

Reg. No.

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B.E. / B.TECH. DEGREE EXAMINATION, MAY 2023

Seventh Semester

CE18007 – CONCRETE TECHNOLOGY**(Civil Engineering)****(Regulation 2018)****TIME: 3 HOURS****MAX. MARKS: 100**

- CO 1** Describe the various constituent materials used in concrete and their functions
CO 2 Design concrete mixes using BIS and ACI Codes.
CO 3 Describe the procedures to determine the properties of fresh and hardened concrete.
CO 4 Explain the effects of chemical and mineral admixtures on the properties of concrete.
CO 5 Summarise the suitability of special concretes for different practical situations.

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. State the chemical composition of cement.	1	1
2. What is heat of hydration?	1	1
3. Distinguish between mineral and chemical admixtures.	2	2
4. Write the function of accelerators and retarders.	2	1
5. Define standard deviation.	3	1
6. Differentiate between nominal and design mix.	3	2
7. State the importance of controlling workability.	4	1
8. Draw stress-strain curve for concrete.	4	2
9. State the advantages of geopolymer concrete.	5	1
10. Write the composition of SIFCON.	5	1

PART- B (5 x 14 = 70 Marks)

	Marks	CO	RBT LEVEL
11. (a) Explain in detail about the importance of the quality of water used for concreting.	(14)	1	3
(OR)			
(b) Explain in detail about the various types of cement.	(14)	1	3

12. (a) Explain in detail about the plasticizers and super plasticizers. (14) 2 3
(OR)
(b) Discuss about the performance of fly ash and GGBS in concrete. (14) 2 3
13. (a) Explain the design procedure of BIS method of concrete mix design. (14) 3 3
(OR)
(b) Describe about the requirements of concrete mix design. (14) 3 3
14. (a) List out the test to be conducted on fresh concrete and explain any three. (14) 4 3
(OR)
(b) Describe the properties of hardened concrete and explain any two tests to be conducted on it. (14) 4 3
15. (a) (i) Write short notes on Self Compacting Concrete. List out the methods of testing self-compacting concrete and explain any one method in detail. (9) 5 3
(ii) Write short notes on Ready mix concrete. (5) 5 3
(OR)
(b) Explain in detail about High strength concrete and Light weight concrete. (14) 5 3

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

- | | Marks | CO | RBT LEVEL |
|---|-------|----|-----------|
| 16. Explain in detail about the polymer concrete, types and its applications. | (10) | 5 | 3 |