USN : 2GI20IS011 Course Code : 18IS53

Fifth Semester B.E. Semester End Examination, JANUARY_MARCH_2023

INTERNET OF THINGS

Time: 3 hrs. **Max. Marks :100**

Instructions :1. Answer any FIVE full Question selecting at least ONE Question from Each Unit.
2. Draw illustrative diagrams wherever necessary.

MODULE 1

	L	CO	PO	M
1a. How does a GPS moving map system work.	[2]	[1]	[1]	[8]
1b. What is an embedded computer system and how does it differ from a general-purpose computer?	[2]	[1]	[1]	[6]
1c. Explain the challenges faced in designing embedded computing systems	[2]	[1]	[1]	[6]

OR

2a. Outline the steps and process of designing an embedded system.	[2]	[1]	[1]	[8]
2b. Which factors affect the performance of embedded computing systems	[2]	[1]	[1]	[6]
2c. Explain the characteristics of embedded computing applications.	[2]	[1]	[1]	[6]

MODULE 2

3a. Explain IoT levels and deployment templates 1 and 2.	[2]	[2]	[1]	[8]
3b. Define Internet of Things. Explain the characteristics of IoT.	[2]	[2]	[1]	[6]
3c. Define "Things", in IoT. Explain iot IEEE protocols for linked layer, with the protocol stack diagram.	[2]	[2]	[1]	[6]

OR

4a. Explain IoT levels and deployment templates 5 and 6.	[2]	[2]	[1]	[8]
4b. Explain generic block diagram of an IoT device. List IoT devices falling in different domains.	[2]	[2]	[1]	[6]
4c. Explain logical design of IoT, with functional blocks.	[2]	[2]	[1]	[6]

MODULE 3

5a. Explain IoT hardware with sensors, variable electronics and standard devices.	[2]	[3]	[1, 5]	[8]
5b. Explain IoT building and Housing applications and also, transportation applications.	[2]	[3]	[1]	[6]
5c. Explain Internet of Things for the domain specific - education and government applications.	[2]	[3]	[1]	[6]

OR

6a. Explain IoT the domain specific - law enforcement applications and consumer applications.	[2]	[3]	[1]	[8]
6b. Illustrate IoT applications the domain specific - for home and cities.	[2]	[3]	[1, 2]	[6]
6c. Explain in brief Internet of Things applications the domain specific - for industry agriculture and health & lifestyle.	[1]	[3]	[1]	[6]

MODULE 4

7a. Illustrate "From Reference to concrete architecture and actual system", referred to IoT. [2] [4] [1] [8]

7b. Explain Internet of Things architecture reference model. [2] [4] [1, 2] [6]

7c. Explain the IoT functional model. [2] [4] [1] [6]

OR

8a. IllustrateIoT Reference architecture and reference model dependency. [2] [4] [1] [8]

8b. Analyze IoT protocols in brief: 6LowPAN,RPL [4] [4] [1, 2] [6]

8c. Illustrate XMPP-based architecture diagram. [2] [4] [1] [6]

MODULE 5

9a. Explain Amazon Web Services for Internet of Things the example of Amazon EC2 with python code. [2] [5] [1] [8]

9b. Illustrate Django model for weather station using python - models.py [2] [5] [1] [6]

9c. Explain Django views for weather station RESTAPI - views.py. [2] [5] [1] [6]

OR

10a. Explain Amazon Web Services for Internet of Things the example of Amazon Auto Scaling. [2] [5] [1] [8]

10b. Explain WAMP - AutoBahn for Internet of Things. [2] [5] [1] [6]

10c. Develop python web application Framework using Django [3] [5] [1, 9, 10] [6]