PRESIDENCY UNIVERSITY
BENGALURU
School of Engineering
Mid - Term Examinations - Nov 2024

Semester: 7th   **Date**: 07/11/2024

Course Code: ECE3065   **Time**: 09:30am – 11:00am

Course Name: RFID and Flexible Sensors   **Max Marks**: 50

Program: ECE   **Weightage**: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.
(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.   **2Mx5Q=10M**

1	The required signal strength from tag to reader is high in _____ RFID.	2 Marks	L1	CO1
2	The approximate read range of high-frequency RFID is _____.	2 Marks	L1	CO1
3	What is the range of RFID tags which is using the low frequency?	2 Marks	L1	CO1
4	For ultra-high frequency RFID tags the working principle is based on _____.	2 Marks	L1	CO2
5	Which one of the RFID tags operates at higher frequencies?	2 Marks	L1	CO2

Part B

Answer ALL Questions. Each question carries 10 marks.   **4QX10M=40M**

6	6a.	Discuss about RFID readers	4Marks	L2	CO1
	6b.	Explain about the computer network which is used to connect the readers of RFID.	4Marks	L2	CO1
	6c.	What are the elements of an RFID system?	2Marks	L2	CO1

7	7a.	An antenna is operating at 20MHz. If a tag is within 15cms of the antenna, what type of coupling is taking place?	2Marks	L2	CO1
	7b.	Explain your answer	4Marks	L2	CO3
	7c.	Explain the specific regulations and standards that apply to RFID system	2Marks	L3	CO2
8	8a.	Explain in details about EPC with its network element	3Marks	L2	CO2
	8b.	Explain in detail about RFID standards on Electronic Product Coding (EPC)	3Marks	L3	CO2
	8c.	Discuss in detail about software and network of the EPC	4Marks	L2	CO2

9	9a.	In the view of RFID explain the antennas and radio characteristics. Describe the band, frequency, wavelength and classical usage.	3Marks	L2	CO1
	9b.	In the view of connection between the reader and the tag, explain the penetration, coupling and range.	3Marks	L2	CO1
	9c.	Explain the applications of RFID in the Supply Chain Visibility and Inventory Management	4Marks	L2	CO2
10	10a.	Integrate the RFID with enterprise applications with detailed explanation.	5Marks	L2	CO2
	10b.	Explain the basic configuration of an RFID architecture with example.	3Marks	L2	CO2
	10c.	What is automatic identification?	2Marks	L1	CO2

11	11a.	What are the differences between read-only and read-write RFID tags?	4Marks	L2	CO3
	11b.	What are the differences between passive and active tags?	4Marks	L2	CO3
	11c.	What is the read range for a typical RFID tag?	2Marks	L1	CO2

	12a.	Explain in detail about privacy of RFID tag in remote sending area.	5Marks	L2	CO2
12	12b.	What are the advantages and disadvantages of using RFID for private and public sectors?	3Marks	L2	CO2
	12c.	How much information can an RFID tag store?	2Marks	L1	CO1

OR

	13a.	How to identify and track an object using RFID technology?	3Marks	L2	CO2
13	13b.	Show some applications for object tracking using RFID method and explain in detail	5Marks	L2	CO3
	13c.	What are the advantages of active RFID?	2Marks	L1	CO2