

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST-3 EXAMINATION, Dec. 2017
M.Tech. (Construction Management) 1st Semester

COURSE CODE: 10M11CE115

MAX. MARKS: 35

COURSE NAME: Mechanical and Electrical Systems in Buildings

COURSE CREDITS: 3

MAX. TIME: 2 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.

1. (a) Why is dust mastic preferred over duct tapes in sealing for HVAC transmission pipes? (2)
(b) What is psychrometry? Show a typical psychrometry chart with its basic components. (3)
2. (a) Draw a typical line diagram of HVAC system for a 3-storeyed building. Also describe its working. (3)
(b) What are the factors which are taken care of while installing communication lines in a large building complex? (2)
3. Discuss and compare the Air-and-Water and All-Water systems for their relative merits and demerits. (5)
4. How do the profiles or form of a building affect its energy requirements such as those for heating/cooling or day-lighting? Draw a table to illustrate these impacts. (5)
5. Describe the types of transformers and their working using simple sketches. (5)
6. How does a DC motor work? What are the conditions for which these motors are used? (5)
7. Describe in detail the low-voltage systems. What are their uses at a large construction site? (5)

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