O.P.Code: 23CE0112	R23	H.T.No.									

:: SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. II Year II Semester Supplementary Examinations December-2025

CONCRETE TECHNOLOGY

(Civil engineering)

Time: 3 Hours **Max. Marks: 70**

PART-A

(Answer all the Questions **10 x 2 = 20** Marks)

1	a	Classify aggregates according to their shape.	CO1	L2	2M
	b	What are the different tests conducted on aggregates?	CO1	L1	2M
	c	What is meant by batching in concrete production?	CO2	L1	2M
	d	Write the advantages of using ready mix concrete.	CO2	L1	2M
	e	Write different mechanical properties of concrete.	CO3	L1	2M
	f	Define Abram"s Law.	CO3	L1	2M
	g	What is Modulus of Elasticity?	CO4	L1	2M
	h	Define Poisson"s ratio.	CO4	L1	2M
	i	What is meant by Special concrete?	CO5	L1	2M
	j	List different materials used for self-healing concrete.	CO5	L1	2M

PART-B

(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

2		What are all the mechanical properties of aggregates? Explain Aggregate impact test with experimental procedure.	CO1	L2	10M
		OR			
3	a	Explain what alkali-aggregate reaction is and how it affects the properties of concrete.	CO1	L2	6M
	b	How does the quality of mixing water affect the properties and durability of concrete?	CO1	L2	4M

UNIT-II

4		Define the term workability. What are the various tests conducted to determine the Workability of concrete and explain them.	CO2	L3	10M
		OR			
5		Explain different types of compaction that can be used in Production of concrete.	CO2	L2	10M

UNIT-III

6		What are the various factors affecting the strength of concrete?	CO3	L1	10M
		OR			
7		Explain in detail about the rebound hammer test (NDT) that is conducted on existing structure to assess its strength with a neat diagram.	CO3	L2	10M

UNIT-IV

8		Describe the relationship between time and creep, explaining the three stages of creep and how the creep rate changes over time.	CO4	L2	10M
		OR			
9		How the shrinkage of concrete is classified? And explain each one of them briefly.	CO4	L2	10M

UNIT-V

10		Explain briefly about High performance concrete and also the advantages of high performance concrete over conventional concrete?	CO5	L2	10M
		OR			
11		Describe the different types of fibers used in Fiber Reinforced Concrete (FRC), explaining their advantages in improving concrete properties.	CO5	L2	10M

***** END *****