UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2020

Course: Embedded Smart Homes   **Semester: VII**
Program: B. Tech. (CSE+IOT)   **Time 03hrs.**
Course Code: CSIS 4006   **Max. Marks: 100**

SECTION A

1.Each Question will carry 5 Marks
2.Instruction: Complete the statement

S. No.	Question	CO
Q 1.	Five characteristics of IOT are _____, _____, _____, _____, _____.	**CO1**
Q 2.	Five devices used in Device Layer of IOT architecture _____, _____, _____, _____, _____.	**CO1**
Q 3.	Following are the differences between microcontroller and general-purpose microprocessor: <table><tr><td>Microcontroller</td><td>General Purpose Microprocessor</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>	**CO1**
Q 4.	Following are the types of embedded systems:	**CO2**

	_____, _____, _____, _____	
Q 5.	Main components of a smart home are _____, _____, _____, _____	**CO3**
Q 6.	Following are some constraints of an Embedded System Design: _____, _____, _____, _____ _____	**CO2**

SECTION B

1.Each question will carry 10 marks
2.Instruction: Write short notes

Q 7.	Explain the Bluetooth topologies that are used to communicate in-between devices.	**CO3**
Q 8.	What is Wireless Sensor Network? Explain the usage of sensors in Military and civil infrastructures. (2 +8)	**CO4**
Q 9.	What approaches are used in emotion recognition?	**CO5**
Q 10.	Explain any 5 problems of embedded smart homes.	**CO3**
Q 11.	Explain the system architecture of Embedded Smart Homes. OR Describe the operation modes of embedded system in smart homes.	**CO4**

SECTION C

1. Each Question carries 20 Marks.
2. Instruction: Write long answer.

Q 12.	Mention the basic components of the contextual information of ADL (Activities of Daily Livings). Explain the role of RFID in functioning of these components. OR (a) Mention the benefits of environment parameters monitoring sensing system. (5) (b) Explain the smart environment monitoring system with the help of wired and wireless network. (15)	**CO5**