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**BTECH**  
**(SEM V) THEORY EXAMINATION 2024-25**  
**CONCRETE TECHNOLOGY**

TIME: 3 HRS

M.MARKS: 70

**Note:** Attempt all Sections. In case of any missing data; choose suitably.

## SECTION A

**1. Attempt all questions in brief. 2 x 07 = 14**

Q no.	Question	CO	Level
a.	Explain the field tests for cement	1	K1
b.	Explain hydration of cement and what are the different types of compounds formed during hydration	1	K1
c.	Explain superplasticizers	2	K1
d.	Explain curing and list different methods adopted for curing.	3	K1
e.	Define concrete mix design	4	K1
f.	Distinguish high performance concrete and high strength concrete	5	K2
g.	Explain geo-polymer concrete	5	K1

## SECTION B

**2. Attempt any three of the following: 07 x 3 = 21**

a.	Discuss the classification of aggregates.	1	K2
b.	Discuss the role of air entraining admixture in concrete.	2	K2
c.	Describe slump test for measuring workability of concrete	3	K2
d.	Explain the purpose and requirement of concrete mix design	4	K2
e.	Explain Fibre reinforced Concrete. Discuss its properties and uses.	5	K2

## SECTION C

**3. Attempt any one part of the following: 07 x 1 = 07**

a.	Explain briefly the ingredients of concrete and their functions.	1	K2
b.	Explain the properties and uses of rapid hardening cement	1	K2

**4. Attempt any one part of the following: 07 x 1 = 07**

a.	Describe mineral admixture and discuss its function in concrete.	2	K2
b.	Discuss the functions of (i) Accelerators (ii) Retarders	2	K2

**5. Attempt any one part of the following: 07 x 1 = 07**

a.	Explain the importance of curing and list different methods of curing	3	K2
b.	Explain the factors affecting durability of concrete	3	K2

**6. Attempt any one part of the following: 07 x 1 = 07**

a.	Explain the purpose and requirement of concrete mix design	4	K2
b.	Discuss the steps of Concrete mix design as per IS 10262:2019	4	K2

**7. Attempt any one part of the following: 07 x 1 = 07**

a.	Explain Ferrocement. Discuss the properties and uses of Ferrocement.	5	K2
b.	Explain the properties and uses of self - compacting concrete	5	K2