

2021

**BUILDING MATERIALS AND CONSTRUCTION**

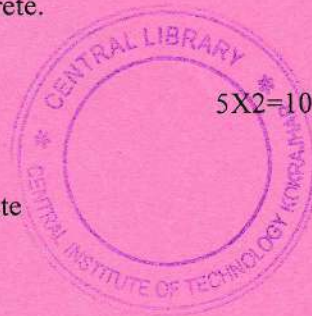
Full Marks: 100

Time: Three hours

*The figures in the margin indicate full marks for the questions.*

*Answer any five questions.*

1. a) Write in details about functional requirement of building. 8
- b) Elaborate the advantages and disadvantages of 'concrete'. 8
- c) What do you mean by ordinary concrete and how it is designated? 4
  
2. a) What do you mean by 'C-S-H gel', found during hydration process? 4
- b) Write in details about Physical characteristics and chemical composition of fly ash. 8
- c) How do you define the workability of fresh concrete? 4+4  
Write in details one laboratory or field experiment associate with workability of fresh concrete.
  
3. a) Write down the following: 5X2=10
  - i) Role of admixtures in construction
  - ii) Segregation and bleeding of concrete



- b) Write down few examples of 'supplementary cementitious materials' in construction. 2
- c) What do you mean by initial and final setting time of cement? How to determine the same? 3+5
4. a) What do you mean by seasoning of timber? Discuss in details about various type of timber seasoning. 2+6
- b) What are the common defects in paints? Discuss in details. 8
- c) Write in short about heat and sound insulating materials. 4
5. a) Define the following terms: 3x3=9
- i) Quoin of brick work
- ii) Water-cement ratio
- iii) Queen closer of brick
- b) Elaborate the primary objective of 'bond in brickwork'. 4
- c) Write in details about type of wall used in construction work. 7
6. Write in details on *any two* of the following 10x2=20
- a) Production process of concrete
- b) Cement composition
- c) Classification of brick

