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INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

B.Tech IV Semester End Examinations (Supplementary) - July, 2018

Regulation: IARE – R16

BUILDING MATERIALS CONSTRUCTION AND PLANNING

Time: 3 Hours

(CE)

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

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

UNIT – I

1. (a) Explain in detail the geological, physical and chemical properties of stones. [7M]
(b) How are stones quarried through wedging process? [7M]
2. (a) What is the objective of finding fineness modulus of fine aggregates? [7M]
(b) Elaborate the major differences between clamp burning and kiln burning of bricks. Also, explain in what circumstances you will employ between the two methods. [7M]

UNIT – II

3. (a) Explain the manufacturing process of any cement with the help of a schematic diagram. [7M]
(b) Explain the field test conducted on cement in detail. [7M]
4. (a) Explain physical properties and chemical composition of Portland cement. [7M]
(b) Explain about hydration of cement. What are the major ingredients added to cement. [7M]

UNIT – III

5. (a) Distinguish clearly between a lintel and an arch. How does a flat stone arch differ from a stone lintel? [7M]
(b) Explain the method of laying the following types of flooring.
i. Brick Flooring
ii. Marble Flooring [7M]
6. (a) With schematic diagrams, explain in detail the difference between king-post truss and queen-post truss. [7M]
(b) State briefly the essential requirements of a good roof and draw a neat sketch of curved roofs. [7M]

UNIT – IV

7. (a) Explain in detail the various classifications of stone masonry. [7M]
(b) Describe the process of manufacturing of glass. State the applications of glass in construction industry. [7M]

8. (a) What do you mean by seasoning of timber? Why is seasoning necessary? Explain the types of seasoning. [7M]
- (b) With neat sketches, explain the various bonds in brick masonry. [7M]

UNIT – V

9. (a) Explain the following terms with respect to stairs. [7M]
- i. Step
 - ii. Riser
 - iii. Thread
 - iv. Nosing
- (b) Explain about the classification of stairs and Illustrate on any two types of stairs briefly. [7M]
10. (a) Give the building classifications with respect to NBC. [7M]
- (b) Explain the following terms: [7M]
- i. Floor area ratio
 - ii. Floor space index

