

**II B. Tech II Semester Supplementary Examinations, Nov/Dec - 2016**  
**CONCRETE TECHNOLOGY**  
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)  
2. Answer **ALL** the questions in **Part-A**  
3. Answer any **THREE** Questions from **Part-B**
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**PART -A**

[22M]

1. a) Write about Hydration of cement?
- b) What is meant by Compaction?
- c) What is NDT?
- d) Explain about Modulus of elasticity?
- e) Write about Gel space ratio
- f) What is Shotcrete?

**PART -B**

[3×16=48M]

2. Bring out a detailed discussion on Alkali Aggregate reaction? Discuss the factors promoting and methods to control.
3. a) Explain workability of concrete?  
b) Explain the Vee-bee method of determining workability with neat sketches
4. a) Explain with neat diagram non-destructive testing of concrete using Rebound Hammer Method.  
b) What are the techniques of measuring pulse velocity through concrete and factors affecting the measurement of pulse velocity?
5. a) Explain dynamic modulus of elasticity.  
b) Explain procedure for determining dynamic modulus of elasticity using Ultrasonic pulse velocity equipment
6. Design mix proportions with the following data using IS code method. Characteristic compressive strength of concrete 30 Mpa. 20mm Maximum size of round aggregate. Moderate degree of workability. Specific gravity of cement 3.15 specific gravity of coarse and fine aggregates 2.65. Zone III sand. Good quality control.
7. a) Explain salient features of cellular concretes.  
b) Explain relation between strength and density of high pressure steam cured aerated concrete

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