

**B.Tech. Degree III Semester (Lateral Entry)
Examination, April 2003**

(4)

CE 304 CONCRETE TECHNOLOGY

Time: 3 Hours

Maximum Marks: 100

(All questions carry EQUAL marks)

- I. (a) Differentiate between setting and hardening of cement.
(b) Explain with neat sketches the Le-Chatelier apparatus.
- OR**
- II. (a) Explain the settling action of cement and role of each compound formed during setting.
(b) Differentiate between Quick setting and rapid hardening cement.
- III. (a) What is alkali-aggregate reaction? Explain in detail.
(b) Explain grading of aggregates and its significance.
- OR**
- IV. (a) What are the qualities of water required for mixing and curing of concrete?
(b) Explain bulking of aggregate in detail.
- V. (a) Write short notes on non-destructive testing methods.
(b) What are the properties of concrete in its hardened state? Explain.
- OR**
- VI. (a) What is meant by Curing of Concrete? What are its purposes? Explain the methods.
(b) Explain various stages of manufacture of concrete.
- VII. (a) Explain briefly the various methods of designing concrete mixer.
(b) Explain step by step procedure of concrete mix design using IS method.
- OR**
- VIII. Write short notes on ANY FOUR of the following:
- (i) Polymer concrete
 - (ii) Fiber reinforced concrete
 - (iii) Sulphur infiltrated concrete
 - (iv) High density concrete
 - (v) Light weight concrete
- IX. Write short notes on ANY FOUR of the following:
- (i) Corrosion inhibiting agents
 - (ii) Damp proofing agents
 - (iii) Gas forming agents
 - (iv) Colouring agents
 - (v) Bonding admixtures
 - (vi) Workability agents

