PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JUN 2023

Semester : Semester VI - 2020
Course Code : CSE3055
Course Name : Sem VI - CSE3055 - Wireless Communication in IOT
Program : CIT

Date : 12-JUN-2023
Time : 9.30AM - 12.30PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS
(10 X 2 = 20M)

1. Differentiate between a source node and sink node with figure.

(CO2) [Knowledge]

2. Write the challenges of Transceiver Design Considerations.

(CO3) [Knowledge]

3. List the types of sensor network architecture with figure.

(CO2) [Knowledge]

4. Give any four applications of WSN.

(CO3) [Knowledge]

5. What is aggregation?

(CO1) [Knowledge]

6. What is dynamic modulation scaling?

(CO3) [Knowledge]

7. Write the key concept of wireless Sensor network,with suitable diagram.

(CO4) [Knowledge]

8. Draw the diagram of duty cycle and wake up concepts of MAC in WSN's.

(CO3) [Knowledge]

9. List the Factors Influencing WSN Design?

(CO1) [Knowledge]

10. What are gateway concepts?

PART B

ANSWER ALL THE QUESTIONS   **(5 X 10 = 50M)**

11. What are the factors to be balanced for the choice of modulation techniques.

(CO3) [Comprehension]

12. A Service provider wants to provide communication in wireless technology for data and voice communication to a 100 feet area. The total bandwidth of service provider licensed Band is 5GHz and it supports a data rate of up to 54Mbps, identify the technology and write the following:
a. Working principles.
b. Advantage, Disadvantage and its Application.

(CO4) [Comprehension]

13. Explain the working principle and its components of RFID with a neat diagram.

(CO3) [Comprehension]

14. Describe the various Sensor Network Scenarios of WSN.and Write each type in detail with suitable diagram?

(CO1) [Comprehension]

15. Demonstrate,the working principle and its components of RFID with a neat diagram.

(CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS   **(2 X 15 = 30M)**

16. Consider Service provider wants to provide communication in wireless technology for data communication to a particular geographic area. The total bandwidth of service provider unlicensed Band is 2.400GHz and it supports a data rate of up to 250Kbps, identify the technology and write the following:
a. key specifications.
b. Working principles.
c. Advantage, Disadvantage and its Application.

(CO4) [Application]

17. Describe the following.
a. Schedule-based MAC protocol. With Example.
b. How S-MAC protocol handel the major source of energy inefficiency in WSN.
c. List the optimization goals,figures of merit of a WSN and explain each in detai.

(CO3) [Application]