



**B.Tech IV Semester Supplementary Examinations, December 2024**

**CONCRETE TECHNOLOGY**  
*(Civil Engineering)*

**Maximum Marks: 60**

Date: 07.12.2024

Duration: 3 hours

- Note:
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 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.

**IS:10262 CODE BOOK IS ALLOWED**

Part-A			CO	Bloom Tx
All the following questions carry equal marks (10X1M=10 Marks)				
1.a)	What are the main components of Portland cement?		1	1
b)	List the different tests on cement.		1	1
c)	Define porosity.		2	1
d)	Write about bleeding in concrete?		2	1
e)	What is the purpose of vibration during concrete placement?		3	1
f)	List steps involved in concrete manufacturing.		3	1
g)	What is Abram's Law?		4	1
h)	List different NDT tests.		4	1
i)	What factor in mix design affects the workability of concrete?		5	1
j)	What is the use of light weight concrete?		5	1
Part-B				Bloom Tx level
Answer All the following questions. (5X10M=50Marks)				
2	Explain in detail different mineral and chemical admixtures. [10M]		1	2
OR				
3	Explain in detail different tests on physical properties of cement. [10M]		1	2
4	Explain classification of aggregates in detail. [10M]		2	2
OR				
5	Explain in detail Mechanical properties of aggregate. [10M]		2	2
6	Explain in detail factors Affecting Workability of concrete. [10M]		3	2
OR				
7	Explain in detail various steps in Manufacturing of concrete. [10M]		3	2
8	What is Creep? Explain about factors affecting Creep. [10M]		4	2
OR				

9	Explain about Shrinkage and different types of Shrinkage in concrete. [10M]	4	2
10	Design a concrete mix for reinforced concrete work. Which will be exposed to a moderate exposure condition? Grade of concrete used for reinforced concrete work is M 25. Zone III sand used required slump for fully compaction concrete is 50 mm. Angular aggregates with maximum size of 20mm are used. Specific gravity of fine aggregate and coarse aggregate taken as 2.7 and 2.6 respectively. Specific gravity of cement taken as 3.15. [10M]	5	3
	OR		
11	Write short notes on a. High performance concrete. b. Fiber reinforced concrete. [10M]	5	2