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Roll No. : .....

**320654(20)**

**B. E. (Sixth Semester) Examination, 2020**  
**APR - MAY 2022**  
**(New Scheme)**

**(Civil Engg. Branch)**

**CONCRETE TECHNOLOGY**

***Time Allowed ; Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Part (a) of each question is compulsory carrying 2 marks. Attempt any two parts from (b), (c) and (d) of each question carrying 7 marks.***

**Unit-I**

1. (a) Write advantages of concrete. 2

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- (b) What is bogue's compound? Explain in details how each one of the compounds influence the strength and setting properties of cement. 7
- (c) What is Fineness modulus of aggregate? How it can be determined in lab? 7
- (d) Explain Alkali aggregate reaction. 7

**Unit-II**

- 2. (a) Define workability. 2
- (b) Explain the water reducer admixture with its mechanism. 7
- (c) Discuss by two tests for quality of concrete in fresh state. 7
- (d) Classify admixture. Also write their functions. 7

**Unit-III**

- 3. (a) What is creep? 2
- (b) Write a brief note on gel space ratio. 7
- (c) What factors promote shrinkage? What precautions will you take to reduce it. 7

- (d) Give short notes on : 7
  - (i) Durability of concrete
  - (ii) Permeability of concrete

**Unit-IV**

- 4. (a) As per IS : 456-2000, what is the minimum grade of concrete required for R.C.C. work. 2
- (b) Difference between preliminary and trial mixer. 7
- (c) Explain Indian standard recommended method of concrete mix design. 7
- (d) What are the factors to be considered in proportioning of concrete mix design. 7

**Unit-V**

- 5. (a) What is ready mixed concrete? 2
- (b) What is cold weathering concrete. Describe various effects of cold weathering on concrete. 7
- (c) Give a brief note on super plasticizer concrete. 7
- (d) How high performance concrete is prepared? Discuss properties and factors affecting it. 7