

SE (CIVIL) / Sem IV / R-19 / SH 22 (16/12/22)

QP Code: 16426  
MARKS: 80

(03 HOURS)

- Instructions:** (1) Question No.1 is compulsory  
(2) Answer any **Three Questions** from the remaining questions.  
(3) Draw neat sketches wherever essential.

**Q1. Attempt any four out of six. 5 Marks Each**

- A) Enlist building construction materials and write their roles in construction
- B) Explain the seasoning of stones.
- C) State physical properties of OPC as per IS code and explain 'Normal Consistency' of cement.
- D) Define workability of fresh concrete and explain factors affecting of it
- E) What are the objectives in mix design?
- F) Enlist advantages of RMC.

**Q2. A) Explain any five properties of CA and their influence on properties of concrete (10M)**

- B) Enlist the ingredients of mortar and its applications. (05M)
- C) What is admixture? State the various functions of admixture. (05M)

**Q3. A) What is the name of IS code to measure the workability of fresh concrete? (10M)**  
Explain any one method to measure workability of fresh concrete.

- B) Explain the dry process of manufacturing of cement. (06M)
- C) Draw a neat labeled sketch of Modular burnt clay brick with dimensions. (04M)

**Q4. A) Enlist the various components of RMC plant and draw a neat layout sketch of RMC plant (10M)**

- B) Enlist the methods of determining compressive strength of accelerated cured concrete test specimens as per IS 9013 – 2004. Explain any one of them. (10M)

**Q5. A) Explain types of concrete mixes as per IS 456. (06M)**

- B) Explain Step-by-step procedure to determine Standard Consistency of a cement sample in the laboratory by mentioning IS code of it. (08M)
- C) What are the various methods of NDT? Describe any one with sketch. (06M)

**Q6. A) Explain demerits of distemper as compared to paints. (05M)**

- B) Draw a cross-section of a 'Trunk' of a tree and labeled it. (05M)
- C) Write a note on quality of water for concrete. (05M)
- D) Classify concrete based on their grades as per IS 456. (05M)

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