

R13

Code No: 117DE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year I Semester Examinations, April/May - 2018****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) Write four general items of work in buildings. [2]
- b) Give the units of measurement for the following items. [3]
 - i) Filling the basement with sand.
 - ii) Rough stone pitching
 - iii) Shuttering
- c) Draw the typical cross section of the road in cutting and derive the expression for volume of 1 metre length. [2]
- d) What is banking and cutting? Give an example for each. [3]
- e) Define overhead charges and contingent charges. [2]
- f) What is the purpose of analysis of rates? [3]
- g) What is the unit weight of 20mm diameter steel bar? [2]
- h) Explain lump sum contract. [3]
- i) What are the objectives of valuation? [2]
- j) What is the difference between first class brick work and second class brick work? [3]

PART-B**(50 Marks)**

2. What is an estimate? What are the documents required to prepare an estimate? [10]
- OR**
3. Mention the factors to be considered during the preparation of detailed estimate and explain in brief. [10]
 4. Estimate the quantity of earthwork for an embankment 120 m long, 8m wide at crest, side slope is 2:1, the central height from 0 to 120 m at every 30 m interval are 0.6, 1.2, 1.6, 2, 1.3. [10]

OR

5. Prepare an estimate for the portion of a road from chainage 14 to 22 from data given below. Also draw the longitudinal and typical cross section for cutting and banking. Turfing with grass shall be provided for the sides of the embankment for Rs. 2/ sq m. The rate of the earthwork in cutting is Rs. 850/ cu m and embankment is 750/ cu m. The formation width of the proposed road is 12 m. Side slope is 1.5:1 in cutting and 2:1 in banking. The road formation is proposed at a uniform falling gradient of 1 in 200 passing through the GL at chainage of 14. Length of 1 chain = 30 m. [10]

chainage	14	15	16	17	18	19	20	21	22
RL of ground	108.60	109.25	109.40	108.85	108.5	107.25	106.8	107.15	107.2

6. Prepare analysis of rates for the following item of work. Plain cement concrete 1:5:10 in foundation. [10]

OR

7. Work out the rate analysis of the following items
 a) 230mm wall in CM 1:3 on ground floor
 b) Cement plaster 12mm thick in CM 1:5. [5+5]

8. What are the different types of contract? Explain any two in detail. [10]

OR

9. Explain the documents to be attached to a contract document in detail. [10]

10. What are the different methods of valuation, briefly explain any one method. [10]

OR

11. An old building has been purchased by a person at a cost of Rs. 5,00,000 excluding the cost of land. Calculate the amount of annual sinking fund at 5% interest assuming the future life of the building as 30 years and the scrap value of the building as 12% of the cost of purchase. [10]

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