

Register No:

Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SIXTH SEMESTER B.TECH. DEGREE EXAMINATION(R,S), MAY 2024**Civil Engineering****(2020 SCHEME)****Course Code : 20CET352****Course Name : Advanced Concrete Technology****Max. Marks : 100****Duration: 3 Hours****(Use of IS 456 : 2000 and IS 10262 : 2019 are permitted in the Examination hall)****PART A***(Answer all questions. Each question carries 3 marks)*

1. Explain the role of admixtures in concrete.
2. Explain the chemical composition of cement.
3. Elucidate the acceptance criterion of concrete for compressive strength.
4. Describe the factors considered in mix proportioning.
5. Differentiate autogeneous shrinkage and carbonation shrinkage.
6. Describe the effects of creep in concrete.
7. Describe the different techniques adopted to prevent corrosion.
8. Explain the factors affecting durability of concrete.
9. Discuss the disadvantages of prefabrication technology .
10. List the advantages of slip form construction.

PART B*(Answer one full question from each module, each question carries 14 marks)***MODULE I**

11. Explain concrete flow behaviour using 'Bingham model'. 14

OR

12. Describe the various tests on aggregate highlighting its significance and BIS specification if any. 14

MODULE II

13. Enlist any three types of concrete mix design. Explain in detail about the IS method of mix design. 14

OR

14. Explain the statistical quality control of concrete. 14

MODULE III

15. Elucidate the causes and effects of shrinkage in concrete. 14

OR

16. Explain the factors affecting workability of concrete. Describe any two tests used for determining workability. 14

MODULE IV

17. Discuss the importance of providing cover in RCC. Explain any one test to measure the cover thickness. 14

OR

18. Describe the causes and effects of alkali aggregate reaction in concrete. 14

MODULE V

19. Explain the factors to be considered in mass concreting. 14

OR

20. Explain the different types of light weight concrete. 14
