

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATION- 2025

M.Tech-I Semester

COURSE CODE (CREDITS): 10M11CE115 (3)

MAX. MARKS: 15

COURSE NAME: Mechanical and Electrical Systems in Building

COURSE INSTRUCTORS: Akash Bhardwaj

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
Q1	Prepare and explain a fire safety/protection systems checklist for high-rise buildings in context with M&E systems in a building.	3
Q2	Explain the importance of energy efficiency in lighting systems within the scope of M&E design.	3
Q3.	What is Predicted Mean Vote (PMV) index? How is it used to measure thermal comfort?	2
Q4.	A workplace records an average air temperature of 28°C, 60% RH, and low air velocity. Which thermal comfort index would you use to evaluate comfort, and why?	2
Q5	Draw PMV and PPD figure for thermal comfort in buildings.	3
Q6	A naturally ventilated office building is located in a warm climate. The mean monthly outdoor dry-bulb temperatures (DBT) is given 31°C. Calculate its indoor operative temperature in °C as per IACM.	2