# B.TECH
## (SEM V) THEORY EXAMINATION 2022-23
## INTRODUCTION TO INTERNET OF THINGS

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

**Note:** Attempt all Sections. If require any missing data; then choose suitably.

## SECTION A

1.    **Attempt *all* questions in brief.**                          **2 x 10 = 20**
   a.    Define sources of IoT.
   b.    Define M2M.
   c.    What is ARM Cortex used for?
   d.    Define Wi-Fi.
   e.    What is node discovery?
   f.    What are wireless medium access issues in IoT?
   g.    How to add two numbers in Arduino?
   h.    What is the use of Arduino IDE in Arduino?
   i.    How IoT is used in automotive applications?
   j.    What is smart card used for?

## SECTION B

2.    **Attempt any *three* of the following:**                      **10 x 3 = 30**
   a.    Write down the Characteristics of IOT.
   b.    Explain the Identification Technology used for IOT. What is Intel Galileo in IoT?
   c.    Explain routing protocols in IoT network.
   d.    Write the steps for implementation of IoT using Arduino.
   e.    Explain the various development challenges in IoT.

## SECTION C

3.    **Attempt any *one* part of the following:**                   **10 x 1 = 10**
   a.    Discuss the various IOT applications.
   b.    Explain IoT/M2M system layers and design standardization.

4.    **Attempt any *one* part of the following:**                   **10 x 1 = 10**
   a.    Explain wireless sensor network architecture. What is WSN Nodes?
   b.    What are IoT hardware platforms? Explain Arduino and Raspberry Pi in IoT.

5.    **Attempt any *one* part of the following:**                   **10 x 1 = 10**
   a.    Why data aggregation and dissemination is important? Explain it with example.
   b.    Explain MAC Protocols for IoT. What is sensor deployment?

6.    **Attempt any *one* part of the following:**                   **10 x 1 = 10**
   a.    Explain the various parts of the Arduino Platform Board.
   b.    What is Arduino IDE platform? Write down the steps to import libraries into Arduino IDE.

7.    **Attempt any *one* part of the following:**                   **10 x 1 = 10**
   a.    Discuss the different security challenges in IoT.
   b.    Explain the application of IoT in smart metering, E-health and city automation.