Exam Number: _____

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## B.E. 6th (Regular/ATKT) EXAMINATION APRIL- 2025

Subject Name : Microcontroller & Internet of Things

Subject Code: CS603-N

Date: 09/04/2025(Wednesday)   Time: 12.30 pm to 03.30 pm

Total marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempt along with its respective question number.
4. Use the last page of main supplementary for rough work.

## Section-I

Q.1 (A)  Define M2M? Explain M2M System architecture in details. (5)

(B)  Write a short note on Arduino Board. (5)

(C)  Explain an emerging industrial structure for IoT. (5)

OR

(C)  Explain IOT value chain in details. (5)

Q.2 (A)  Write a program in Arduino Simulator for blowing up buzzer with LED blinking together. (5)

(B)  What is MAC Protocol? Explain MAC Layer in reference model. (5)

OR

Q.2 (A)  Discuss the Purpose of Cloud in IOT. (5)

(B)  Write and discuss any 2 Surveillance applications in details. (5)

Q.3 (A)  Explain development and implementation challenges of IOT. (5)

(B)  Briefly explain IOT with example. (5)

OR

Q.3 (A)  Explain working mechanism of RTS and CTS in routing protocols. (5)

(B)  What is virtualization? How it works in IOT. (5)

# Section-II

Q.4 (A)  List and explain limitations of conventional network architectures over SDN?  (5)

(B)  Explain Different between Microcontroller and Microprocessor.  (5)

(C)  Define Data aggregation & dissemination in Network.  (5)

OR

(C)  Illuminate Wireless medium access issues.  (5)

Q.5 (A)  Write embedded C Program to sense room temperature using temperature sensor.  (5)

(B)  Explain in details IOT Security Challenges.  (5)

OR

Q.5 (A)  What are the function block in IOT?  (5)

(B)  Write a short note on Software defined Network.  (5)

Q.6 (A)  Explain Sensor deployment & Node discovery in MIOT.  (5)

(B)  List out the Advantage and drawback of Python  (5)

OR

Q.6 (A)  Write a Python program to sort a dictionary by key.  (5)

(B)  What is Python? Differentiate between mutable and immutable objects in Python language with example.  (5)