

**Roll No.**

**Total No. of Pages : 02**

**Total No. of Questions : 09**

**M.Sc.(IT) (Sem.-4)**  
**IOT AND ITS APPLICATIONS**  
**Subject Code : PGCA1943**  
**M.Code : 79567**  
**Date of Examination : 26-05-2023**

**Time : 3 Hrs.**

**Max. Marks : 70**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION - B & C** have **FOUR** questions each.
3. **Attempt any FIVE** questions from **SECTION B & C** carrying **TEN** marks each.
4. **Select atleast TWO** questions from **SECTION - B & C**.

## SECTION-A

**l. Write briefly :**

- What is MQTT?
- Name some important IoT hardware.
- Explain Raspberry Pi?
- List layers of IoT protocol stack.
- What are the disadvantages of IoT?
- What are the functions used to read analog and digital data from a sensor in Arduino?
- What are mostly used IoT protocols?
- List out some popular companies which are working on IoT.
- What is Zigbee?
- Explain the types of testing in IoT.

### **SECTION-B**

2. Explain how human life can transformed using technologies like IoT, Big Data Analytics and Cloud Computing?
3.
  - a) Write a short note on Arduino programming for IoT.
  - b) Why security is required in IoT? Explain in brief various security models in IoT.
4.
  - a) What are Wireless Sensor Networks? Explain in detail the architecture of WSN with a diagram.
  - b) Explain the different categories of sensors.
5. Differentiate between :
  - a) IoT and M2M
  - b) Ipv4 and Ipv6.

### **SECTION-C**

6.
  - a) What is an IoT device? Explain the building blocks of an IoT device.
  - b) Explain the concrete implementation of home automation system.
7. Discuss the case study of IoT in health sector in detail.
8.
  - a) What is the role of cloud computing in IoT?
  - b) Explain in detail different cloud service models used in IoT.
9. Explain IoT cloud-based data collection, storage and computing services in Nimbits.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**