



RAN - 2111040103010002

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M. C. A. (Sem. - III) Examination April - 2025

Internet of Things (IoT) (Paper - 301)

Time: 3 Hours]

[Total Marks: 70

સૂચન : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

M. C. A. (Sem. - III)

Name of the Subject :

Internet of Things (IoT) (Paper - 301)

Subject Code No.: **2111040103010002**

Seat No.:

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Student's Signature

- Q. 1. Explain in detail (Any Two). 14**
1. List various IoT applications and explain the need of the identification of IoT devices in IoT applications.
 2. Explain 7 Layers of WF IOT Architecture in detail.
 3. What is IoT botnet? Explain botnet in detail and write how to prevent botnet in IoT applications.
- Q. 2. Explain in detail (Any Two). 14**
1. Explain Bluetooth and RFID technology in detail.
 2. Explain MQTT and XMPP in detail.
 3. List various Protocols in the IoT protocol stack and Differ TCP and UDP.
- Q. 3. Explain in detail (Any Two). 14**
1. Define Wireless Sensor Network. Discuss the applications of WSN.
 2. Explain the role of sensors in IoT. Explain in detail the DHT-11 Sensor.
 3. What is a Wireless Adhoc Network? Compare it with WSN.

- Q. 4 Explain in detail (Any Two). 14**
1. Explain in detail Arduino IDE. Also, explain Arduino architecture.
 2. Define Micro Computer. Explain the Microcomputer with its advantages, disadvantages, and its applications.
 3. Draw a pin diagram to connect the 7 Segment with Arduino and write a program to display numbers 0 to 9 in reverse order.

- Q. 5. A. Explain with a suitable example how we can control IoT devices from the web. 07**

OR

- Q. 5. A. Compare and contrast Arduino uno and Node MCU ESP32.**

- Q. 5. B. Write a Program to sense the ultrasonic sensor at an interval of 1 second and turn on The red LED if the object is coming close or turn on the green LED if the object is going away. 07**
