Reg. No.															

Question Paper Code	13521

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Third Semester

Civil Engineering

20CEPC304 - CONSTRUCTION MATERIALS, EQUIPMENT AND PRACTICES

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	The crushing strength of first class brick is ……. (a) 3 N/mm^2 (b) 5.5 N/mm^2 (c) 7.5 N/mm^2 (d) 10.5 N/mm^2	1	K1	CO1
2.	The process of adding water to lime to convert it into hydrated lime is known as …… (a) quenching (b) hydration (c) slaking (d) calcination	1	K1	CO1
3.	The soundness of cement can be tested by …… (a) vicat's needle (b) specific surface analysis (c) Le chatelier's apparatus (d) sieve analysis	1	K1	CO2
4.	Low heat cement is used in …… (a) Thin structures (b) Thick structures (c) reinforcement free structures (d) underwater structures	1	K1	CO2
5.	Shrinkage in concrete increases its……. (a) compressive strength (b) flexural strength (c) tensile strength (d) bond strength	1	K1	CO3
6.	As per ISI specifications the temperature for curing is…….. (a) 5^{0}C (b) 10^{0}C (c) 27^{0}C (d) 42^{0}C	1	K1	CO3
7.	Which is known as natural defect of wood? (a) Knot (b) Medullary ray (c) Cambium layer (d) None of the above	1	K1	CO4
8.	Which material will have highest limiting strength? (a) Aluminium (b) cast iron (c) mild steel (d) wrought iron	1	K1	CO4
9.	A shallow foundation is practicable up to a depth of …… (a) only 1.5m (b) up to 2m (c) up to 5m (d) 3m to 4m	1	K1	CO5
10.	Dampness in a building …… (a)does not create unhygienic conditions (b) may lead to disintegration and decay (c) does not affect timber components (d) does not lead to breeding of disease bacteria	1	K1	CO6

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

		Marks	K – Level	CO
11.	List the tests on stones.	2	K1	CO1
12.	Define efflorescence.	2	K1	CO1
13.	Write the ingredients of cement.	2	K1	CO2
14.	Define Elongation index.	2	K1	CO2
15.	Name the common methods adopted for transportation of concrete.	2	K1	CO3
16.	Compare HPC and HSC.	2	K2	CO3
17.	Outline the various market forms of timber and steel.	2	K2	CO4
18.	What are the different types of adhesives?	2	K1	CO4
19.	Write short notes on strip footing.	2	K1	CO5
20.	What is Underpinning?	2	K1	CO5

21.	Summarize the merits of aluminum in construction.		*2*	*K2*	*CO6*
22.	Summarize the applications of FRP.		*2*	*K2*	*CO6*

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Explain the tests conducted on bricks for their suitability in construction work.	*11*	*K2*	*CO1*
		OR			
	b)	Summarize the applications of concrete blocks and explain its testing procedure in detail.	*11*	*K2*	*CO1*
24.	a)	Describe the procedure of cement manufacturing by wet process.	*11*	*K2*	*CO2*
		OR			
	b)	Explain any two tests on mechanical properties of coarse aggregate with neat sketch.	*11*	*K2*	*CO2*
25.	a)	Illustrate any two tests on mechanical properties of hardened concrete.	*11*	*K2*	*CO3*
		OR			
	b)	Outline the procedure of testing the compressive strength of existing structure using nondestructive test.	*11*	*K2*	*CO3*
26.	a)	Discuss in detail about manufacturing procedure of self-compacting concrete.	*11*	*K2*	*CO4*
		OR			
	b)	Explain the design procedure for Mix specification of concrete using BIS method.	*11*	*K2*	*CO4*
27.	a)	Discuss in detail about plywood and its advantages.	*11*	*K2*	*CO5*
		OR			
	b)	Discuss the properties and uses of glasses. Explain the different forms available in market.	*11*	*K2*	*CO5*
28.	a)	Explain in detail about types of shallow foundations.	*11*	*K2*	*CO6*
		OR			
	b)	Explain the methods of providing DPC. What are the requirements of an ideal material for damp proofing?	*11*	*K2*	*CO6*