source = 5% of building cost. [10]

OR

3.a) Enumerate different methods for estimating building works along with a suitable example

b) Prepare a detailed estimate of a septic tank with soak pit for 25 users. [5+5]

4. Explain in detail the methods for calculating earthwork for roads along with their merits and demerits. [10]

OR

5. Estimate the Quantity of earth work for a portion of road from the following data

Chainage	0	1	2	3	4	5	6	7	8	9
RL	7.50	7.70	7.50	7.25	6.85	6.95	6.70	6.45	6.30	5.95

The formation level at Chainage 0 is 8.0 and having falling gradient of 1 in 100. The top width is 12m and side slopes 1½ horizontal to 1 vertical. Assuming the transverse direction is in level, calculate the quantity of earth work. By using Trapezoidal and Prismoidol formula Take 1 chain = 20m. [10]

6.a) Explain briefly the various factors affecting the rate analysis.

b) Differentiate between 'Analysis of rates' and 'Schedule of rates'. [5+5]

OR

7.a) Describe the procedure for the calculation of rate per unit cu.m of RCC work in beams, slabs etc., 1:2:4 work excluding steel but including centering, shuttering, bending and binding.

b) Describe the procedure for the calculation of rate per unit cu.m of Random Rubble stone masonary in foundation and plinth. [5+5]

8. Explain in detail the different types of civil engineering contracts with their merits and demerits. [10]

OR

9. Write a short note on the following with respect to contract document.
a) Security deposit.
b) Retention money
c) Earnest money
d) Tender and Contract. [10]

10.a) Explain the following method of valuation of a building along with an example.
i) Valuation based on profit
ii) Depreciation method of valuation.

b) Explain the general specification for a first class building. [5+5]

OR

11.a) What are the different purposes for which the valuation is undertaken?

b) Explain the following method of valuation of a building along with an example.
i) Rental method of valuation
ii) Direct comparison with the capital value. [5+5]

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