Printed Pages: 01 **Sub Code:KCS-712**

Paper Id: | 2 | 3 | 1 | 5 | 5 | 1 | **Roll No.** | | | | | | | | | | |

B.TECH.
(SEM VII) THEORY EXAMINATION, 2022-23
INTERNET OF THINGS

Time: 3 Hours ***Total Marks: 100***

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

SECTION A

1. Attempt *all* questions in brief. **2x10 = 20**

(a) Define Internet of Things.
(b) How M2M is different from IoT?
(c) Define RFID Communication.
(d) List features of Arduino.
(e) Define MAC Protocol.
(f) What is Data aggregation & dissemination?
(g) Name two Arduino board names.
(h) Make a simple program in Arduino.
(i) Compare different IoT Hardwire.
(j) Name a few applications of IoT along their challenges.

SECTION B

2. Attempt any *three* of the following: **10x3 = 30**

(a) Explain industries can benefit from IoT.
(b) Explain three popular IoT hardware Platforms.
(c) Explain MAC protocol survey.
(d) What are the primary hardware components that make up an embedded system?
(e) Explain the functional layers and capabilities of an IoT solution with a neat diagram.

SECTION C

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

(a) Explain an embedded system on an IoT device.
(b) Explain IoT Architectural view.

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

(a) What are some of the main differences between Arduino and Raspberry Pi?
(b) Explain IoT. Name a few sensors and actuators with description. How RFID is helpful in IoT Architecture.

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

(a) Discuss various standards and technologies that enable Ad hoc connectivity between devices that forms the basis of IoT.
(b) Explain Sensor deployment & Node discovery.

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

(a) Write a C program to interface DHT sensor and LED. The program will switch on LED once the temperature rises above the 35 degrees.
(b) Explain various Security issues in IoT Boards.

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

(a) Explain Designing of smart streetlights in smart city.

(b) Explain a few challenges in IoT Design with some examples.

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