

**II B. Tech I Semester Regular Examinations, Jan - 2015**  
**BUILDING MATERIALS AND CONSTRUCTION**  
 (Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)  
 2. Answer **ALL** the question in **Part-A**  
 3. Answer any **THREE** Questions from **Part-B**

**PART-A**

1. a) Explain the detailed classification of stones based on origin?  
 b) Explain different alternative materials used to timber?  
 c) What is meant by hydration of cement?  
 d) List out different terms used in arches?  
 e) Write any four characteristics of good flooring tile?  
 f) Give any four reasons for dampness in a building?  
 g) State the importance of formwork in concrete construction?  
 h) Classify aggregates based on shape? (3M+2M+3M+3M+3M+3M+3M+2M)

**PART-B**

2. a) Define 'Dressing of stones'? Also explain how the dressing of stones will be carried out?  
 Give some neat pictures of dressed stone?  
 b) List out different steps involved in the manufacturing of bricks? Explain in detail the burning of bricks stage? (8M+8M)
3. a) What is meant by bond in brick work? Explain in detail the salient features in the construction of Flemish bond with a neat plan sketch of any odd course?  
 b) Explain different advantages of cavity walls?  
 c) Explain different defects in timber? (8M+4M+4M)
4. a) Explain in detail different stages involved in the manufacturing of lime?  
 b) Classify different type of cements? Explain any four types of cement with applications? (8M+8M)
5. a) Classify different type of floors? Explain the construction process of any four type floors with neat sketches?  
 b) Explain in detail the differences between lean to roof, coupled roof and trussed roof with neat sketches? (8M+8M)
6. a) Explain in detail different constituents of paint? Also classify different type of paints?  
 b) Classify different type of plasters? Explain in detail the preparation of each plaster? (8M+8M)
7. a) Explain the phenomenon 'bulking of sand'? Also explain the process of determining this parameter?  
 b) Mention the conditions of aggregates as per moisture in the pores? (8M+8M)



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**PART-A**

1. a) Explain the detailed classification of tiles?  
 b) What are the different precautions taken in blasting process?  
 c) What is chemical composition of cement?  
 d) List out various type of stairs?  
 e) What is the advantage of providing lintel?  
 f) State the difference between plastering and pointing?  
 g) What are the advantages of steel formwork over conventional timber form work?  
 h) Define Fineness modulus of aggregates? (3M+3M+3M+3M+2M+3M+3M+2M)

**PART-B**

2. a) Give the detailed classification of stones?  
 b) Explain the composition of good brick earth? Mention in detail the functions ingredients of brick earth including harmful ingredients? (8M+8M)
3. a) Classify different type of stone masonry work? Explain in detail salient features of each masonry work with neat sketch?  
 b) What are the different materials can be used as alternative materials to wood? Explain the advantages of those materials? (8M+8M)
4. a) Explain in detail the classification of Lime? Also explain the different ingredients in Lime stone with their function?  
 b) List out different tests conducted on cement? Explain in detail any four testing methods? (8M+8M)
5. a) State the differences between mosaic and terrazzo floors with neat sketches  
 b) Explain the detailed construction process of Madras Terrace and Prefabricated roofs with neat sketches? (8M+8M)
6. a) Classify different type of paints? Explain in detail each type.  
 b) List out different damp proofing materials? Also explain the uses of all the materials? (8M+8M)
7. a) What is the importance of specific gravity aggregate? Mention the testing process to determine this parameter?  
 b) Classify the aggregates based on the shape and surface texture? Also explain how these factors affect the performance of concrete? (8M+8M)



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**PART-A**

1. a) What is meant by quarrying of stone?  
 b) Classify different type of bricks?  
 c) Define 'seasoning of timber'?  
 d) Sketch a neat picture of rubble masonry work?  
 e) List out different type of plasters?  
 f) What is the use of Damp Proof Course?  
 g) State the difference between formwork and scaffolding?  
 h) Differentiate between absolute specific gravity and apparent specific gravity?  
 (3M+2M+3M+3M+3M+3M+2M+3M)

**PART-B**

2. a) Discuss various characteristics of a good building stone?  
 b) What are the different steps involved in manufacturing of tiles? Explain the process in detail. (8M+8M)
3. a) What is meant by English bond? Explain the salient points in the construction of this bond with a neat plan sketch of even course?  
 b) Explain in detail about different type of woods used in the buildings? (8M+8M)
4. a) What is meant by 'slaking of lime'? Explain different precautions taken while doing this process?  
 b) Explain different tests conducted on concrete? Explain in detail the tests conducted on fresh concrete? (8M+8M)
5. a) Explain the detailed construction process of Concrete and Terrazo floors with neat sketches?  
 b) Explain in detail the construction process of king post and queen post trusses with neat sketches? (8M+8M)
6. a) Define 'Varnish'? Explain in detail different ingredients in varnish?  
 b) Explain the process of painting a new wooden surface? (8M+8M)
7. a) Explain the differences between coarse and fine aggregate?  
 b) Also explain clearly the difference between porosity and moisture content of aggregate?  
 c) Define 'Fineness modulus of aggregates? Explain the detailed test process to calculate the fineness modulus of fine aggregate? (3M+6M+7M)



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**PART-A**

1. a) Explain the 'Tempering' process of bricks?  
 b) What is ASCU treatment?  
 c) Draw the macro structure of wood and label all parts?  
 d) List out various ingredients in lime?  
 e) Differentiate between Initial setting time and Final setting time of cement?  
 f) Classify different type of paints?  
 g) Mention various components of scaffolding?  
 h) Define 'soundness of aggregate'? (3M+3M+3M+3M+2M+2M+3M+3M)

**PART-B**

2. a) What is meant by 'Quarrying of stones'? Explain the detailed methods of quarrying of stone?  
 b) Explain the characteristics of a good tile? Also explain in detail classification of different type of tiles based on the use? (8M+8M)
3. a) Explain in detail the difference between partition and cavity walls? Explain with one example?  
 b) What is the requirement of seasoning of timber? Explain in detail different seasoning methods with neat sketches? (8M+8M)
4. a) Explain the chemical composition of cement? Mention the function of each ingredient?  
 b) Classify different tests conducted on concrete? Explain in detail the testing process done on hardened concrete? (8M+8M)
5. a) Define staircase? Explain all the technical parts in a staircase with a neat sketch? Also classify different type of staircases?  
 b) Explain the differences between Pitched, flat and lean to roofs with neat sketches? (8M+8M)
6. a) What is meant by 'Distempering'? Explain in detail the process of distempering?  
 b) Define 'Plastering'? Explain the process of plastering a new wall surface with lime and cement? (8M+8M)
7. a) What is the importance of bulk density of aggregates in the concrete preparation? Mention the detailed test process to determine this factor?  
 b) Give the detailed classification of aggregate based on geological origin, source, size, shape and texture?  
 c) Explain the meaning of strength of aggregates? (8M+5M+3M)

