GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VII (NEW) EXAMINATION – WINTER 2020

Subject Code:2174103   Date:01/02/2021

Subject Name:Wireless Sensors Networks for Robotics

Time:10:30 AM TO 12:30 PM   Total Marks: 56

Instructions:

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1	(a)	Explain applications of WSN.	03
	(b)	Explain Single hop and multi hop networks.	04
	(c)	Explain sensor node hardware architecture with diagram.	07
Q.2	(a)	Define: Source, Sink and Sensors.	03
	(b)	Explain types of mobility.	04
	(c)	Explain RTS/CTS handshake with figure.	07
Q.3	(a)	Define : Path loss , Attenuation , Mobility	03
	(b)	What is need of Gateway in WSN?	04
	(c)	Explain Dynamic Source Routing protocol.	07
Q.4	(a)	What is Reflection, Diffraction and scattering?	03
	(b)	Explain Ad hoc On Demand Distance Vector routing protocol in brief.	04
	(c)	Explain : Exposed terminal problem & Hidden terminal Problem	07
Q.5	(a)	What is logical time and physical time in WSN?	03
	(b)	Explain : TinyOS	04
	(c)	What is S-MAC? Explain in detail	07
Q.6	(a)	What is clustering? Why there is a need of clustering?	03
	(b)	What is Proactive and Reactive routing protocols? Give one example of each.	04
	(c)	Write & explain Properties of localization and positioning procedures.	07
Q.7	(a)	What is flooding?	03
	(b)	What are the categories of sensor node hardware? Explain in brief.	04
	(c)	What is mediation device protocol? Explain.	07
Q.8	(a)	Explain: Technique single hop localization RADAR.	03
	(b)	What is flat and Hierarchical network?	04
	(c)	Draw MICA mote architecture and explain.	07

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