



Regulation R20

Subject code: 3P7AA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Supplementary Examinations, April 2024

Estimation and Costing (Civil Engineering)

Maximum Marks: 70

Date: 29.04.2024 Duration: 3 hours

- 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. Total 10 questions it consists.
 4. Part-B 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 Define approximate estimate?
- 2 Write any two uses of estimation?
- 3 What is the need of specification?
- 4 What is SSR?
- 5 List out the methods of detailed estimate?
- 6 What is Lead in earthwork calculations?
- 7 Write the unit weight of 25mm dia steel bar?
- 8 Define revised estimate?
- 9 What is Free hold property?
- 10 What is Gross income?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Explain the different methods of working out quantities in detailed estimates. [10]

OR

- 12 What is the data required for preparation of estimates, explain in detail? [10]

- 13 Explain detailed specifications of earthwork in excavation. [10]

OR

- 14 Prepare analysis of rates for the following items of work. [10]

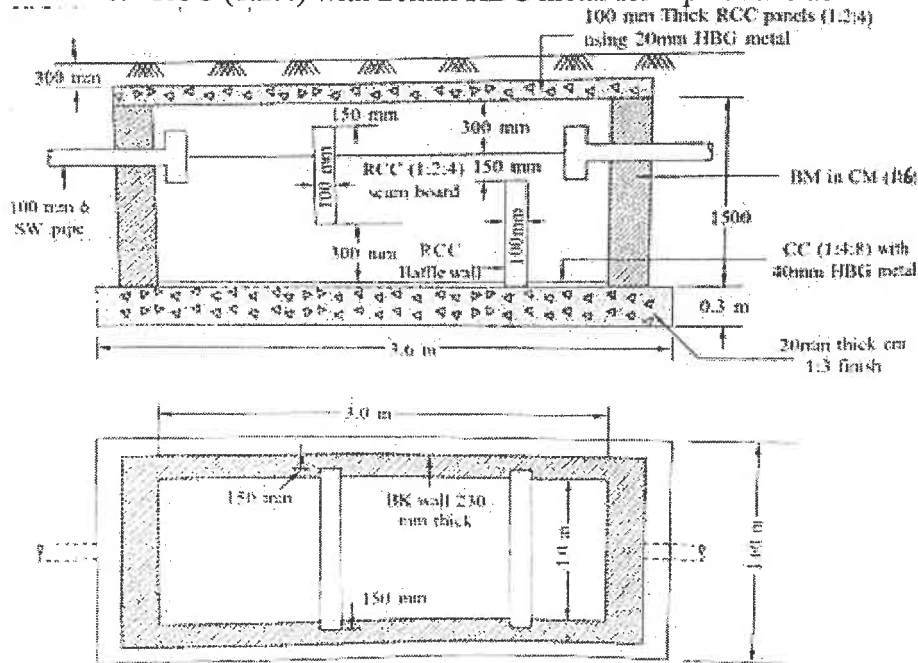
a. 1st class brick work of 1:3 cement mortar – unit 1 cu.m

b. Cement concrete 1:4:8 –unit 1 cu.m

Assume materials and labours in the market rate

15 Prepare a detailed estimate for the following items of septic tank fig. given below. [10]

- Earthwork Excavation
- Brick Masonry in CM (1:6)
- RCC (1:2:4) with 20mm HBG metal for top cover slab



OR

- 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 Prismoidal rule and Trapezoidal rule. [5+5]
- Prepare the bar bending schedule of one way simply supported slab of dimensions 6.0m x 3.0m and find the total weight of steel, which is resting over the entire width of wall thickness 350mm on four sides, depth of slab is 100mm.
 - Main reinforcement 10mm dia @ 150mm centre to centre
 - Distribution bars 8mm dia @ 200mm centre to centre. [10]

OR

- What are the points to be observed in recording measurements of works in Measurement Book? [10]
- What is Gross income, Net income and outgoings? Explain in detail about various types of outgoings? [10]

OR

- A three storied building is standing on a plot of land measuring 800 sq.m. The plinth area of each storey is 400sq.m. The building is of RCC framed structure and the future life may be taken as 70 years. The building fetches a gross rent of Rs.4500/- per month. Work out the capitalized value of the property on the basis of 6% net yield. For sinking fund 3% compound interest may be assumed. Cost of land may be taken as Rs. 400/- per sq.m. Other data required may be assumed suitably. [10]