



7. a) Explain concrete mix design procedure as per IS:10262. 7  
b) What are the significance of fly-ash & pozollonas in view of quality of concrete? 6

**OR**

8. a) What are the objective of concrete mix design? Draw a flow chart for concrete mix design. Why mix design is reg<sup>r</sup>? 7  
b) Types of admixtures and factors affecting admixture (any two). 6
9. a) What is high performance concrete. Also Explain its procedure. Why this concrete is used in the field. 7  
b) Write short notes on: 6  
i) Self compacting concrete  
ii) High performance concrete

**OR**

10. a) What do you mean by creep in harden concrete? Describe the relation between creep & age of concrete. 7  
b) What is ferrocement? Why it is required? What are its applications? 6
11. a) Describe ultra sonic pulse velocity test. its suitability & its significance. 7  
b) What are the causes of deterioration of concrete? Enlist the point which affect the durability of concrete. 7

**OR**

12. a) What are the different types of cracks. Occur in concrete also Explain its causes? Explain the procedure of repairs. 7  
b) Write short notes on: 7  
i) Permeability of concrete  
ii) Sulphate Attack

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