

Code: 20CE6501

III B.Tech - I Semester – Regular Examinations - DECEMBER 2022

**ADVANCED CONCRETE TECHNOLOGY
(HONORS in CIVIL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1		Discuss about different types of cements used in the field application and also explain about the field tests and laboratory tests on cement.	L2	CO1	14 M
OR					
2	a)	Summarize about different types of admixtures • Pozzolanic admixtures • Air entraining admixture	L2	CO1	7 M
	b)	Discuss the role of various major compounds of cement and its hydrated products in the properties of the cement.	L2	CO1	7 M
UNIT-II					
3	a)	Explain the steps in manufacture of concrete in sequential order.	L2	CO2	7 M

	b)	Explain slump test on fresh concrete and the recommended slump values for different workabilities.	L2	CO2	7 M
OR					
4	a)	Explain mix design of concrete. Elaborate various factors to be considered for mix design of concrete.	L2	CO2	7 M
	b)	List out various steps involved in evaluation of compressive strength of concrete from preparation of sample to testing.	L2	CO2	7 M
UNIT-III					
5	a)	Identify the demands of different environments impose on design of concrete mix.	L2	CO3	7 M
	b)	Classify different Light weight concrete based on mix proportion, application and properties.	L2	CO3	7 M
OR					
6	a)	Examine no fines concrete. Explain the advantages of the no fines concrete over ordinary concrete.	L2	CO3	7 M
	b)	Explain in detail aerated concrete, its properties and applications.	L2	CO3	7 M
UNIT-IV					
7	a)	Explain in detail about various types of fibres used in fibre reinforced concrete.	L2	CO4	7 M

	b)	Explain in detail about polymer concrete and List the advantages of polymer concrete.	L2	CO4	7 M
OR					
8	a)	Explain the high volume fly ash concrete, its composition and applications.	L2	CO4	7 M
	b)	Explain in detail about fibre reinforced concrete, mix design and applications.	L2	CO4	7 M
UNIT-V					
9		Examine self-compacting concrete. Explain the advantages of the self-compacting concrete over ordinary concrete.	L2	CO5	14 M
OR					
10	a)	Explain in detail about the high strength concrete, its composition and applications.	L2	CO5	7 M
	b)	Explain in detail about the high density concrete and the advantages of the high density concrete over ordinary concrete and its applications.	L2	CO5	7 M