Name: **Enrolment No:**	

UPES

End Semester Examination, May 2023

Course: Wireless Sensor Networks **Semester : VIII**

Program: B.Tech (ECE) **Time : 03 hrs.**

Course Code: ECEG 4029P **Max. Marks: 100**

Instructions: Attempt all questions.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Explain the architecture of a typical wireless sensor network.	**4**	**CO 1**
Q 2	Write down various applications of WSN.	**4**	**CO 1**
Q 3	Explain hidden node and exposed node problem.	**4**	**CO 3**
Q 4	Define physical and datalink layer.	**4**	**CO 2**
Q 5	Describe the operating system design issues for wireless sensor network.	**4**	**CO 2**
	SECTION B **(4Qx10M= 40 Marks)**		
Q 6	Outline the low energy adaptive clustering hierarchy (LEACH) protocol for wireless sensor networks.	**10**	**CO 3**
Q 7	What do understand by sensor in WSN? Explain Types of sensors and their application in detail.	**10**	**CO 1**
Q 8	Outline the features of TinyOS and CONTIKI OS for wireless sensor networks.	**10**	**CO 2**
Q 9	Explain working procedure of IEEE802.11 in wireless sensor network.	**10**	**CO 4**
	SECTION-C **(2Qx20M=40 Marks)**		
Q 10	Present a wireless sensor network design that can be used for detecting smoke and fire in a building. Explain the task of the sensors and actuators in this network. State the functional requirements you are considering.	**20**	**CO 4**
Q 11	Explain the challenges and various strategies for routing in wireless sensor network. or Describe following routing protocols in detail: a) Minimum Cost Forwarding b) APTEEN	**20**	**CO 3**