Reg. No.															

Question Paper Code	12920

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Third Semester

Civil Engineering

20CEPC304 - CONSTRUCTION MATERIALS EQUIPMENT AND PRACTICES

Regulations - 2020

(Use of IS 10262:2009 Code Book for Concrete Mix Design is permitted)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Write any four tests on stones.	2	K1	CO1
2.	Define the term efflorescence.	2	K1	CO1
3.	Name the different types of cement.	2	K1	CO2
4.	Tell about the bulking of sand.	2	K1	CO2
5.	Write the Properties of fresh concrete.	2	K1	CO3
6.	Distinguish between High Strength Concrete and High performance concrete.	2	K2	CO4
7.	Which type of ceiling material is best?	2	K1	CO5
8.	Define FRP.	2	K1	CO5
9.	List out the different types of foundations.	2	K1	CO6
10.	Where is Expansion joints required?	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain the various types of stones which are used for building works and give in brief the specifications for a good building stone.	13	K2	CO1
		OR			
	b)	Illustrate the concrete hollow blocks and lightweight concrete blocks.	13	K2	CO1
12.	a)	Analyze the performance for compression strength of cement mortar cube and also explain the procedure for fineness of cement.	13	K2	CO2
		OR			
	b)	Examine any four tests for testing of coarse aggregates.	13	K2	CO2
13.	a)	Explain any two tests for testing of conventional fresh concrete.	13	K2	CO3
		OR			

	b)	Examine the tests for testing of Hardened concrete.	*13*	*K2*	*CO3*
14.	a)	Construct in detail about the principal process involved in heat treatment of steel.	*13*	*K2*	*CO5*
		OR			
	b)	Develop in detail about refractories.	*13*	*K2*	*CO5*
15.	a)	Explain the different types of joints in concrete.	*13*	*K2*	*CO6*
		OR			
	b)	Illustrate the acoustics and sound insulation with their advantage and disadvantage in detail.	*13*	*K2*	*CO6*

PART - C (1 × 15 = 15 Marks)

16.	a)	Design the concrete mix for the following data: characteristic compressive strength=20Mpa, Maximum size of aggregate =20mm (angular), Degree of workability =0.9CF, Degree of quality control is good and Exposure is severe. Water absorption by CA =0.5% and moisture content FA=2.0%. Assume any suitable missing data.	*15*	*K4*	*CO4*
		OR			
	b)	With sketches explain the L-box and V-funnel tests for testing of workability for self-compacting concrete.	*15*	*K2*	*CO4*