

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, December – 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. What is the chemical composition of cement?	CO1	L1	2M
2. What is the common classification of aggregates?	CO1	L1	3M
3. Define Workability.	CO2	L1	2M
4. What are the Causes of bleeding and segregation?	CO2	L1	3M
5. What is M20 Mix concrete.	CO3	L1	2M
6. Differentiate between mineral and chemical admixtures.	CO3	L1	3M
7. Explain maturity concept in concrete.	CO4	L1	2M
8. Explain the importance of curing in concrete.	CO4	L1	3M
9. Explain various types of light weight concrete.	CO5	L1	2M
10. Explain the uses of 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 in detail various laboratory tests conducted on cement.	CO1	L2	10M
OR			
B) Explain the factors affecting Alkali Aggregate Reaction.	CO1	L2	10M
12. A) Explain the factors affecting Workability of concrete.	CO2	L2	10M
OR			
B) Explain the steps in manufacturing of concrete.	CO2	L2	10M
13. A) Design a concrete mix for M25 grade of concrete with the following data: Type of cement : OPC 53 grade Maximum size of aggregates : 20mm Exposure condition : Severe Workability : 120mm slump Minimum cement content : 300Kg/m ³ Maximum water-cement ratio : 0.45 Super-plasticizers : 1.5% Specific gravity of cement : 3.15 Specific gravity of coarse and fine aggregate : 2.74 Specific gravity of super plasticizer : 1.145 Fine aggregate : Zone-I Air content : 1.5%	CO3	L3	10M
OR			
B) Explain the importance of quality control of concrete.	CO3	L2	10M

14. A) What are the various factors affecting strength of hardened concrete? CO4 L3 10M
- OR**
- B) Explain various codal provisions for Non-destructive testing of hardened concrete. CO4 L2 10M
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15. A) What are the basic properties of fibre – reinforced concrete which can be advantageously made use of in the design of structural elements? CO5 L3 10M
- OR**
- B) Explain in detail about light weight aggregates along with advantages and disadvantages. CO5 L2 10M