R18 Regulation *Subject code:2P7AA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, December 2024

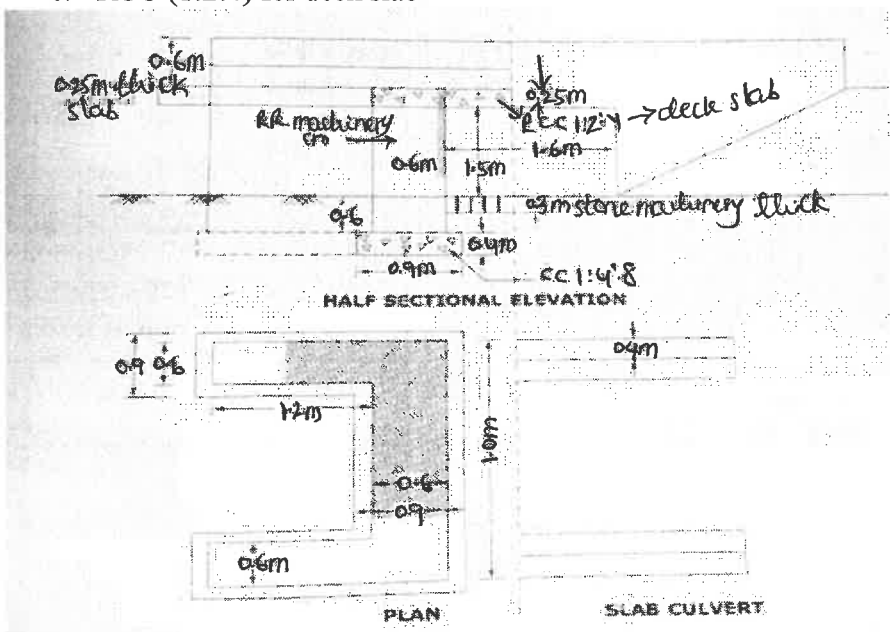
Estimation and Costing

(Civil Engineering)

Maximum Marks: 70 Date:10.01.2025 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. Answer any one full question from each unit which carries 10M.
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)		CO	Bloom Tx
1	Define approximate estimate?	1	L1
2	Write any two uses of estimation?	1	L1
3	What is the need of specification?	2	L1
4	What is Analysis of Rates?	2	L1
5	List out the methods of detailed estimate?	3	L1
6	What is Lead in earthwork calculations?	3	L1
7	What is the hook allowance and bent up allowance in beam reinforcement?	4	L1
8	What is measurement book?	4	L1
9	Write any four methods of valuation	5	L1
10	State methods of calculating depreciation	5	L1
	Part-B		
Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	What is an estimate? List out the different types of estimates? Explain in detail about all available estimates for a civil engineering structures? [10M]	1	L2
	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. g. Add for supervision 10% percu.m.	1	L2

13	Explain detailed specifications of earthwork in excavation. [10M]	2	L2
	OR		
14	Prepare analysis of rates for the following items of work [10M] 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	2	L2
15	Prepare a detailed estimate for the following items of work for a slab culvert shown in fig. below: [10M] a. Earthwork excavation for foundations b. CC (1:4:8) using 40mm HBG metal for foundation bed c. RCC (1:2:4) for deck slab 	3	L2
	OR		
16	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	3	L2
17	Prepare the bar bending schedule of one way simply supported slab of dimensions 6.0mx3.0m 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. [10M] a.Main reinforcement 10mm dia @ 150mm centre to centre b.Distribution bars 8mm dia @ 200mm centre to centre	4	L2

	OR		
18	What are the points to be observed in recording measurements of works in Measurement Book? [10M]	4	L2
19	Explain the following terms with equations and their abbreviations:[10M] a. Capitalized Value b. Sinking Fund c. Depreciation	5	L2
	OR		
20	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.1500/- 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. 40/- per sq.m. Other data required may be assumed suitably. [10M]	5	L2