Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2722711 **Date:25/05 /2017**

Subject Name: Wireless Ad-Hoc and Sensor Networks

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is MANET (Mobile Ad-Hoc Network)? Explain Applications and Challenges of MANET.	**07**
	(b)	Explain the components of IEEE 802.11 (Wireless LAN) Network and write the IEEE 802.11 standards.	**07**
Q.2	**(a)**	What is the difference between Topology-Based and Position-Based Approaches of Routing? Explain any one Topology-Based Routing Protocol in Detail.	**07**
	(b)	Which are the Security Issues in Wireless PAN? Draw and Explain the Bluetooth Security Architecture.	**07**
		OR	
	(b)	Classify the Multicast Routing approaches in MANET. Explain the Issues in Providing Multicast in MANET.	**07**
Q.3	**(a)**	Explain Voronoi Diagram based Geocasting (VDG) Protocol.	**07**
	(b)	Explain Spectrum Access Models for Cognitive Radio.	**07**
		OR	
Q.3	**(a)**	Discuss the Issues in Designing MAC Protocol in Mobile Ad-Hoc Network (MANET).	**07**
	(b)	Explain DSDV (Destination Sequence Distance Vector) Routing Protocol in detail.	**07**
Q.4	**(a)**	List and Discuss the Issues and Challenges in designing Wireless Sensor Network (WSN).	**07**
	(b)	Draw Hardware and Software Components of Wireless Sensor Node and explain its each component in brief.	**07**
		OR	
Q.4	**(a)**	List Various Applications of Wireless Sensor Network and explain any two applications in detail.	**07**
	(b)	List the various available Wireless Technologies for Wireless Sensor Networks and explain each in brief.	**07**
Q.5	**(a)**	Explain Low-Energy Adaptive Clustering Hierarchy (LEACH) Protocol in Wireless Sensor Networks.	**07**
	(b)	Draw the Heterogeneous Network Architecture and explain its Ingredients.	**07**
		OR	
Q.5	**(a)**	Write short note on "Security Issues in Wireless Ad-Hoc and Sensor Networks"	**07**
	(b)	Explain IEEE 802.15.4 LR-WPANs STANDARD with its Physical Layer and MAC Layer in detail.	**07**

****