

**R22**

Code No: 183AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year I Semester Examinations, February - 2024

**BUILDING MATERIALS, CONSTRUCTION AND PLANNING**

(Civil Engineering)

Time: 3 Hours

Max. Marks: 60

**Note:** This question paper contains two parts A and B.

i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

**PART- A**

**(10 Marks)**

- 1.a) Write down the characteristic properties of good stone? [1]
- b) List out the various grades of cement in India. [1]
- c) Explain about the types of roofs. [1]
- d) What role does aluminum play in building construction? [1]
- e) State four important uses of rapid hardening cement. [1]
- f) Define acoustic design. [1]
- g) What is brick masonry? [1]
- h) What is the purpose of plastering? [1]
- i) What is orientation? [1]
- j) Define open space. [1]

**PART-B**

**(50 Marks)**

- 2.a) Explain in brief about the alternative materials for wood.
- b) Describe the geological classification of rocks. Give example for each. [5+5]

**OR**

- 3.a) Describe various types of paints and their suitability or use.
- b) What are the various methods of quarrying of stones? Explain each method briefly. [5+5]

- 4.a) Differentiate between the following: i) Initial setting time and final setting time of cement ii) Clinker and nodules.

- b) What do you understand by the term setting and hardening of cement? What chemical reaction takes place during the process of setting? [5+5]

**OR**

- 5.a) Explain about different chemical admixtures.
- b) Briefly explain about hydration of cement. [5+5]

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6.a) Write a short note on: i) Storage tanks ii) Water requirements of building  
iii) Materials for service pipe.

b) What is acoustics? State various types of sound absorbing materials according to mode  
of their performance. [5+5]

**OR**

7.a) Describe briefly the functional requirements of a ventilation system.

b) Enumerate the functions of cement ingredients. [5+5]

8.a) What is underpinning of structure? Explain the methods of underpinning.

b) State and explain the methods of determining the bearing capacity of soils. [5+5]

**OR**

9.a) Mention the objectives of providing painting and plastering to the proposed surface.

b) What are the precautions to be taken in case of metal windows and aluminum  
windows? [5+5]

10.a) Explain about the merits and demerits of building bye laws.

b) Write a short notes on bye laws for open area buildings. [5+5]

**OR**

11.a) Explain Selection of site for building construction.

b) What is the importance of open space requirements according to building bye-laws?  
[5+5]

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