

**2111040103010002**  
**EXAMINATION NOVEMBER 2024**  
**MASTER OF COMPUTER APPLICATIONS**  
**(THIRD SEMESTER)**  
**INTERNET OF THINGS - LEVEL 1**

[Time: As Per Schedule]

[Max. Marks: 70]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

a. Name of the Examination : **MASTER OF COMPUTER APPLICATIONS (THIRD SEMESTER)**

b. Name of the Subject : **INTERNET OF THINGS - LEVEL 1**

c. Subject Code No : **2111040103010002**

2. Sketch neat and labelled diagram wherever necessary.

3. Figures to the right indicate full marks of the question.

4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Explain in detail (Any Two).**

**14**

- 1) What is IoT? Explain techniques of Device Authentication in IoT networks.
- 2) IoT Taxonomy.
- 3) What are the limitations of IoT devices? Also, explain IoT applications.

**Q.2 (A) Write a detailed note on wireless standards.**

**7**

**OR**

(A) Write a note on wireless networking protocols. Explain any two in detail.

(B) Explain MQTT and XMPP in detail.

**5**

(C) Explain in brief DDS.

**2**

**Q.3 (A) What is a Wireless Sensor Network? Explain in detail how it's working.**

**7**

**OR**

- (A) List out the various sensors you have worked with. Explain DHT and PIR 5
- (B) Explain how the IR sensor and HCSR04 sensor work. 2
- (C) List out the types of sensors. 2

**Q.4 Explain in detail (Any Two). 14**

- 1) Explain in detail with a pin diagram Arduino uno.
- 2) Write a note on Node MCU specifications and its applications.
- 3) Draw a pin diagram to connect the LED and buzzer with Arduino and write a program to turn on each one alternatively

**Q.5 (A) Explain in detail how we can send and receive data from a remote server. 7**

**OR**

- (A) Write a detailed note on Raspberry Pi Architecture.
- (B) Write a Program to start a counter from 5, 4,3,2,1 in seven segments, 7  
and after the counter goes to 0, start Sensing the data from DHT11 and print data on a serial monitor.

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