

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2023

M.Tech-I Semester (ECE)

COURSE CODE (CREDITS): ): 21M1WEC131(3)

MAX. MARKS: 25

COURSE NAME: IOT Architecture and Protocols

COURSE INSTRUCTORS: Er. Munish Sood

MAX. TIME: 1 Hour 30 Minutes

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*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*

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Q1) What is Internet of Things? How it works? Why you need and IoT gateway? Give some real world applications of IoT? **[5] CO-1**

Q2) What are the industries currently being served by IoT? What is the current scope of the Internet of Things in India? What are the future applications and challenges in IoT? **[5] CO-1**

Q3) What are the five key words / advantages offered by IEEE 802.15.4 Low-Rate Wireless PAN (LR-WPAN)? What is the frequency band used for LR-WPAN for worldwide applications? What is the maximum data rate offered by LR-WPAN? What is the range and latency for LR-WPAN? What are the channel access techniques used for LR-WPAN? **[5] CO-2**

Q4) What are the different application layer protocols used in IoT? Explain in detail about Constrained Application Protocol (CoAP) and Extensible Messaging and Presence protocol (XMPP)? **[5] CO-3**

Q5) With the help of a suitable diagram explain the architecture of IEEE 802.15.4 LR-WPAN? What are the different device classes used in LR-WPAN? What are the different network Topologies used in LR-WPAN? **[5] CO-3**