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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

B.Tech-VIII Semester (Open Elective ECE)

COURSE CODE (CREDITS): 18B1WEC843 (3)

MAX MARKS: 35

COURSE NAME: INDUSTRIAL INTERNET OF THINGS

COURSE INSTRUCTOR: Er. Munish Sood

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

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

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	a) What is machine to machine (M2M) networking? b) Illustrate the different M2M protocols ? c) Differentiate between M2M and IoT.	3	2+1+2=5
Q2	a) Explain in detail the architecture of IoT level-5 with a real world example. b) What are the key differences between IoT level-1 and Iot level – 2 systems in terms of different components available for IoT deployment.	3	2.5+2.5=5
Q3	a) Explain in detail about the session layer protocol, Message Queue Telemetry Transport (MQTT) used in IoT. b) What is the Publish-Broker-Subscriber architecture used in MQTT? c) Explain the major improvements in Secure MQTT (SMQTT)?	4	2+2+1=5
Q4	a) What is the Constrained Application Protocol (CoAP) ? What are the four different messaging modes used in CoAP ? b) What is the primary use of Extensible Messaging and Presence Protocol (XMPP)? What are the different architectures supported by XMPP ?	4	2.5+2.5=5

Q5	a) What is DASH7 ? b) What is the band used for DASH 7? c) What is the addressing scheme used in DASH7? d) What are the different device classes defined in D7A (Dash7 Alliance Protocol)? e) What are the frames used in DASH7?	3	1*5=5
Q6	a) Explain in detail about Zigbee smart energy. b) What are the different IoT applications for which Zigbee is used ? c) What are the different network topologies used in Zigbee? d) What are the different stack profiles used in Zigbee? e) What are the features of Zigbee smart energy?	2	1*5=5
Q7)	Write short notes on the following: a) Z wave b) Routing Protocol for Low-Power and Lossy Networks (RPL) c) IPv6 over Time-Slotted Channel Hopping (TSCH) 6TiSCH d) Data Distribution Service (DDS) e) IoT design methodology	4	1*5=5