Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2023

Course: Development of IoT applications with Case Studies **Semester: VIII**
Program: B.Tech-CSE-AIML, and IoT **Time: 03 hrs.**
Course Code: CSIS 4008 **Max. Marks: 100**
Instructions: Explain in short. (60-70 words)

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Discuss how IoT disrupting digital marketing and generating customer insights.	**4**	**CO1**
Q 2	Explain asset management and tracking using IoT in manufacturing sector. Discuss various advantages of smart asset management.	**4**	**CO1**
Q 3	Explain Remote Patient Monitoring (RPM). Discuss various technological components of Remote Patient Monitoring (RPM) in detail.	**4**	**CO2**
Q 4	Discuss the concept and benefits of IoT enable transport system for supply chain management.	**4**	**CO2**
Q 5	Write a short note on importance of IoT in retail Industry.	**4**	**CO3**

SECTION B
(4Qx10M= 40 Marks)
Instruction: Write brief notes. (100-150 words)

Q 6	Define autonomous vehicles? Briefly explain six levels of automations.	**4+6=10**	**CO2**
Q 7	Discuss vertical farming using IoT. Explain use case of vertical farming by Lettuce Abound, Minnesota.	**6+4=10**	**CO3**
Q 8	Define and explain cold chain using IoT. Explain a case study based on IoT enabled cold chain. **OR** Using different use cases, explain how IoT transforming the logistics industry.	**10**	**CO4**
Q 9	Discuss following in detail: a) Discuss smart nicotine patch IoT wearable device. b) Smart metering system for water consumption.	**5+5=10**	**CO1**

SECTION-C
(2Q x 20M = 40 Marks)

Q 10	a) Elaborate the growing role of IoT in wine industry. Discuss the use case of Artificial Intelligence (AI) in wine industry. b) Explain the personalized pricing. What is the difference between being personalized and being relevant? **OR** a) Define smart greenhouse. Explain working of various sensors participating in greenhouse monitoring system. b) What are the smart shelves? Explain various basic elements of smart shelves in detail.	**10+10=20**	**CO3**
Q 11	Write a short on the following: a) Smart logistics b) E-commerce Supply chain. c) Smart warehouse d) Case study of Amazon's drone delivery: Prime air	**5*4=20**	**CO4**