Name: Enrolment No:	**UPES** UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Introduction to Internet of Things   Semester: V
Program: B. Tech. CSE   Time 03 hrs.
Course Code: CSIS2001P   Max. Marks: 100

SECTION A
1. **Each Question will carry 4 Marks**
2. **Instruction: Complete the statement / Select the correct answer(s)**

S. No.	Question	CO
Q 1	Define sensors and actuators with example.	CO 3
Q 2	Discuss the functional requirements of IoT.	CO 3
Q 3	Define Multi Hub Network?	CO 3
Q 4	Explain a Pressure sensor with equations of modulations.	CO 2
Q5	Write the explanation for the need for telemetry in IoT.	CO1

SECTION B
1. **Each question will carry 10 marks**
2. **Instruction: Write short/brief notes**

Q 6	Demonstrate the flow of Communication methods for IoT devices.	CO1
Q 7	Discuss IoT architecture components in detail.	CO1

Q 8	Compare the following:
	    i. Asset Management
	    ii. SMQTT
	    iii. CoAP
	    iv. REST
		CO1

Q 9	*"Security is a system property; the system can be only as secure as its weakest component."* Justify the given statement with respect to IoT systems. <center>OR</center>Explain the Bluetooth stack for IoT devices.	CO2

Section C
1. **Each Question carries 20 Marks.**
2. **Instruction: Write long/short answers.**

Q 10	With a detailed diagram, explain each component of the Organization of IoT systems. Or Discuss IoT service Providers, Device configuration, and management in detail.	CO2

Q 11	i. Discuss IoT requirements in detail.
	    ii. Illustrate types of IoT sensors in detail.
	    iii. Differentiate between IoT and M2M.
	    iv. Illustrate RFID components and types.
		CO3