

6th Sem. / Information Technology /CS&E / 2022(S)

Th2 Internet of Things

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. What is the concept behind Internet of Things?
 - b. List down the name of the fundamental components of IOT.
 - c. What are the different types of actuators are there in IOT?
 - d. Mention the name of various connectivity technologies that are used in IoT.
 - e. What does M2M stand for? Write down the three applications of M2M.
 - f. What is the importance of Raspberry Pi in IoT? Name the various versions of Raspberry Pi.(any two)
 - g. What does HAN stand for? Mention the name of the elements present in HAN.
 - h. What does SDN stand for? What is the goal of SDN?
 - i. Sum up the basic requirement to perform a case study on Traffic control system using Arduino Board.
 - j. Write down the applications of IIoT.

2. Answer **Any Six** Questions 6 x 5
 - a. Outline the characteristics of IoT.
 - b. Differentiate between Consumer IoT and Industrial IoT.(any five)
 - c. Define multihoming. Classify between classical multihoming and multihoming with multiple addresses.
 - d. Portray the architecture of IEEE 802.15.4.
 - e. Illustrate the four modes by which sensors detect the objects.
 - f. What do you mean by smart home? Give four examples of smart homes in brief.
 - g. Outline the benefits and challenges of IIoT.

- 3 What is the role of sensor in IoT? Write any 2 differences between static sensor and dynamic sensor. Explain about the various types of sensors in IoT. 10
- 4 What does MQTT stand for? Write down the components of MQTT with proper figure. Describe the working principle of MQTT. 10
- 5 Define WSN. Explain about Under Water Acoustic Sensor Networks. 10
- 6 Name any two types of Arduino board. Illustrate the various components of Arduino with proper diagram. 10
- 7 What do you mean by smart cities? Briefly explain about the functional layers in smart parking. 10