

R13

Code No: 114CK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

BUILDING MATERIALS, CONSTRUCTION AND PLANNING

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

- Note:** i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) Define seasoning in the context of timber. [2]
- b) Compare properties and structural requirements of various building stones. [3]
- c) Name some of the chemical admixtures [2]
- d) Outline the field and lab tests for assessing cement quality. [3]
- e) Name some of the damp proofing materials. [2]
- f) Discuss the requirements and characteristics of plumbing services in building construction. [3]
- g) What is underpinning? [2]
- h) How do lime and cement mortars differ? [3]
- i) What are building bye laws? [2]
- j) Explain the principles of building planning. [3]

PART – B

(50 Marks)

2. What are the various ingredients in brick earth, and what harmful substances can be found in brick earth? Explain how these substances impact the brick manufacturing process. [10]

OR

3. Explain the concept of decay in timber, outline methods for its detection, and discuss preventive measures against timber decay. [10]

4. Discuss the advantages and disadvantages of using admixtures in concrete, considering their effects on performance and cost-effectiveness. [10]

OR

5. Explain the process of cement hydration, including its significance in concrete formation and construction application. [10]

6. Elaborate on the functional requirements and types of ventilation systems in buildings. How do these systems contribute to indoor air quality and occupant comfort? [10]

OR

7. Enumerate the key factors that influence material selection for doors and windows in construction and how these factors impact the overall performance, aesthetics, and functionality of the built environment. [10]

QA QA QA QA QA QA QA G

8. Explain the importance of formwork in construction and outline the key requirements that should be followed in formwork design. [10]

OR

9.a) Distinguish between pointing and plastering.

b) Compare and contrast stone masonry and brick masonry in construction. [5+5]

10. Develop a residential building layout suitable for a family of four members in an urban city and explain the fundamental principles that guided your planning decisions. [10]

OR

11.a) Elaborate on the fundamental principles underlying building bye laws and their role in urban planning.

b) Discuss the classification criteria used for different types of buildings. [5+5]

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G

QA QA QA QA QA QA QA G