

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026****Fourth Semester****Civil Engineering****CE3403 - CONCRETE TECHNOLOGY****Regulations – R2021****Duration : 3 Hrs****Maximum : 100 Marks****PART – A(ANSWER ALL QUESTIONS) (Marks 10\*2=20)**

| Q.No | Questions                                                                        | BLT | CO | Marks |
|------|----------------------------------------------------------------------------------|-----|----|-------|
| 1.   | List the different types of cement and their typical applications.               | L1  | 1  | 2     |
| 2.   | What is the significance of water quality in concrete?                           | L2  | 1  | 2     |
| 3.   | Define plasticizers with one example.                                            | L1  | 2  | 2     |
| 4.   | What is the role of fly ash in improving concrete properties?                    | L2  | 2  | 2     |
| 5.   | Differentiate nominal mix and design mix.                                        | L 1 | 3  | 2     |
| 6.   | State the importance of physical properties of materials in concrete mix design. | L2  | 3  | 2     |
| 7.   | What is a slump test?                                                            | L1  | 4  | 2     |
| 8.   | Why is the modulus of elasticity of concrete important?                          | L2  | 4  | 2     |
| 9.   | List any two types of special concretes.                                         | L1  | 5  | 2     |
| 10.  | How does fiber reinforcement improve concrete strength?                          | L 2 | 5  | 2     |

**PART – B (ANSWER ALL QUESTIONS) (Marks 5\*16 = 80)**

| Q.No  | Questions                                                                                                        | BLT | CO | Marks |
|-------|------------------------------------------------------------------------------------------------------------------|-----|----|-------|
| 11. a | Explain about the testing on cement as per the IS specifications.                                                | L3  | 1  | 16    |
|       | <b>Or</b>                                                                                                        |     |    |       |
| b     | Describe the classification and testing of aggregates as per the BIS grading requirements.                       | L3  | 1  | 16    |
| 12. a | Describe the function of chemical admixtures such as accelerators, retarders, and superplasticizers in concrete. | L3  | 2  | 16    |
|       | <b>Or</b>                                                                                                        |     |    |       |
| b     | List and explain the effects of mineral admixtures (Fly ash, GGBS, Silica fume) on concrete properties.          | L3  | 2  | 16    |
| 13. a | Explain the design mix and nominal mix as per the BIS method with an example.                                    | L4  | 3  | 16    |
|       | <b>Or</b>                                                                                                        |     |    |       |
| b i   | Discuss about the principles of mix proportioning used in mix design.                                            | L4  | 3  | 8     |
| ii    | Write short notes on physical properties of materials used in mix design.                                        | L4  | 3  | 8     |
| 14. a | Explain the procedures of workability tests such as slump test and compaction factor test.                       | L4  | 4  | 16    |
|       | <b>Or</b>                                                                                                        |     |    |       |
| b     | Analyze the properties of hardened concrete and methods for determining compressive and flexural strength.       | L4  | 4  | 16    |
| 15. a | Evaluate and compare the performance and applications of high-performance concrete and self-compacting concrete. | L5  | 5  | 16    |
|       | <b>Or</b>                                                                                                        |     |    |       |
| b     | Explain about any three types of special concretes.                                                              | L5  | 5  | 16    |

\*\*\*\*\*