

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2023

M.Tech-II Semester (ECE)

COURSE CODE(CREDITS): 21M1WEC236(3)

MAX. MARKS: 35

COURSE NAME: Smart Internet of Things

COURSE INSTRUCTORS: Dr. Shweta Pandit

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

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

Q1. a) Describe in detail the architecture of Contiki RTOS. What are different features and applications of Contiki RTOS. [4][CO-2]

b) Compare various Real Time Operating Systems available for IoT application development in terms of its different features and capabilities. [4][CO-2]

Q2. a) What is the future of smart appliances? Discuss the level of smartness in smart refrigerator which till date is not achieved. [2+2] [CO-3][CO-4]

b) What are smart monitoring, smart energy saving and smart maintenance features in smart appliances. Elaborate with example of smart appliances and its manufacturers having these features in their appliances. [5][CO3]

Q3. a) Provide the technical details of Z-wave technology made available by few of the home-automation suppliers. [2][CO-3]

b) What type of sensors are in-built in a smart washer and dryer? Give an example of full-fledged smart washer and dryer available in the market with its main features. [4][CO2] [CO-4]

c) Discuss smart inventory management and how smart manufacturing, smart transportation and smart warehousing are integral part of smart inventory management? [3][CO-2][CO-3]

Q4. a) What is the concept of smart roads and smart traffic management in smart cities? [3][CO-3][CO-4]

b) Elaborate smart steps to build a smart home. Provide the details of different components required and its functions in smart home. [3+3][CO-2][CO-3]