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**INSTITUTE OF AERONAUTICAL ENGINEERING**

(Autonomous)

Dundigal-500043, Hyderabad

B.Tech IV SEMESTER END EXAMINATIONS (REGULAR / SUPPLEMENTARY) - AUGUST 2023

Regulation: UG-20

**BUILDING PLANNING MATERIALS AND CONSTRUCTION**

Time: 3 Hours

(CIVIL ENGINEERING)

Max Marks: 70

Answer ALL questions in Module I and II

Answer ONE out of two questions in Modules III, IV and V

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

**MODULE – I**

1. (a) Compare clamp burning and kiln burning. Classify different types of bricks and their uses in brief. [BL: Understand| CO: 1|Marks: 7]
- (b) List the qualities of good building stones. Discuss the three important types of rocks and their formation [BL: Understand| CO: 1|Marks: 7]

**MODULE – II**

2. (a) How the fineness modulus of coarse and fine aggregate is determined? Write about adsorption and moisture content of aggregate. [BL: Understand| CO: 2|Marks: 7]
- (b) Enumerate reinforced cement concrete. Discuss various laboratory tests to be conducted on concrete. [BL: Understand| CO: 2|Marks: 7]

**MODULE – III**

3. (a) Describe in brief any type of manufacture of cement with the help of flow diagram. [BL: Understand| CO: 4|Marks: 7]
- (b) What do you understand by natural seasoning of wood? Draw the cross section of a tree and explain the structure of timber. [BL: Understand| CO: 4|Marks: 7]
4. (a) Compare stone Masonry with brick masonry with neat sketches. Describe Ashlar stone masonry and state its use in construction of structures. [BL: Understand| CO: 3|Marks: 7]
- (b) Explain the following terms in brick masonry: i) Header ii) iii) Stretcher iv) Quoin v) Queen closure vi) King closure vii) Course viii) Bed joint and Facing. [BL: Understand| CO: 3|Marks: 7]

**MODULE – IV**

5. (a) Mention the functions of arches and lintels. Give relative merits and demerits of lintels over arches. [BL: Understand| CO: 5|Marks: 7]
- (b) Summarize the following items in case of staircases i) Balustrade ii) Handrail iii) Soffit iv) Pitch [BL: Understand| CO: 5|Marks: 7]
6. (a) Demonstrate with a neat sketch about king post truss. Explain the use of prefabricated roof in building construction. [BL: Understand| CO: 5|Marks: 7]

- (b) Summarize about English and Flemish bond with neat sketches. Outline seasoning of timber and objects of seasoning of timber. [BL: Understand| CO: 5|Marks: 7]

### MODULE – V

7. (a) List out different principle in planning a building. State the importance of site plan and location plan in the engineering drawing. [BL: Understand| CO: 6|Marks: 7]  
(b) What are the minimum standards for various parts of building as per national building code (NBC)? Describe in detail. [BL: Understand| CO: 6|Marks: 7]
8. (a) Classify different type of buildings as per bye-laws. Explain the function of each type of building along with examples. [BL: Understand| CO: 6|Marks: 7]  
(b) Briefly explain the following: i) Roominess ii) Circulation iii) Flexibility iv) Grouping. Give example of each type [BL: Understand| CO: 6|Marks: 7]

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