JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -3 EXAMINATION- MAY- 2018
B.Tech II Semester

MAX. MARKS: 35

COURSE CODE: 11B11CE211

COURSE NAME: BUILDING MATERIALS AND CONSTRUCTION

MAX. TIME: 2 Hrs

COURSE CREDITS: 4

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

Q1. Modular bricks are of nominal size 20×10×10 cm and 20% of the volume is lost in mortar between the joints. Calculate the number of modular bricks required per cubic meter of brick work. [CO4] (2)

Q2. What is meant by hydraulic lime? How can it be obtained? In which situations, do we have to use hydraulic lime? How can be make fat lime hydraulic? [CO1] (4)

Q3. Enumerate the laboratory tests for cement and describe ant two of them. [CO1] (5)

Q4. Describe two field tests which may be carried out to determine the suitability of soil for the purpose of brick manufacture. [CO2] (5)

Q5. What are the factors which affects physical properties of steel? Enumerate the properties of mild and hard steel. [CO1] (5)

Q6. What are the forces responsible for causing natural defects in timber? Explain such natural defects of timber. Describe defects caused in timber due to fungi. [CO3] (5)

Q7. Define the followings with proper labelled figures. [CO4] (4)

a) Perpend b) closer c) Queen closer d) King closer

Q8. Give reasons for the following: [CO1,CO3] (5)

i) The use of rapid hardening cement results in economic design

ii) The plywood's are not liable to split or crack due to changes in temperature

iii) The timber is generally preferred for the buildings in the earthquake prone regions

iv) The steel containing more than 1.5% of manganese loses its structural values

v) A small quantity of oxide of iron is desirable in good brick earth