

II B.Tech I Semester Regular Examinations, November 2006
BUILDING MATERIALS & CONSTRUCTION
(Civil Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. What are the various tests for stones and explain them in detail. [16]
2. (a) Explain the following:
 - i. Clamp and kiln.
 - ii. Bullnose brick and cownose brick.(b) Explain briefly water absorption test and warpage tests for tiles. [8+8]
3. (a) Explain the importance of Bogue compounds in cement.
(b) What is meant by curing of concrete? What are its purposes? Explain different methods of curing of concrete. [8+2+2+4]
4. (a) Write a critical note on storage of timber.
(b) Explain the properties of galvanized iron. [8+8]
5. Find the dimensions of a combined rectangular footing for two columns A and B, carrying loads of 500kN and 700kN respectively. Column A is 30cm × 30cm in size and column B is 40cm × 40cm in size. The center-to-center spacing of the columns is 3.4 meters. The safe bearing capacity of the soil may be taken as 150 kN/m². [16]
6. (a) Explain with neat sketches (Plan) of an English bond for 1-brick and 1½ - brick thick walls.
(b) Explain the general principles of laying English Bond. [10+6]
7. (a) Differentiate between Mosaic and Terrazzo floors? For what type of works you recommend the above floorings?
(b) “For large spans shell roofs are provided”. Discuss the factual situation of the above statement. [8+8]

Code No: R050210102

Set No. 1

8. What is a varnish and why is it used? Classify different kinds of varnish and give brief description of each? [16]

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1. Discuss the Geological classification of rocks. [16]
2. (a) What are the advantages, disadvantages and uses of sand-lime bricks.
(b) Explain the compressive strength and water absorption tests for bricks. [6+10]
3. (a) What is a pozzolanic Material?
(b) Write the properties, advantages and disadvantages of pozzolana cement? [4+12]
4. (a) Describe the process of conversion of timber.
(b) What are the factors that affect physical properties of steel. [8+8]
5. (a) What are the causes of failures of foundations.
(b) Discuss some methods of improving the bearing capacity of soil. [8+8]
6. (a) Explain some specially shaped bricks, along with their places of use (with neat sketches)
(b) Explain the following with sketches
 i. Perpend.
 ii. Lap.
 iii. Bed.
 iv. Arises. [10+6]
7. (a) What are the different types of floors.
(b) What are the factors to be considered while the selection of flooring is carried out. [4+12]
8. what is the difference between the terms colour washing and white washing? Describe in detail the complete operation of white washing of plastered wall surface. [16]

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1. What are the various tests for stones and explain them in detail. [16]
2. (a) What are the raw materials used for the preparation of sand-lime bricks.
(b) What are the qualities of good bricks?
[8+8]
3. (a) What is rapid hardening cement? What are its advantages?
(b) "After use, the concrete mixer should be thoroughly washed and cleaned." Explain.
Why.
[4+4+8]
4. (a) What are the objectives of preservation of timber?
(b) State the requirements of a good preservative for timber.
[8+8]
5. Find the dimensions of a combined trapezoidal footing for two columns A & B, spaced 5 m c/c . Column A is 400 mm and Column B is 300 mm square footings, carrying 900 kN and 600 kN respectively. The maximum length of footing is restricted to 7 m only. The safe bearing capacity may be taken as 120 kN/ m².
[16]
6. (a) What are the merits and demerits of English bond over Flemish bond?
(b) State the reasons for cracks in brick masonry.
[8+8]
7. Write short notes on:- [5+5+6]
 - (a) Composite stairs.
 - (b) Escalators.
 - (c) Ramps.
8. What is painting? How is it carried out? What are its different types? [16]

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1. (a) Give the list of explosives used in blasting and explain their composition.
(b) Define natural bed of a stone and discuss its importance.
[8+8]
2. (a) Explain the following:
i. Clamp and kiln.
ii. Bullnose brick and cownose brick.
(b) Explain briefly water absorption test and warpage tests for tiles.
[8+8]
3. (a) What is soundness of cement ? how it is determined in laboratory ?
(b) What is fineness of cement ? How it is determined in laboratory?
[8+8]
4. (a) What are the objectives of preservation of timber?
(b) State the requirements of a good preservative for timber.
[8+8]
5. (a) Name different types of spread foundations.
(b) Explain in detail about any two types of spread footings, along with their advantages and disadvantages with neat sketches.
[4+12]
6. (a) Explain the following tools used in masonry [6]
i. Line and pins.
ii. Mason's square.
iii. Brick hammer .
(b) Define the terms [10]
i. Bed Joint.
ii. Lap.
iii. Bull nose.
iv. Quion.
v. Facing, backing and hearting.

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Set No. 4

7. What short notes on:- [5+5+6]

- (a) Terrazzo flooring.
- (b) Mosaic flooring.
- (c) Concrete flooring.

8. Define scaffolding and mention its component parts. [16]
