


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, May 2022			
Course: Development of IOT Applications with Case Study Program: B.Tech CSE IT INFRA Course Code: CSIS 4008P		Semester: VIII Time : 03 hrs. Max. Marks: 100	
Instructions: The answers should be technically-sound and to the point.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
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	CO3
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

	<p>have been assigned a task to design an IoT-based remote healthcare monitoring system. How would you approach this assignment?</p>		
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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.