PREVIOUS QUESTION PAPERS

23EC614: FUNDAMENTALS OF INTERNET OF THINGS

Code No: R1932044   **R19**   **SET - 1**

III B. Tech II Semester Regular Examinations, June-2022
INTERNET OF THINGS
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1.	a)	Define IoT. Explain the role of things and internet in IoT.	[8M]
	b)	What are the major layers in IoT Architecture?	[7M]

(OR)

2.	a)	Explain the advantages and disadvantages of an IoT.	[8M]
	b)	Explain the role of cloud in IoT.	[7M]

UNIT-II

3.	a)	Explain Arduino. What are the things need to be considered for developing on the Arduino?	[8M]
	b)	What are the Advantages of the ARM Cortex-M0 Processor?	[7M]

(OR)

4.	a)	Give a detailed overview of the ARM Processor families.	[8M]
	b)	What is the difference between x86, ARM and Intel processors?	[7M]

UNIT-III

5.	a)	Explain the benefits of using Python programming language in IoT.	[8M]
	b)	Explain the role of UDP and MAC Address in IOT.	[7M]

(OR)

6.	a)	Explain the constraint application protocol (CoAP).	[8M]
	b)	Draw and explain Bluetooth Low Energy architecture.	[7M]

UNIT-IV

7.	a)	What is device integration? Explain its implementation.	[8M]
	b)	Write key points about unstructured data storage on cloud.	[7M]

(OR)

8.	a)	Why is device authentication necessary for the IoT?	[8M]
	b)	Explain about authorization of devices.	[7M]

UNIT-V

9.	a)	What are the elements of a home automation system?	[8M]
	b)	Define how the IoT technology can be implemented in smart lightening.	[7M]

(OR)

10.	a)	Implement Remote medical assistance.	[8M]
	b)	Define how the IoT technology can be implemented in fire detection.	[7M]

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UNIT-I

1. a) Mention the applications of IoT. [8M]
   b) Explain the role of things in IoT. [7M]

(OR)

2. a) Define IoT and M2M. Illustrate the differences between IoT and M2M. [8M]
   b) What are the major privacy and security issues in case of IoT? [7M]

UNIT-II

3. a) Explain in detail about ARM Cortex-A class processor. [8M]
   b) Give the difference between Arduino and Raspberry Pi. [7M]

(OR)

4. a) What are the key characteristics of the ARM Cortex-M0? [8M]
   b) Explain Cortex-M0 Processor Instruction Set. [7M]

UNIT-III

5. a) What are the advantages and disadvantages of Bluetooth? [8M]
   b) Explain TCP/IP protocol suite with diagram. [7M]

(OR)

6. a) Write a short note on: MQTT, CoAP, ZigBee. [8M]
   b) Write a Python program for blinking an LED. [7M]

UNIT-IV

7. a) What do you mean by data storage? What are the different schemas for a data store? [8M]
   b) Write key points about unstructured data storage on cloud. [7M]

(OR)

8. a) How authentication and authorization of devices is achieved. [15M]

UNIT-V

9. a) Implement the smart irrigation system. [8M]
   b) Design process specification and domain for home intrusion detection system using IoT design methodology. [7M]

(OR)

10. a) Explain the implementation of IoT technology in Structural health monitoring. [8M]
    b) Discuss about case study on IoT system for industrial automation. [7M]

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INTERNET OF THINGS
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UNIT-I

1. a) What is internet of things? Describe the characteristics of IoT. [8M]
   b) Explain working of IoT gateways. [7M]

(OR)

2. a) State and explain M2M communication with example. [8M]
   b) Explain in detail about XaaS (Everything as a Service). [7M]

UNIT-II

3. a) Describe the procedure of building IoT with Raspberri Pi. [8M]
   b) Why we need various types of processors? [7M]

(OR)

4. Draw the functional block diagram of ARM Cortex-M0 processor [15M]
   and explain each block.

UNIT-III

5. a) List and explain some python packages of interest for IoT. [8M]
   b) Give the brief introduction about Internet Protocol (IP), TCP. [7M]

(OR)

6. a) What is ZigBee? Explain. [8M]
   b) List Bluetooth key versions. What are the difficulties associated [7M]
   with them.

UNIT-IV

7. a) What do you mean by data storage? What are the different [8M]
   schemas for a data store?
   b) Discuss data acquiring and storage. [7M]

(OR)

8. a) Explain the usage of cloud platforms for IoT applications and [8M]
   services.
   b) Why is device authentication necessary for the IoT? [7M]

UNIT-V

9. a) Define how the IoT technology can be implemented in intrusion [8M]
   detection system.
   b) Define how the IoT technology can be implemented in industrial [7M]
   automation with any example.

(OR)

10. a) Implement the smart irrigation system. [8M]
    b) Determine the IoT levels for designing structural health [7M]
    monitoring system.
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III B. Tech II Semester Supplementary Examinations, November-2022
INTERNET OF THINGS
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1. a) What are some good resources to learn about Machine-to-Machine communication (M2M)? [8M]
   b) Explain the different characteristics of IoT. [7M]

(OR)

2. a) How might wireless communications have an effect on the development and implementation of the internet of things (IoT)? Explain. [8M]
   b) What are the major Privacy and Security Issues in case of Internet Of Things (IoT)? [7M]

UNIT-II

3. a) Construct the Design of Smart home with Raspberry Pi and other hardware devices with neat sketch. [8M]
   b) Write about the ARM-cortex M class processor. [7M]

(OR)

4. a) Formulate the significant use of Raspberry Pi in Smart cities and Industrial appliances [8M]
   b) Write about the Cortex- M0 Processor Instruction Set. [7M]

UNIT-III

5. a) Explain with example MQTT Protocol. What is role of MQTT protocol in IoT? [8M]
   b) Write about the basic operations available in CoAP protocol. [7M]

(OR)

6. a) Write a note on: Zigbee, MQTT and Bluetooth. [8M]
   b) Briefly explain the PSoC4 BLE Architecture. [7M]

UNIT-IV

7. a) What is unstructured data? How to store unstructured data on cloud server? [8M]
   b) How does a data acquisition system work? Explain [7M]

(OR)

8. a) Explain in detail about Authorization of devices. [8M]
   b) How to implement device integration. [7M]

1 of 2

UNIT-V

9. a) Write a case study about IOT based smart vehicle automation. [8M]
    b) How IOT useful in Industrial automation? [7M]

(OR)

10. a) Write a case study about IOT based automatic waste management system. [8M]
    b) Explain the case study about smart home automation. [7M]

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