

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-I Semester (ECM)

COURSE CODE (CREDITS): 24B1WEM832 (2)

MAX. MARKS: 25

COURSE NAME: IoT

COURSE INSTRUCTORS: EPN

MAX. TIME: 1 Hour 30 Min

Note: (a) All questions are compulsory.

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

Q.No	Question	CO	Marks
Q1	A Stepper Motor has 60 teeth and 6 step for 1 tooth. Compute the step-angle of the stepper motor.	CO-2	2
Q2	What is the working of a four-element (Wheatstone bridge) strain gauge sensor? Compare the advantages and disadvantages of four-element method with single element method.	CO-2	3
Q3	Explore the various applications of IoT across different sectors such as healthcare, agriculture, and smart cities. Provide examples of how IoT is being utilized in these industries.	CO-1	5
Q4	What do you mean by open-source hardware? What are the advantages in using Arduino over other microcontroller platforms? Write the sketch for blinking LED with delay 5 s.	CO-3	5
Q5	Briefly explain the working of a servo motor. Write a Python program to continuously rotate a servo motor from 0 degree to 90 degrees and then back to 0 degree with a delay of 1 second.	CO-2	5
Q6	Briefly explain about Serial Peripheral Interface (SPI) and Inter-Integrated Circuit Communication (I2C) used in Raspberry Pi.	CO-3	5