



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

Subject code: 2E5AA

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Regular Examinations, February 2021

CONCRETE TECHNOLOGY

(Civil Engineering)

Maximum Marks: 70

Date: 24.02.2021 Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.
- IS:10262-2009 is allowed for examination.**

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

- 1 Name the chemical compounds formed during the setting action of cement.
- 2 What is initial setting time of cement?
- 3 Define Elongation index.
- 4 What is grading of aggregate?
- 5 What is workable concrete?
- 6 What are the factors which are affecting the workability of concrete?
- 7 Write down the relationship between the compressive strength and flexural strength as per IS 456: 2000.
- 8 Compare NDT with destructive testing.
- 9 Mention the applications of light weight concrete.
- 10 Identify the types of fibres used in FRC.

Part-B

Answer All the following questions. (10M X 5=50Marks)

- 11 a) Categorize the different types of cement and explain any two in brief. (5M)
b) Explain briefly about the Consistency test on cement. (5M)
OR
- 12 Describe the manufacturing of ordinary portland cement by dry and wet process with the help of a flow chart. (10M)
- 13 Explain briefly about i) Crushing strength of aggregate and ii) Impact strength of aggregate (10M)
OR
- 14 a) Explain in detail about the sieve analysis test carried out in aggregate. (5M)
b) Briefly explain the classification of aggregates. (5M)
- 15 Explain the steps in manufacturing of concrete. (10M)
OR
- 16 Explain the slump cone test procedure and its types with neat sketch. (10M)

- 17 What is creep. Explain various factors affecting creep of concrete. (10M)
OR
- 18 a) Illustrate the various non destructive tests of concrete.(5M)
b) How will you determine the compressive strength of concrete by destructive method.(5M)
- 19 Explain the design procedure for Mix specification of concrete using BIS method.(10M)
OR
- 20 a) Explain the advantages and applications of polymer concrete. (5M)
b) Explain about the manufacturing process of high performance concrete. (5M)