

B.Tech III Year I Semester (R20) Regular &amp; Supplementary Examinations January 2024

**BUILDING MATERIALS AND CONSTRUCTION**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- |                                                                                                      |    |
|------------------------------------------------------------------------------------------------------|----|
| (a) Why dressing of stone is required in construction?                                               | 2M |
| (b) Write down some of the ill effects caused to humans while using waste materials in construction. | 2M |
| (c) Enumerate the functions of Glass in construction.                                                | 2M |
| (d) Define Polymerisation.                                                                           | 2M |
| (e) Mention how to select thermal insulating materials for a building.                               | 2M |
| (f) Define Cool Roof.                                                                                | 2M |
| (g) Write down the importance of the cavity wall.                                                    | 2M |
| (h) Where arches are used in buildings?                                                              | 2M |
| (i) What do you mean by suspended ceiling?                                                           | 2M |
| (j) Where are cement paints used?                                                                    | 2M |

**PART – B**

(Answer all the questions: 05 X 10 = 50 Marks)

- |           |                                                                          |     |
|-----------|--------------------------------------------------------------------------|-----|
| 2         | Describe the common defects in bricks.                                   | 10M |
| <b>OR</b> |                                                                          |     |
| 3         | Describe briefly the qualities of a good building stone.                 | 10M |
| 4         | State the properties of Plastics in detail.                              | 10M |
| <b>OR</b> |                                                                          |     |
| 5         | Discuss the advantages and disadvantages of using Glass in construction. | 10M |
| 6         | Discuss the classification of thermal insulating materials.              | 10M |
| <b>OR</b> |                                                                          |     |
| 7         | Write short notes on acoustics.                                          | 10M |
| 8         | Discuss how a type of foundation is selected for a structure.            | 10M |
| <b>OR</b> |                                                                          |     |
| 9         | Write short notes on Precast Concrete frames.                            | 10M |
| 10        | Write short notes on Varnish.                                            | 10M |
| <b>OR</b> |                                                                          |     |
| 11        | Discuss the defects that occur while painting the steel structures.      | 10M |

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B.Tech III Year I Semester (R20) Supplementary Examinations August 2023

**BUILDING MATERIALS AND CONSTRUCTION**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- |                                                                            |    |
|----------------------------------------------------------------------------|----|
| (a) Write a note on preservation of stone.                                 | 2M |
| (b) What are the reasons for the popularity of brick and concrete masonry? | 2M |
| (c) State the properties of plastics.                                      | 2M |
| (d) What are the constituents of glass?                                    | 2M |
| (e) List the various types of thermal insulating materials.                | 2M |
| (f) Define: Thermal conductivity and total thermal resistance.             | 2M |
| (g) List the various types of framed structures.                           | 2M |
| (h) What are the types of staircases? Mention its applications.            | 2M |
| (i) Write the types and components of paints.                              | 2M |
| (j) Differentiate between distempers and varnishes.                        | 2M |

**PART – B**

(Answer all the questions: 05 X 10 = 50 Marks)

- 2 (a) What is low-cost housing? List the various building materials use for low-cost housing. 5M  
(b) What are ceramic materials and their properties? Explain any one in detail. 5M
- OR**
- 3 Explain the manufacturing process of bricks and ceramic products. 10M
- 4 (a) What are the various ingredients of the plastics? Give their specific uses. 5M  
(b) How are the Obscured glass, Milk glass and Laminated glasses are obtained. 5M
- OR**
- 5 Describe the manufacturing process of glass. Also list the classification of glass, explain any one in detail. 10M
- 6 Explain in brief various characterises of sound, as applicable to the acoustic design of a room. Also list the common acoustical defects. 10M
- OR**
- 7 Explain briefly the selection, classification and commonly used building insulation materials. 10M
- 8 What do you understand by the term "Foundation"? What is the purpose of providing foundations? What are the causes of failure of foundation and what methods would you adopt to ensure the stability of the structure? 10M
- OR**
- 9 What are requirements of a good formwork? Describe the steps that should be taken to effect economy in the expenditure on formwork. 10M
- 10 (a) Describe the various types of paints, and their suitability or use. 5M  
(b) Describe the constituents and various types of varnishes. 5M
- OR**
- 11 (a) Enumerate different types of partition walls. Explain with sketches any one type of partition wall suitable for domestic building. 5M  
(b) Write a note on white washing and colour washing. 5M

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