Question Paper Code: R18A22CE05

R18

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, June/July-2024

CONCRETE TECHNOLOGY

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions

		Course Outcome	B.T Level	Marks
1.	Why hydration of cement is important?	CO1	L1	2M
2.	Which graded aggregate is preferred in construction and why?	CO1	L1	3M
3.	List the factors affecting workability of fresh concrete.	CO2	L1	2M
4.	What are the effects of vibration of concrete?	CO2	L1	3M
5.	Define durability factor.	CO3	L1	2M
6.	Extend the methods to calculate admixture dosage in concrete.	CO3	L2	3M
7.	Recall the process of curing of concrete.	CO4	L2	2M
8.	Contrast the relation between creep and time.	CO4	L2	3M
9.	Extend the type of aggregate would you use for a no fines mix.	CO5	L2	2M
10.	Select the methods to build a self-compacting concrete.	CO5	L1	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A)	Explain the bulking of sand and discuss the reason for the particle size of sand related to bulking.	CO1	L3	10M
	OR			
B)	Examine the grading curves and state the importance of sieve analysis.	CO1	L3	10M
12. A)	Criticize the setting time of concrete and infer the effect of time and temperature on workability.	CO2	L3	10M
	OR			
B)	Determine the steps in the manufacture of concrete.	CO2	L3	10M
13. A)	Design a concrete mix for M25 grade of concrete with the following data: Type of cement : PPC 53 grade Maximum size of aggregates : 20mm Exposure condition : Moderate Workability : 100mm slump Minimum cement content : 320Kg/m³ Maximum water-cement ratio : 0.40 Super-plasticizers : 1.5% Specific gravity of cement : 3.10 Specific gravity of coarse and fine aggregate : 2.72 Specific gravity of super plasticizer : 1.14 Fine aggregate : Zone-II Air content : 1.5%. Using BIS Method.	CO3	L3	10M
	OR			
B)	Recommend about mineral and chemical admixtures.	CO3	L3	10M
14. A)	Relate the reason for the factors affecting strength and methods to conduct pull out test in concrete.	CO4	L3	10M
	OR			
B)	Estimate the strength of concrete using Rebound hammer test.	CO4	L3	10M
15. A)	Conclude the light weight aggregate and light weight concrete plays a major role in reducing the dead weight of the structure.	CO5	L3	10M
	OR			
B)	Explain the various methods of polymer concrete.	CO5	L3	10M