

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
 END SEMESTER EXAMINATION-2015  
 B.Tech II Semester

COURSE CODE: 11B11CE211

MAX. MARKS: 45

COURSE NAME: Building Materials and Construction

COURSE CREDITS: 4

MAX. TIME: 3 HRS

*Note: All questions are compulsory. Marks are indicated against questions. Carrying of mobile phone during examinations will be treated as case of unfair means.*

**Section A (9×1=9)**

1. (a) Differentiate the flaky and elongated aggregates.
- (b) Differentiate the business and mercantile types of buildings by giving suitable examples.
- (c) Are substructure and foundation same? If yes/no, justify.
- (d) What should be the width of staircase for the private and institutional buildings?
- (e) Under what circumstances a lean to roof type of pitched roof is used.
- (f) Why arch construction does not need any reinforcement even if the loads are transverse?
- (g) Give method of construction of subgrade for the brick flooring.
- (h) What is the engineering advantage of composite materials? Give examples of composite materials.
- (i) Give construction details for metal lath and plaster type of partition wall.

**Section B**

1. Discuss the engineering properties of HYSD and TMT steel bar. (4)
2. What is workability? why is it such an important property of green concrete. Discuss the factors affecting workability of concrete especially w/c ratio. (5)
3. Draw a typical labeled cross-section of cavity wall showing a window opening for gable roof. (4.5)

**Section C**

4. Discuss the method of providing damp proofing to the flat roofs. Give stepwise procedure for four course and six course treatment. (6)
5. What is deep foundation? Under what circumstances, it is preferred over other types of foundations. Discuss the method of driving of simplex, vibro, and raymond piles with the help of suitable diagrams. (7.5)
6. What are flush door? Depending on the type of core, discuss the different types of flush doors. (5)
7. Discuss any ten requirements, which a good staircase must possess. (4)