Total Pages : 3   Roll No. ....

MCA-E11/MCS-E11

INTRODUCTION TO INTERNET OF THINGS

(MCA)

Examination, June 2025

Time : 2:00 Hrs.   Max. Marks : 70

Note :– This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.***

Section–A

Long Answer Type Questions   2×19=38

Note :– Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Elaborate on IoT-enabling technologies, including RFID, WSN, and cloud computing. How do they interact within an IoT system ?

2. Explain the significance of interoperability in IoT systems. Discuss the methods to achieve interoperability with examples.

3. How does SDN contribute to IoT implementations ? Provide an example of its application in connected vehicles.

4. Compare and contrast the architectures of smart grids and industrial IoT. Highlight their similarities and differences.

5. Explain the role of communication protocols in sensor networks. Discuss how these protocols affect data transmission reliability.

Section–B

Short Answer Type Questions   4×8=32

Note :– Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. What is Machine-to-Machine (M2M) communication ? How is it different from IoT ?

2. Describe the integration of sensors and actuators with Arduino.

3. Explain the concept of "data in motion" versus "data at rest" with examples.

4. Discuss the challenges in implementing smart city IoT solutions.

5. What are the key functionalities of IoT in smart homes ?

6. Define sensor-cloud and explain its role in IoT systems.

7. List the various types of IoT devices used in connected vehicles.

8. Discuss the importance of Python programming in IoT.

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