

Roll No .....

## MVCT/MBCT/MVCP-102

M.E./M.Tech., I Semester

Examination, June 2016

### Construction Material

Time : Three Hours

Maximum Marks : 70

- Note:** i) Attempt any five questions.  
ii) All questions carry equal marks.

1. a) What are Admixtures? Describe the effect of following admixtures on cement concrete and give two examples of each.
  - i) Retarders
  - ii) Water proofers
- b) Discuss the classification of aggregates based on their geological origin.
2. a) What do you mean by Rheology of concrete? Discuss the various parameters defining the rheology of concrete.
- b) Discuss the performance requirements of fresh concrete.
3. a) What are the factors influencing the strength of concrete?
- b) Discuss the stress and strain characteristics of concrete.
4. a) Explain what is meant by Fibre-Reinforced concrete.
- b) Describe mechanism of Fibre-matrix interaction.

5. a) List the different NDT methods commonly used along with their capabilities for detection of different types of defects.
- b) Explain the rebound-hammer non-destructive test to assess the compressive strength of concrete.
6. a) What do you mean by shrinkage and creep of concrete?
- b) Discuss in detail about Agricultural wastes used in the concrete construction.
7. a) Discuss how the standard deviation and the coefficient of variation are useful in the design and quality control of concrete.
- b) What is the difference between Quality Control and Quality Audit?
8. Write short notes on followings:
  - a) Fire resistance of concrete
  - b) Polymer concrete
  - c) Ready mixed concrete
  - d) Light weight concrete

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