Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

MIE – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2010				
Sul	bject	Code: 2722711 Date: 24/05/20	16	
Subject Name: Wireless Ad-Hoc and Sensor Networks				
Tir	ne:10	0:30 am to 01:00 pm Total Marks:	<b>70</b>	
Instructions:				
		Attempt all questions.		
		Make suitable assumptions wherever necessary.		
	3.	Figures to the right indicate full marks.		
Q.1	(a)	Define Wireless Sensor Network and give the Comparison between the MANET and Wireless Sensor Network.	07	
	(b)	Explain IEEE 802.11 Protocol, its Performance and Issues in Ad-Hoc Networks.	07	
Q.2	(a)	Classify the Multicast Routing Protocols in Wireless Ad-Hoc Networks and explain any one Multicast Routing Protocol in detail.	07	
	(b)	What is Wireless PANs? Explain Bluetooth Technology with its technical specifications in detail.	07	
	a.v	OR	0.7	
	<b>(b)</b>	Draw and explain the Network Architecture of Wireless Mesh Network.	07	
Q.3	(a)	Explain Voronoi Diagram based Geocasting (VDG) Protocol.	07	
	<b>(b)</b>	Explain Spectrum Access Models for Cognitive Radio.	07	
0.2	( )	OR	0.7	
Q.3	(a)	Explain the difference between Proactive, Reactive and Hybrid approaches of Routing protocols in Ad-hoc Networks and explain any one Proactive Routing Protocol in detail.	07	
	(b)	Why does Traditional TCP Not Perform Well in Ad-Hoc Wireless Networks?	07	
	( )	Explain in detail.		
Q.4	(a)	Draw the block diagram of Hardware and Software Components of Sensor	07	
۳.٠	(a)	Node and explain each part in brief.	07	
	<b>(b)</b>	Write Short-note on õApplications of Wireless Sensor Networksö.	07	
	` ′	OR		
<b>Q.4</b>	(a)	Explain IEEE 802.15.4 LR-WPANs STANDARD with its Physical Layer and	07	
	<i>a</i> >	MAC Layer in detail.	0.5	
	<b>(b)</b>	Discuss the Sensor Network Design Constraints or Requirements in detail.	07	
Q.5	(a)	List the Wireless Protocols/Technologies used in WSNs and also describe	07	
	<i>a</i> >	complete technical specifications of each Protocols/Technologies.		
	<b>(b)</b>	How to integrate MANETs, WLANs and Cellular Networks? Explain in Detail.	07	
0.5	(a)	OR  Draw the Heterogeneous Network Architecture and explain its Ingredients.	07	
Q.5	(a) (b)	Discuss the issues and requirements of security in Wireless Ad-Hoc and Sensor Networks.	07 07	

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