Code No: 154AG **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, September/October - 2023
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)	List out the field tests conducted on stones.	[2]
b)	Describe the structure a timber with a neat sketch.	[3]
c)	What are the primary ingredients of cement?	[2]
d)	Describe different types of admixtures	[3]
e)	List out the building components.	[2]
f)	Explain the purpose and significance of damp proof courses in construction	[3]
g)	Define the term "composite masonry"	[2]
h)	Differentiate between lime mortar and cement mortar,	[3]
i)	Write the significance of building by laws.	[2]
j)	Describe the objectives and functions of building by laws.	[3]

PART – B

(50 Marks)

2.a) Explain the classification of stones with neat sketches.
b) Compare the structural properties of aluminum and steel in construction applications, highlighting scenarios where each material is preferred. [5+5]

OR

3.a) Examine the use of plastics in construction, emphasizing their advantages, disadvantages, and sustainability considerations.
b) Discuss the structural requirements and applications of glass in building design. [5+5]

4.a) How can the chemical composition of cement influence its strength and durability in construction?
b) Discuss the laboratory tests commonly conducted to assess the quality of cement. [5+5]

OR

5.a) Distinguish between wet and dry process of cement manufacturing.
b) Discuss the advantages and disadvantages of using admixtures in concrete, considering their effects on performance and cost-effectiveness. [5+5]

6. Describe the different types of roofs and foundations commonly used in building construction and their respective advantages. Provide a labeled diagrams to illustrate. [10]

OR

7.a) Discuss the classification of fire-resistant materials and their importance in fire protection for buildings.

b) Discuss various damp and water proofing materials. [5+5]

8.a) Describe the various types of brick masonry bonds commonly used in construction. Provide examples of where each bond type is typically used.

b) Explain the importance of formwork in construction and outline the key requirements that should be followed in formwork design. [5+5]

OR

9.a) Distinguish between pointing and plastering.

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

10.a) How do building bylaws contribute to urban planning and development?

b) Discuss the classification of buildings based on their use. [5+5]

OR

11. Design 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]

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