Roll No:

MCA
(SEM IV) THEORY EXAMINATION 2023-24
INTERNET OF THINGS

TIME: 3 HRS M.MARKS: 100

Note: 1. Attempt all Sections. If require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

a.	What are the different components required for IoT devices?	02
b.	Discuss any two wireless communication technologies used in IoT.	02
c.	What are the different sources of IoT?	02
d.	How digital sensors are different from analog sensors?	02
e.	Explain the purpose of actuators with examples.	02
f.	Explain 6LoWPAN.	02
g.	What do you mean by data aggregation and dissemination?	02
h.	What is the purpose of the simulator? Name some simulators that are used for building an IoT application.	02
i.	Discuss some development challenges in IoT design.	02
j.	Why is security required in IoT?	02

SECTION B

2. Attempt any *three* of the following: **3 x 10 = 30**

a.	Discuss the conceptual framework of IoT with a diagram.	10
b.	Discuss participatory sensing technology and its components.	10
c.	What do you mean by sensor node deployment? Discuss various sensor node deployment techniques.	10
d.	Discuss different Arduino boards with their features.	10
e.	Explain a few challenges in IoT design with some examples.	10

SECTION C

3. Attempt any *one* part of the following: **1 x 10 = 10**

a.	Discuss data enrichment & consolidation techniques in IoT.	10
b.	Discuss key components of M2M communication with its architecture.	10

4. Attempt any *one* part of the following: **1 x 10 = 10**

a.	Illustrate the working of RFID. What are its application areas?	10
b.	Explain wireless sensor networks with their applications.	10

5. Attempt any *one* part of the following: **1 x 10 = 10**

a.	Discuss the MQTT protocol with a suitable example.	10
b.	Examine different issues faced during wireless medium access.	10

6. Attempt any *one* part of the following: **1 x 10 = 10**

a.	Explain programming the Arduino for IoT.	10
b.	Discuss the Arduino board pin diagram.	10

7. Attempt any *one* part of the following: **1 x 10 = 10**

a.	Explain Smart Home Automation with its challenges.	10
b.	Describe communicating data with hardware units	10