R17 Regulation *Subject code:* 1P7AB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech IV Year I Semester Regular Examinations, February 2021

ESTIMATION & COSTING

(Civil Engineering)

Maximum Marks: 70 Date: 23.02.2021 Duration: 3Hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks **(10x2M=20 Marks)**

1 Classify the types of estimate.
2 Distinguish between Revised & Supplementary Estimate
3 List out the purpose and requirements of rate analysis.
4 Show the difference between detailed specification and general specification
5 Represent long wall and short wall method of estimation.
6 Express the unit of measurements for earth work, D.P.C and brick work.
7 When and where revised estimates are needed?
8 How to prepare the work bill?
9 What is obsolescence?
10 List the different methods of depreciation.

Part-B

Answer All the following questions. **(10M X 5=50Marks)**

11 a) Describe the different types of estimate. (5M)
b) Explain the different methods of working out quantities in detailed estimates? (5M)

OR

12 A building consists of 260sq.m. of plinth area in each floor. It consists of ground and first floor, whose heights are 5m and 4.5m respectively. Calculate the cost of the building from the given data. The rates given below are same for both floors. (10M)

a. Cubic area rate – Rs. 6000 percu.m.
b. Add for architectural work – 4% percu.m.
c. Add for water supply 5% percu.m.
d. Add for sanitary work 5% percu.m.
e. Add for electrical works 6% percu.m.
f. Add for unforeseen items 5% percu.m.

Add for supervision 10% percu.m.

13 Prepare an analysis of rates for the following items of work: (10M)

a. PCC (1:2:4) – unit 1 cu.m
b. RR Masonry in lime mortar for foundation – unit 1 cu.m

OR

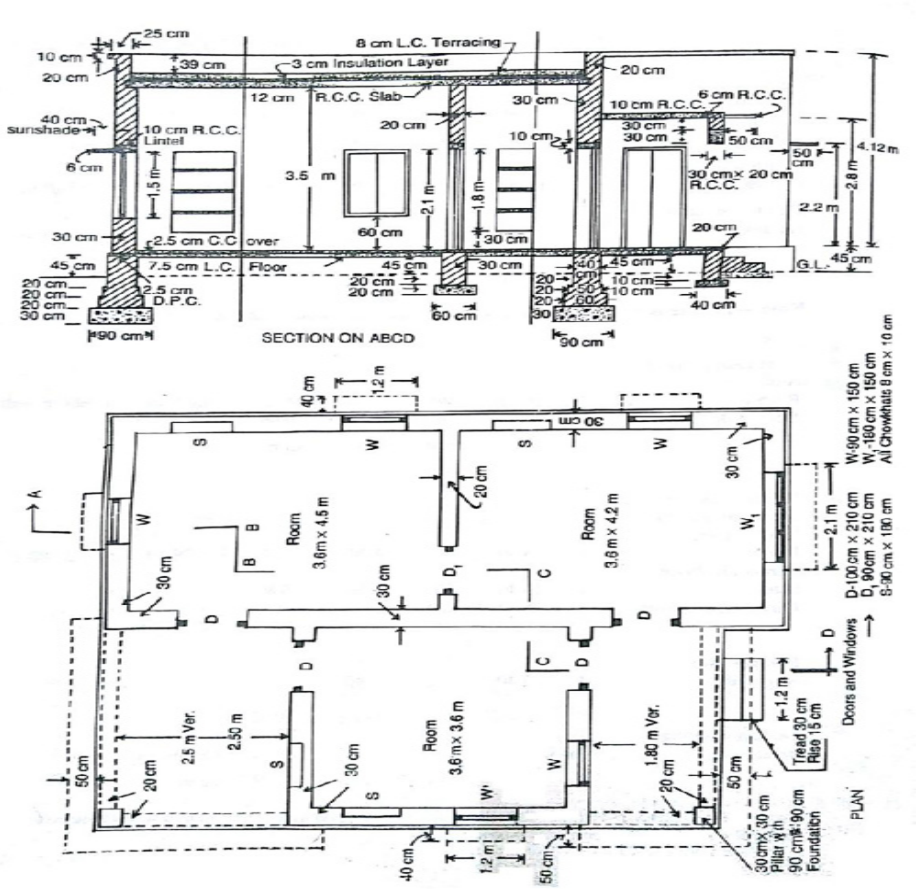
14 Write down the detailed specification of the following
(i) Cement concrete in foundation(5M)
(ii) Plastering in cement mortar 1:6 (5M)

15 The formation width of road embankment is 9.0m. The side slopes are 2.5:1. The depths along the center line of road at 50.0m intervals are 1.2, 1.1, 1.4, 1.2, 0.9, 1.5 and 1.0m.It is required to calculate the quantity of earthwork by (10M)

a. Prismoidal rule b. Trapezoidal rule

OR

16 Estimate the following items of work, given in the Figure.(10M)
(i) Earth work excavation in foundation
(ii) Lime concrete in foundation
(iii)Damp Proof Course of 2.5 cm



17 Prepare a reinforcement bar bending schedule for a beam, assuming suitable dimension.(10M)

OR

18 Explain the methods of measurements of civil engineering works. (10M)

19 Explain in detail about various methods of valuation.(10M)

OR

20 Calculate the annual rent of a building with the following data.(10M)

Cost of land = Rs.20,000/-
Cost of building = Rs.80,000/-
Estimate life = 80years
Return expected = 5% on land 6% on building.
Annual repairs are expected to be 0.7% of the cost construction and other out goings will be 25% of gross rent. There is no proposal to set up a sinking fund.