

**VIT**Vellore Institute of Technology  
Deemed to be University, established by Law No. 10 of 1984**Continuous Assessment Test – I****Programme Name & Branch: B.Tech CSE****Course Name & Code: CSE3009 & Internet of Things****Exam Duration: 90 Minutes**  
**Slot: G1+TG1****Maximum Marks : 50**

<b>Answer all questions</b>		
<b>Q.No</b>	<b>Question</b>	<b>Marks</b>
1.	What is the function of communication function block in an IoT system? With a neat diagram, explain the complete IoT system with its component.	10
2.	Explain the IEEE 802.15.4 standard for Zigbee protocols? Draw and explain the layer architecture of Zigbee with its functionalities and frame structure.	10
3.	<p>One of the basic necessities for survival on this planet is water. Many countries are facing problems of water scarcity, and the figures are increasing at a rapid pace. Irrigation holds the maximum share in global water usage. It is also the area in which most of the water wastage takes place. Furthermore, most of the water put to use for irrigation is wasted in the evapotranspiration or just unproductive use of water. This is where the need for smart irrigation systems came into the picture.</p> <p>Design an IoT based irrigation system which concentrates on the following,</p> <ol style="list-style-type: none"> <li>An automated IoT based smart irrigation architecture, Irrigation as per schedule</li> <li>Decreasing water overflows</li> <li>Ascertaining precise soil dampness levels</li> <li>Types of sensors for incorporating climatic parameters</li> <li>Challenges in irrigation system using IoT devices</li> </ol>	10
4.	Design a level 6 IoT system for weather monitoring system. Explain about the protocol, communication model and the service type used for the design. Address the challenges and design issues	10
5.	a) Illustrate, how GPS is useful for IoT communication? When you prefer this over GSM or WiFi?	5
	b) Explain COAP architecture with its design requirements.	5

M2M

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