R18 Regulation *Subject code:2P7AA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, May 2026

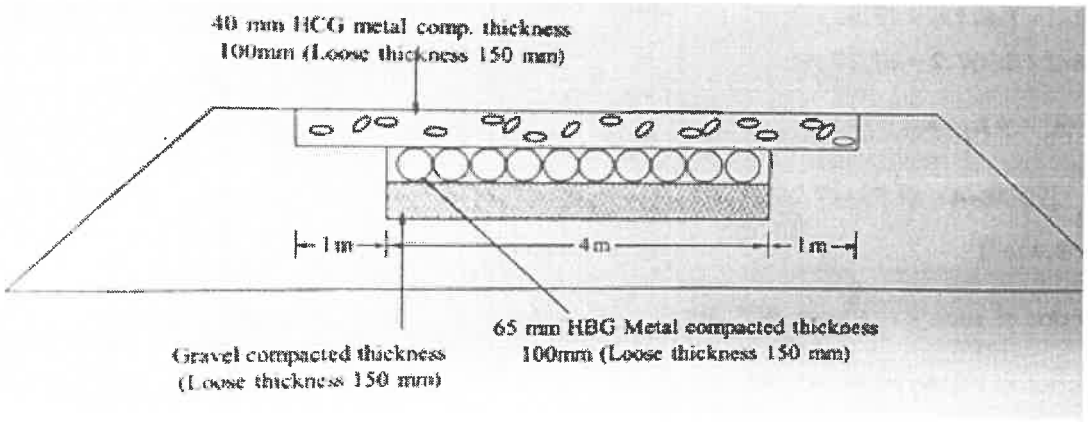
Estimation and Costing

(Civil Engineering)

Maximum Marks: 70 Date:05.05.2026 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	What is an Estimate?
2	Write the units of measurement for Cement Concrete & Plastering
3	Define specification?
4	What is Analysis of Rates?
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	What is approximate estimate? Explain different methods of approximate estimates. [10]
	OR
12	Prepare an approximate estimate of building project with total plinth area of all building is 500 sq.m and from following data. [10] a. Plinth area rate Rs. 3500 per sq.m b. Cost of water supply @7½ % of cost of building. c. Cost of Sanitary and Electrical installations each @ 7½% of cost of building. d. Cost of architectural features @ 2% of building cost. e. Cost of roads and lawns @ 5% of building cost. f. Cost of P.S. and contingencies @ 3% of building cost. Determine the total cost of building project.
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	A WBM road is proposed to be laid as shown in the fig. below. Calculate the following items for a length of 1 km. [10] a. Quantity of gravel required for base course b. Quantity of 65mm HBG metal required c. Quantity of 40 mm HBG metal required d. Spreading of Gravel  	

OR

16 The ground levels along the centre line of a road are given below: [10]

Chainage in 'm'	0	50	100	150	200
R.L. Ground 'm'	97.0	96.5	96.0	97.5	98.0

The road is to be formed in embankment with the formation level at 100.0m throughout the 200m length. If the width of the road is 10m and side slopes are 2:1, calculate the volume of earthwork by:

(a) Trapezoidal Rule

(b) Prismoidal Rule

Assume the transverse slope of the ground is level.

17 Estimate the quantity of steel for any type of RCC Simply supported beam with an illustrative example and prepare a bar bending schedule. [10]

OR

18 What are the points to be observed in recording measurements of works in Measurement Book? [10]

19 Explain the following terms: [5+5]

a. Scrap Value

b. Market Value

OR

20 A residential building of 220 sq.m plinth area is situated on a plot measuring 450 sq.m. The building is let out for a rent of Rs. 6,000 per month. The cost of the land is Rs.3,000 per sq.m. The usual outgoings are estimated as 20% of gross rent. Find the capitalized value of the property for 10% net yield, assuming life of the building as 70 years. [10]