

S.E. / Civil / Sem-IV / R-19 / 'C' Scheme / Subj. - BM&amp;CT / S. H. 2024

Date: - 11/12/2024

Q.P. Code: - 10066793

Time: 03 Hours

Total Marks: 80

- Instructions:** (1) Question N0.1 is compulsory  
 (2) Answer any **Three Questions** from the remaining questions.  
 (3) Each full question carries **20 marks**.  
 (4) Draw neat sketches wherever essential.

- Q1.** Attempt any four out of six. **5 M**
- A) Define admixture and Explain retarders. **5 M**  
 B) Enlist the limitations of NDT. **5 M**  
 C) What are the objectives in mix design? **5 M**  
 D) Explain use of Plaster of Paris in construction. **5 M**  
 E) Classify Concrete based on their grades as per IS456 **5 M**  
 F) Classify the basic construction materials used for building construction. **5 M**
- Q2. A)** Explain any five properties of CA and their influence on properties of concrete. **10M**  
**B)** Why is seasoning of timber important before using it in construction? Explain methods of seasoning of timber in detail. **10M**
- Q3. A)** Discuss the methods of determining compressive strength of accelerated cured concrete test specimens as per IS 9013-2004. Explain any one of them in detail. **10M**  
**B)** Write various components of the RMC plant and draw a neat layout sketch of the RMC plant. **10M**
- Q4. A)** What do you mean by concrete mix design? What are the objectives in mix design? **10M**  
**B)** What are the properties of fresh concrete? Explain segregation & bleeding of concrete in detail. **10M**
- Q5. A)** Enlist the factors affecting durability of concrete. Explain any two in detail **10M**  
**B)** Enlist factor affecting the strength of concrete and explain role of water cement (W/C) ratio in strength of concrete **6M**  
**C)** Draw a cross-section of a tree trunk and label it. **4M**
- Q6. A)** What is hydration of cement? Explain. **5M**  
**B)** Elaborate on types of vibrators used in concrete **5M**  
**C)** Write a note on methods of curing concrete. **5M**  
**D)** Explain demerits of distemper as compared to paints **5M**