Eighth Semester B.E. Degree Examination, Aug./Sept.2020
Internet of Things and Technology

Time: 3 hrs. Max. Marks: 80

Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.
ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define IoT and discuss the Genesis of IoT in detail. **(04 Marks)**
b. List out the difference between IT and OT networks and their various challenges. **(06 Marks)**
c. List out the most significant challenges and problems that IoT is currently facing. **(06 Marks)**

2 a. List and explain the defining characteristics of fog computing. **(06 Marks)**
b. Explain the IoT reference model published by the IoTWF. **(10 Marks)**

Module-2

3 a. Define sensor and its characteristics. **(06 Marks)**
b. List out the most useful classification scheme for the pragmatic application of sensors in a IoT network. **(10 Marks)**

4 a. Briefly describe about communication criteria. **(08 Marks)**
b. What are the main topologies used for IoT connecting devices? **(08 Marks)**

Module-3

5 a. What are the key advantages of the IP suite for the IoT? **(10 Marks)**
b. What are the points to be considered while comparing the transport of DLMS/COSEM over a cellular network versus an LLN deployment? **(06 Marks)**

6 a. Explain in detail COAP message format. **(08 Marks)**
b. Explain Message Queuing Telemetry Transport (MQTT). **(08 Marks)**

Module-4

7 a. What are the ways IoT data is categorized? Explain in detail. **(06 Marks)**
b. Discuss the following :
(i) Supervised learning
(ii) Unsupervised learning
(iii) Neural Networks. **(10 Marks)**

8 a. Explain any two Big data analytics tools and technologies. **(10 Marks)**
b. Explain Lambda Architecture in details. **(06 Marks)**

Module-5

9	a.	What is Arduino? What are the advantages of Arduino?	(06 Marks)
	b.	How to install arduino software for the windows PCs?	(10 Marks)
10	a.	Distinguish between Raspberry Pi and Arduino.	(04 Marks)
	b.	Develop a python program which monitors a temperature of an engine using DS18B20 sensor and Raspberry Pi.	(12 Marks)