



SCAN ME



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Electronics Engineering
RFID and Flexible Sensors (ECE3035)

Time Duration: 90 Minutes
Class Number: VL2019205005637

CAT-I

Max.Marks:50
Slot: G1+TG1

Answer for all the questions:

1. Describe the various elements of a RFID system and its sub-systems. Explain the various types of Auto ID technologies and mention the differences between barcode and RFID technology. [10]
 2. a) List out the differences between active and passive transponders. In which are all the formats, the transponders are commercially available. [3]
b) Explain all the layers and components involved in the middleware which is used to connect the readers of RFID to the enterprise IT network. [7]
 3. a) Give a brief note about the coupling, range and penetration of RFID system. What is the need of anti-collision protocol in backscatter coupling? Explain your answer. [5]
b) How the RFID systems characterized based on their operating frequencies? [5]
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4. Case (i): Smart companies are striving to reduce costs, improve service, and increase return on investment throughout the supply chain. Automation-based solutions can play a crucial role in meeting those goals by transforming global supply chain automation and visibility.

Case (ii): A library management system (LMS) gives access to and manages the resources in your library. A well-chosen system will increase your library's efficiency, save valuable administration time, lead to a better educational experience for pupils and help develop independent learning.

Suggest how RFID system can be employed in these cases (case (i) and case (ii))? [10]
 5. a) An antenna is operating at 20MHz. If a tag is within 15cms of the antenna, what is the type of coupling? Justify your answer [5]
b) Can RFID tags be used as a data storage device? Justify. Discuss on the RFID tag memory structure with an example. List some examples of storage capacities of the RFID tags which are commercially available. [5]