END TERM EXAMINATION

SIXTH SEMESTER [BCA] JUNE-2024

Paper Code: BCA-306 **Subject: Internet of Things**

(Batch-2021 Onwards)

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt all questions as directed. Internal Choice is indicated.

Q1 Attempt **any five** of the following questions: **(5x5=25)**
  (a) Discuss and differentiate Arduino Uno and Raspberry Pi board.
  (b) What do you mean by participatory sensing technology?
  (c) Explain architecture of Arduino Board.
  (d) Write about ease of designing and affordability of IoT systems.
  (e) What are the key use cases for Smart Cities.
  (f) Summarize the characteristics of IoT.
  (g) Explain is RFID in detail along with its type.
  (h) Explain Wireless Sensor Network.

Q2 Explain IOT in detail along with its vision? Write about sources of IOT and Technology behind IOT. **(12.5)**

OR

Q3 Explain IOT/M2M system layers and design standardizations. Differentiate the IoT and M2M. **(12.5)**

Q4 Explain the Conceptual Framework and architecture of IoT with suitable diagram. **(12.5)**

OR

Q5 (a) Explain "sensor" and its working. Describe any five types of sensors. **(6.25)**

  (b) Explain Actuator and its use in IoT? Explain types of actuators in detail. **(6.25)**

Q6 Explain Wireless Medium Access Issues and MAC Protocol Survey. **(12.5)**

OR

Q7 Write note on programming with Arduino IDE. Write Arduino code that uses ultrasonic sensor to measure distance of an object from the sensor. **(12.5)**

Q8 Discuss the development and security issues in IOT applications in detail. **(12.5)**

OR

Q9 Explain **any two** of the following IOT Applications in detail: **(6.25x2=12.5)**
  (a) Smart metering
  (b) Smart Cards
  (c) E-Health
  (d) Home Automation

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