Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Development of IOT Applications with Case Study **Semester: VIII**
Program: B.Tech CSE BFSI **Time : 03 hrs.**
Course Code: CSIS 4008 P **Max. Marks: 100**

Instructions:
The answers should be technically-sound and to the point.

S. No.		Marks	CO
	SECTION A **(5Qx4M=20Marks)**		
Q 1	Define various component of IoT with help of a diagram.	**4**	**CO1**
Q 2	List different microcontrollers used capture data in IoT systems. State the pro and cons of each	**4**	**CO2**
Q 3	Explain any four applications areas of IoT.	**4**	**CO1**
Q 4	State how IoT system are different from M2M .	**4**	**CO1**
Q 5	Define digital twins and its possible applications.	**4**	**CO2**
	SECTION B **(4Qx10M= 40 Marks)**		
Q 6	Illustrate various challenges faced with designing IoT system with technologies of industry 4.0	**10**	**CO1**
Q 7	Explain the term 'smart city. Discuss the building blocks of an IoT-based smart traffic light system.	**10**	**C03**
Q 8	Describe Personnel Navigation Devices "PND"? Discuss whether the GPS-enabled smartphone is a substitute for PNDs.	**10**	**CO2**
Q 9	Design a smart parking system using components of IOT. Appraise various schemes and strategies designed to overcome the problem of traffic congestion **OR** Design a Pipeline Leak detection system using components of IOT. Appraise various strategies designed to avoid environmental hazard.	**10**	**CO4**
	SECTION-C **(2Qx20M=40 Marks)**		
Q 10	Describe the architecture of IRNSS. Categorize and explain its offered services with examples.	**20**	**CO3**
Q 11	Discuss the role of IoT in the healthcare sector. Let us assume that, you	**20**	**CO4**

	have been assigned a task to design an IoT-based remote healthcare monitoring system. How would you approach this assignment? **OR** Justify that cars are not a simple transportation medium anymore. In your view, how is IoT transforming the automotive industry? Give at least five IoT-enabled features of smart cars.		