

CE 304 CONCRETE TECHNOLOGY

Time : 3 hours

Max: Marks: 100

(All questions carry equal marks)

- I (a) Explain the composition of Ordinary portland cement. What are the functions of each ingredient.
- (b) List the Indian Standard Tests on Ordinary Portland Cement and describe any ONE of them

O R

- II (a) Write the properties of following cement.
- (i) Rapid hardening cement
- (ii) Quick setting cement
- (iii) Sulphate resisting Cement.
- (b) Explain with neat sketches the Le-chatelier apparatus.
- III (a) What is alkali-aggregate reaction? Explain in detail.
- (b) What is fineness modulus? What is its significance? How it is determined for a given sample of aggregates?

O R

- IV (a) Explain in detail what is meant by bulking of sand. What is its significance?
- (b) Explain how the impact value of aggregate is determined.
- V (a) Define and explain the workability of concrete. What are the factors affecting it? List the methods for finding it.
- (b) Explain seggregation and bleeding of concrete

O R

- VI (a) What is meant by curing of concrete? What are its purposes? Explain the methods.
- (b) Write short note on non-destructive testing methods.



- VII (a) List the factors contributing to variability in strength of concrete  
(b) Explain briefly the various methods of designing concrete mixes.

O R

VIII Write short notes on any FOUR

- (i) Light Weight Concrete
- (ii) No fines concrete
- (iii) High density concrete
- (iv) Sulphur infiltrated concrete
- (v) Fibre reinforced concrete

IX Write short notes on any FOUR of the following

- (i) Air entraining agents
- (ii) Accelerators
- (iii) Pozzolanic admixtures
- (iv) Gas forming admixtures
- (v) Water reducing admixtures
- (vi) Colouring agents.