


Name:		
Enrollment No:		
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES Online End Semester Examination, December 2020		
Course: Mobile Computing: IoT based Surveillance System Program: B.Tech- CSE + Mobile Computing Course Code: CSMC 4004		Semester: VII Time: 03 Hrs Max. Marks: 100
Instructions: Attempt all the questions.		
SECTION A		
1. Each Question carries 5 Marks. 2. Instruction: Write short notes / Complete the statement / Select the correct answer(s).		
S.No.		CO
Q 1	What is the internet of things: (a) A collection of website (b) Network of physical objects or “things” embedded with electronics, software, sensors and connectivity (c) Any collection of software and hardware (d) None of the above	CO1
Q 2	Which of the following is/are the benefit(s) of IoT? (a) Efficient resource utilization (b) Time saving (c) AI enablement through IoT (d) Improved Security	CO1
Q 3	Discriminate between IoT and M2M.	CO2
Q 4	RF4CE stands for _____.	CO3
Q 5	State the benefits and limitations of NFC system.	CO3
Q 6	List down at least five open source software tools for developing IoT applications.	CO4
SECTION B		
1. Each question carries 10 marks. 2. Instruction: Write short/brief notes.		
Q 7	Explain the term IoT analytics. Also, discuss the benefits of edge analytics over the centralized analytics.	CO4
Q 8	Describe the IoT protocol suite along with the functionality of each layer.	CO1
Q 9	Differentiate between the near-field coupling and far-field coupling working principles of RFID.	CO2

Q 10	Compare the performances of IEEE 802.15.6 WBANs and IEEE 802.15 WPAN TG4j MBAN.	CO3
Q11	Describe the functionality of each layer in the Bluetooth protocol stack. Also, discuss the main advantage of BLE standard with respect to the WPAN. OR Define the following in the context of IEEE 802.15.4: (a) FFD (b) RFD (c) Network Coordinator (d) PAN Coordinator (e) Mesh Topology	CO3
SECTION C		
1. Attempt any of the following. Each question carries 20 marks. 2. Instruction: Write long answer.		
Q 12	Discuss in detail the steps involved in the IoT system design methodology. OR (a) Describe the various interfaces available with Raspberry Pi. (b) Provide single line explanation for the following Raspberry Pi commands: (i) startx (ii) iwconfig (iii) ifconfig (iv) nmap (v) cat/proc/meminfo (vi) cat/proc/version (vii) df -h (viii) free (ix) vcgencmd measure_temp (x) vcgencmd get_mem arm	CO4