

FACULTY OF ENGINEERING**B.E. 2/4 (Civil) I – Semester (Main) Examination, November 2013****Subject : Engineering Materials and Construction****Time : 3 hours****Max. Marks : 75****Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.****PART – A (25 Marks)**

1. List out different tools used in dressing of a stone. 2
2. Classify bricks. And indicate water absorption capacity of each type of brick. 3
3. Which component is responsible for lateral strength of cement? And what is the initial setting time of OPC as per codal references? 2
4. Classify sand as per availability. 3
5. Why steel is used as a reinforcing material in concrete? 3
6. How many types of distempers are there? What are they? 3
7. Explain any four methods of conserving energy in buildings. 2
8. Draw a neat sketch of segmental arch. 2
9. Define 'pointing'. 2
10. Distinguish between 'form work' and 'scaffolding'. 3

PART – B (50 Marks)

- 11.a) Write classification of stones. 4
- b) Explain various quarrying methods of stone along with importance 6
- 12.a) What are the various stages involved in manufacturing of bricks? 4
- b) Explain the process of burning of bricks in Hoffman's kiln with a neat sketch. 6
- 13.a) Explain the manufacturing process of cement with a neat flow diagram. 5
- b) List out different tests on aggregate. And explain any two in detail. 5
- 14.a) Classify mortars. 3
- b) What is the importance of compaction of concrete? And explain different compaction methods in detail. 7
- 15.a) What is ASCU treatment? And why this is done? 4
- b) What are the different steps involved in painting a concrete surface? 3
- c) Explain different constituents involved in Varnish. 3
- 16.a) What are the different characteristics of a good floor? 4
- b) Explain the method of construction and maintenance of a terrazzo floor with the help of a neat sketch. 6
17. Write short notes on the following :
 - a) Manufacturing process of fly ash bricks 3
 - b) Importance of 'bulking of sand' and laboratory test to calculate it. 4
 - c) Recycled materials 3
