



A27 Regulation

Subject code: 4544C

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

B.Tech IV Semester Regular/Supplementary Examinations, April 2025

CONCRETE TECHNOLOGY

(Civil Engineering)

Maximum Marks: 68

Date: 06.05.2025

Duration: 3 hours

- Notes: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 8 Units. Answer any two full questions from each unit.
4. Each question carries 10 marks and are have A, B, C, D as sub marks.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What is the chemical composition of cement?	1M	CO1	L1
b)	What is the common classification of aggregates?	1M	CO1	L1
c)	Define Workability.	1M	CO2	L1
d)	Define Water/cement ratio.	1M	CO2	L1
e)	Define concrete mix design.	1M	CO3	L1
	What is Road mix concrete?	1M	CO3	L1
f)	What is recent technology of cement?	1M	CO4	L1
h)	How does alkali aggregate reaction affect the concrete mix?	1M	CO4	L1
i)	What are the Methods for Control of Bleeding?	1M	CO5	L1
j)	What is cure of concrete?	1M	CO5	L1

Part-B

Answer All the following questions. (5X10M=50 Marks)		Marks	CO	Bloom Tx
2 (a)	Describe the hydration reaction of Bogue compounds indicating the products of hydration.	6M	CO1	L2
(b)	Describe the manufacturing process of cement.	4M	CO1	L2
OR				
3 a)	Explain the different types of cement in detail.	3M	CO1	L2
b)	Describe the setting time and soundness test of cement.	3M	CO1	L2
4	Write in detail about alkali aggregate reaction.	10M	CO2	L2
OR				
5 (a)	What is significance of fine and coarse aggregates?	5M	CO2	L2
(b)	Explain thermal expansion of aggregates?	5M	CO2	L2
6	Explain the methods of measurement of workability by different tests.	10M	CO3	L2
OR				
7	What are the various steps involved in concrete manufacturing?	10M	CO3	L2

8 (a)	What are the factors affecting strength of the concrete?	5M	CO4	L2
(b)	Define shrinkage. What are the various types of shrinkage?	5M	CO4	L2
	OR			
9 (a)	What is curing? What are the different methods of curing?	5M	CO4	L2
(b)	Describe types of NDT tests.	5M	CO4	L2
10	Describe BIS method of mix design in detail.	10M	CO5	L2
	OR			
11(a)	Describe durability of concrete.	5M	CO5	L2
(b)	What is meant by light weight concrete?	5M	CO5	L2