

**II B. Tech I Semester Regular Examinations, March - 2021**  
**BUILDING MATERIALS, CONSTRUCTION AND PLANNING**  
 (Civil Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
 All Questions carry **Equal** Marks  
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- 1 a) Why you choose stone as a building material? Define stone quarrying and explain briefly the methods of quarrying of stones. [8M]  
 b) What are the advantages & disadvantages of clamp burning? Compare the clamp burning and kiln burning [7M]

Or

- 2 a) List out the names of bricks for special use. Write short notes on the process of burning of bricks in Intermittent kilns with neat sketch. [8M]  
 b) Explain in detail the process of manufacturing of glass? [7M]  
 3 a) Describe Ashlar stone masonry and state its use in construction of structures. [8M]  
 b) What do you mean by seasoning of timber? Why is seasoning necessary? Explain the types of seasoning. [7M]

Or

- 4 a) Explain in detail the various classifications of stone masonry. [8M]  
 b) Describe the process of manufacturing of glass. State the applications of glass in construction industry. [7M]  
 5 a) What are the different types of ingredients in cement? Explain their functions in details. [8M]  
 b) Describe the tests conducted on cement to find its properties [7M]

Or

- 6 a) Compare and contrast advantages and disadvantages of using lime and cement in construction works. [8M]  
 b) Describe in brief any type of manufacture of cement with the help of flow diagram? [7M]  
 7 a) Explain coupled roof with sketch. [8M]  
 b) Explain cement concrete flooring. [7M]

Or

- 8 a) Explain the following items in case of staircases [8M]  
 (i) Balustrade (ii) Handrail (iii) soffit and (iv) pitch  
 b) Write short notes on: (i) Lean-to-roof. (ii) Collar roof [7M]  
 9 a) Explain briefly about aggregates. Discuss briefly about bulk density and porosity of aggregate [8M]  
 b) What are ill effects of dampness in buildings? [7M]

Or

- 10 a) Explain how the fineness modulus of coarse and fine aggregate is determined [8M]  
 b) Explain various causes of dampness in buildings. [7M]

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- 1 a) Explain in detail the geological, physical and chemical properties of stones [8M]  
 b) How are stones quarried through wedging process? [7M]
- Or
- 2 a) What are the various methods of quarrying of stones? Explain each method briefly. [8M]  
 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]
- 3 a) Draw the cross section of a tree and explain the structure of timber. [8M]  
 b) Write the advantages and disadvantages of brick masonry over stone masonry. [7M]
- Or
- 4 a) explain different types of defects in timber that occur due to natural forces [8M]  
 b) Describe the manufacturing process, properties and uses of aluminum. [7M]
- 5 a) What is the objective of finding fineness modulus of fine aggregates? [8M]  
 b) Explain the field test conducted on cement in detail. [7M]
- Or
- 6 a) Explain any two concrete tests in detail? [8M]  
 b) Explain about hydration of cement. What are the major ingredients added to cement [7M]
- 7 a) Classify various types of lintels and discuss their relative use. [8M]  
 b) Explain about the classification of stairs and Illustrate on any two types of stairs briefly. [7M]
- Or
- 8 a) What are the classifications of arches? Explain them in brief [8M]  
 b) Draw neat sketch of (i) king post truss (ii) rcc roof and explain them. [7M]
- 9 a) Explain grading of aggregates based on fineness modulus. [8M]  
 b) What are the various ingredients of paint? Explain the function of each of them. [7M]
- Or
- 10 a) Explain about Moisture content of Aggregate [8M]  
 b) Explain pointing and plastering [7M]

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- 1 a) Describe the characteristics of good building stones. Explain relation to their structural requirements. [8M]  
b) Define natural bed of a stone and discuss its importance [7M]
- Or
- 2 a) What are the different methods of quarrying of stone? Explain the method of quarrying by blasting [8M]  
b) Give the list of explosives used in blasting and explain their composition [7M]
- 3 a) With neat sketches, explain the various bonds in brick masonry. [8M]  
b) What are the advantages of wood based products? [7M]
- Or
- 4 a) What is seasoning of timber [8M]  
b) Write short notes on cavity walls. [7M]
- 5 a) Write about Vicat apparatus and Le-chatlier apparatus [8M]  
b) Describe in detail how lime is manufactured? [7M]
- Or
- 6 a) Explain physical properties and chemical composition of Portland cement [8M]  
b) List out the constituents of limestone. Explain the importance of each [7M]
- 7 a) Write a short note on Arches, Vaults, Stair cases [8M]  
b) Describe the construction procedure of the Madras terrace roof with neat sketch. [7M]
- Or
- 8 a) Explain the following terms with respect to stairs [8M]  
i. Step  
ii. Riser  
iii. Tread  
iv. Nosing  
b) Define roof?. What are the requirements of a good roof. [7M]
- 9 a) What is pointing? How is it carried out? What are its different types? [8M]  
b) What is the objective of finding fineness modulus of fine aggregates? [7M]
- Or
- 10 a) Explain in detail about Damp Proofing and water proofing materials? [8M]  
b) Explain about coarse and fine aggregates? [7M]

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|----|--|-------|
| 1  | Compare with neat sketches Pan Tiles and Pot Tiles.  | [15M] |
| Or |  |       |
| 2  | Describe briefly the classification of tar and the specifications of bitumen as a building material  | [15M] |
| 3  | a) Describe the ashlar stone masonry and state its uses in construction of structures.   | [7M]  |
|    | b) What is the purpose of a cavity wall? Explain   | [7M]  |
| Or |  |       |
| 4  | a) Explain in detail about English bond with sketches  | [8M]  |
|    | b) What are the requirements of good partition wall? Explain.  | [7M]  |
| 5  | a) What are the different types of ingredients in cement? Explain their functions in details.  | [8M]  |
|    | b) What is setting of cement? How initial and final setting of cement is determined in the laboratory?                                     | [7M]  |
| Or |  |       |
| 6  | a) Explain in detail about the laboratory tests conducted on concrete  | [8M]  |
|    | b) Distinguish between quick, fat and hydraulic lime.  | [7M]  |
| 7  | a) Define a neat roof and mention its advantages & disadvantages over pitched roofs  | [8M]  |
|    | b) Describe in brief the construction of R.C.C floor.  | [7M]  |
| Or |  |       |
| 8  | a) Explain king post truss along with a neat sketch  | [8M]  |
|    | b) Discuss the step by step process of laying of Mosaic flooring in detail   | [7M]  |
| 9  | a) How do you select the materials and sizes of forms for construction work?   | [8M]  |
|    | b) Explain the classification of aggregates?   | [7M]  |
| Or |  |       |
| 10 | a) Explain the different tests on aggregate?.  | [8M]  |
|    | b) What is the object of pointing? Describe the operation of pointing regarding the preparation of surface and its application completely. | [7M]  |