Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: Wireless Sensor Network and IoT standards **Semester: 3rd**
Program: B.Tech CSE with spz in IoT and Smart Cities **Time : 03 hrs.**
Course Code: CSIS 3001 **Max. Marks: 100**

Instructions: Explain using diagram wherever possible. Mention correct question number while answering.

S. No.		Marks	CO
	SECTION A		
Q1	Describe the components of a sensor node in wireless sensor node.	**4**	**CO1**
Q2	Define clock drift, clock offset, root node, and MAC stamping in context of synchronization in wireless sensor network.	**1*4**	**CO2**
Q3	Describe routing along with its two basic categories; static and dynamic.	**2+2**	**CO3**
Q4	Define TDMA, FDMA, CDMA, and CSMA wireless medium access techniques.	**1*4**	**CO2**
Q5	Discuss cross layer architecture of wireless sensor network.	**4**	**CO1**
	SECTION B		
Q6	Illustrate the disadvantages associated with Time Sync Protocol for Wireless Sensor Network. Justify how Flooding Synchronization Protocol overcome these issues along with its working.	**5+5**	**CO3**
Q7	Explain and discuss the specific requirements of WSN that demands different MAC protocols unlike traditional wireless networks.	**10**	**CO2**
Q8	Illustrate the working principles of Flooding and Gossiping routing protocols in detail. OR Illustrate the working principles of Unicast and Multicast routing in detail.	**5+5**	**CO3**
Q9	List and describe various IoT standards.	**10**	**CO4**
	SECTION-C		
Q 10	Apply the wireless sensor network in detecting and avoiding sewage overflow. Justify your approach using a block diagram. Collect and describe various elements of challenges in this attempt. OR Apply the wireless sensor network in implementing smart agriculture. Justify your approach using a block diagram. Collect and describe various elements of challenges in this attempt.	**5+10+ 5**	**CO4**
Q11	Demonstrate the working of Directed Diffusion protocol and Rumor Routing as one of its variant. List the parameters on which a routing protocol can be evaluated.	**15+5**	**CO3**