

17CV/CT44

Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020 **Concrete Technology**

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module. 2. IS - 10262 mix design code is allowed.

Explain the manufacturing process of cement by wet process using flow chart. (10 Marks) Name chemical and mineral admixtures and explain flyash and Metakaolin admixtures in detail. (10 Marks)

OR

Define Hydrating Cement. With schematic representation, explain structure of hydrated 2 cement paste. (08 Marks) Name the alternatives of River sand and explain the properties of M - Sand. (06 Marks) c. Explain the importance of Aggregate in concrete. (06 Marks)

Module-2

3 Explain two laboratory tests for measurement of workability. (10 Marks) Explain the manufacturing process of concrete. (10 Marks)

Explain the methods of curing. (10 Marks) Describe the effect of heat of hydration during mass concerting at project sites. (05 Marks) Explain Segregation and Bleeding. (05 Marks)

Module-3

Explain the factors influence the strength of Hardened concrete. (06 Marks) What are the factors which affects the creep? (04 Marks) Explain the types of Shrinkage in concrete. (10 Marks)

OR

What are the Internal and External factors influence the durability of concrete? (12 Marks) Briefly explain the Rebound hammer test and Ultrasonic pulse velocity test. (08 Marks)

Module-4

- Explain the concept of mix design. 7 (06 Marks) b. List out the data required for mix proportioning. (04 Marks) Write the steps involved in the methods of mix design. (10 Marks)

OR

a. Type of cement OPC 43 grade b. Type of flyash F type c. Maximum size of aggregate d. Minimum cement content e. Maximum water cement ratio f. Workability 2. Exposure condition 6. Severe (RCC) 6. Method of placing concrete 1. Degree of supervision 1. Degree of supervision 2. Specific gravity of cement 3. Specific gravity of fly ash 3. Specific gravity of specific gravit		8	De	esign a concrete mix for M ₃₅ grade us	sing fly ash. Other d	ata are given below:	
c. Maximum size of aggregate d. Minimum cement content e. Maximum water cement ratio f. Workability g. Exposure condition Journal sump g. Exposure condition Journal sump g. Chemical admixture Logare of supervision J. Chemical admixture Logarity of cement Specific gravity of cement Specific gravity of fine aggregate Specific gravity of fine aggregate Water absorption: J. Coarse aggregate J. Specific gravity of fine aggregate Water absorption: J. Coarse aggregate J. Specific gravity of coarse aggregate Specific gravity of fine aggregate Water absorption: J. Coarse aggregate J. Specific gravity of fine aggregate J. Specific gravity of fine aggregate Specific gravity of fine a					A	and are green select.	
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