Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– II(New course) • EXAMINATION (Remedial) – WINTER- 2015

Subject Code: 2722711 **Date: 08/12/2015**

Subject Name: Wireless Ad-Hoc and Sensor Networks

Time:2:30 pm to 5:00 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 Wireless Ad-Hoc Network? Explain the difference between Cellular Network and Wireless Ad-Hoc Network in detail.	**07**
	(b)	Explain the components of IEEE 802.11 (Wireless LAN) Network in detail.	**07**
Q.2	**(a)**	Explain the Classification of Routing Protocols for Ad-Hoc Wireless Network.	**07**
	(b)	Explain DSR (Dynamic Source Routing) Protocol in detail.	**07**
		OR	
	(b)	What is the difference between Tree-Based and Mesh-Based Multicast Routing Protocols in Ad-hoc Networks? Explain MAODV Protocol in detail.	**07**
Q.3	**(a)**	Describe Spectrum Access Models for Cognitive Radio.	**07**
	(b)	What is Wireless PANs? Explain Bluetooth Technology with its technical specifications in detail.	**07**
		OR	
Q.3	**(a)**	Why the Energy-Efficient Communication in Ad Hoc Wireless Networks is prime requirement? Explain various Energy Management methods used in Ad Hoc Wireless Networks.	**07**
	(b)	List and discuss the Issues in designing of MAC protocol for Wireless Ad-Hoc Network in detail.	**07**
Q.4	**(a)**	Draw and explain basic Wireless Sensor Node Architecture and explain its each component in brief.	**07**
	(b)	Write a short note on applications of Wireless Sensor Networks.	**07**
		OR	
Q.4	**(a)**	List and explain various Wireless Sensor Network Architectures in brief.	**07**
	(b)	Discuss the Design Constraints or Requirements for WSNs and WNs.	**07**
Q.5	**(a)**	What is the difference between Schedule-based and Contention-based MAC Protocols? Explain Schedule-based MAC Protocols for WSNs	**07**
	(b)	Draw the Heterogeneous Network Architecture and explain its Ingredients.	**07**
		OR	
Q.5	**(a)**	Explain IEEE 802.15.4 LR-WPANs standard with its Physical Layer and MAC Layer in detail.	**07**
	(b)	Write short note on ñSecurity Issues in Wireless Ad-Hoc and Sensor Networksò	**07**

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