Reg. No. : | | | | | | | | | | |

Question Paper Code: 49406

B.E./B.Tech. DEGREE EXAMINATION, SEP 2020

Elective

Electronics and Communication Engineering

14UEC906 -WIRELESS SENSOR NETWORKS

(Regulation 2014)

Duration: One hour Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The greatest advantage of Sensor network is its The device which converts physical phenomenon into electrical signal is known as CO1- R

   (a) Transducer (b) ADC (c) Sensor network (d) All of the above

2. A Sensor network is designed to perform a _____ high level information processing tasks CO1- R

   (a) detection (b) tracking (c) classification (d) All the above

3. In the design of Wireless sensor network, which device is suitable for testing CO2- R

   (a) Microcontroller (b) DSP (c) FPGA (d) ASIC

4. _____sub layer manages access to the physical network medium and its fundamental goal to treduce or avoid packet collisions in the medium CO2- R

   (a)MAC (b)LLC (c)PLCP (d)None of the above

5. Examples of data attributes include _____ CO3- R

   (a) node's location (b) node's type sensors

   (c) certain range of values in a certain type of sensed data (d) all the above

6. The latency in channel can be decomposed into the following component CO3 -R

   (a) Send time (b) Access time (c) Propagation time (d) Receive time

7. _____ technique is used to estimate the RF signal strength at the receiver CO4- R

(a) RSS (b) RBS (c) RSB (d)None of the above

8. Which sensor node hardware has high processing capability CO4- R

(a) augmented general purpose nodes (b) dedicated embedded sensor nodes

(c) SOC nodes (d) all the above

9. Example of system –on chip node is ---------- CO5 -R

(a) PDA (b) PASTA (c) UCLA (d) Win CE

10. A node level simulator has the following components CO5- R

(a) Sensor node model (b) Communication model

(c) Physical environment model (d) Statistics &Visualization

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11.	Discuss the characteristic requirements of WSN.	CO1- U	(8)
12.	Discuss about the energy consumption of the different components of a sensor node.	CO2 -U	(8)
13.	Explain the design approaches and performance of S-MAC protocol.	CO3 -U	(8)
14.	Discuss in details any two localization and positioning algorithms	CO4- U	(8)
15.	Explain the challenges for sensor network platforms.	CO5 -U	(8)