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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 90326

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022

Fourth Semester

Civil Engineering

CE 8404 – CONCRETE TECHNOLOGY

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the different moisture states in which aggregate exists?
2. Write the importance of the quality of water used for concreting.
3. Why chloride based accelerators are not used in pre-stressed concrete and reinforced concrete structures?
4. List out the mineral admixtures added in concrete.
5. What is meant by Design mix?
6. Define larger mean Strength.
7. What is meant by Bleeding in concrete?
8. What tests are necessary to check the adoptability of a particular mix proportion for field use?
9. How do you check the homogeneity in SCC?
10. Write the applications of Ferro cement.

PART B — (5 × 13 = 65 marks)

11. (a) Explain in detail about any four types of cement and its applications.

Or

(b) Briefly state the important characteristics of aggregates and explain them briefly.

12. (a) Explain in detail about different types of chemical admixtures added in concrete.

Or

(b) Explain in detail about various mineral admixtures used in concrete.

13. (a) Explain in detail the principle of mix design and the requirements of ingredients that can be added in concrete.

Or

(b) Explain in detail the step-by-step procedure of BIS method of normal concrete mix design.

14. (a) Explain in detail about the procedure for determining the workability of very low workable and medium workable concrete.

Or

(b) Explain in detail the points to be followed to make the concrete more durable.

15. (a) Write a short note on Foam concrete and Fiber reinforced concrete.

Or

(b) Write a short note on Ready mix concrete and High performance concrete.

PART C — (1 × 15 = 15 marks)

16. (a) (i) Write a short note on Hydration of cement. (8)

(ii) Outline how one can assess the side effects of admixture used in concrete. (7)

Or

(b) (i) Explain how will you account for the moisture present in sand and coarse aggregate while mix proportioning of concrete. (8)

(ii) Compare the stress strain values of normal concrete and fiber reinforced self compacting concrete. (7)