

FIFTH SEMESTER

Computer Science

Course 6 : INTERNET OF THINGS

(Regular)

Time : 3 Hours

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Max. Marks

SECTION - A

Answer any FIVE of the following.

(Marks : 5 × 5 marks = 25 marks)

1. Define IoT and explain its key characteristics.
2. Describe the physical and logical design of an IoT system.
3. Explain the concept of RFID.
4. What are the key principles of Wireless Sensor Networks (WSN)?
5. What is IEEE 802.15.4 and Zigbee?
6. What are some IP-Based protocols for IoT?
7. Explain the concept of Analog and Digital Sensors.
8. What are the privacy and security issues in IoT?

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SECTION - B

Answer FIVE of the following.

(Marks : 5 × 10 marks = 50 marks)

UNIT - I

9. (a) Describe the different IoT architectures and their components.

Or

- (b) Describe the role of IoT in Environmental Protection and Sustainable Development.

UNIT - II

10. (a) Explain the working principles of different types of Sensors and Actuators.

Or

- (b) Describe the different methods for connecting nodes in a WSN.

UNIT – III

11. (a) Explain the role of 6LowPAN and LoRA in IoT.

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Or

- (b) Explain the concept of Edge Connectivity and its protocols.

UNIT – IV

12. (a) Write a program to interface an LCD screen with an Arduino and display a message.

Or

- (b) Describe the process of Interfacing a Servo Motor with Arduino.

UNIT – V

13. (a) Explain the process of Implementing IoT with Arduino.

Or

- (b) Describe how to use Blynk, Thingspeak or AWS IoT to connect an Arduino-based device to the cloud.

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