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Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)
Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – May 2025
IV Semester

Class : II UG | **Time: 3 Hours**
Major : All Majors | **Max. Marks: 100**

23BCSGE5 Introduction to Internet of Things

Course Outcomes:

CO 1. Understand the fundamentals of IoT.
CO 2. Understand the various applications of IoT.
CO 3. Enable to learn about different communication modules.
CO 4. Understand the basics of cloud platforms for IoT.
CO 5. To work with Arduino and different sensors.

Part A **10 x 1 = 10**

Choose the correct answer

1. IoT stands for _____ CO1 K1
   a. Internet of Things b. Internet of Technology
   c. Interface of Things d. Integration of Technology

2. Who coined the term "Internet of Things"? CO1 K1
   a. Kevin Aston b. John Wright
   c. Edward Jameson d. George Garton

3. Which of the following is a common application of IoT technology? CO2 K1
   a. Automated email systems b. Voice-activated shopping
   c. Smart homes d. Text messaging

4. Which of these sensor is used in IoT systems for detecting motion or movement? CO2 K1
   a. Humidity sensor b. Pressure Sensor
   c. Motion Sensor d. GPS Sensor

5. Which of the following communication medium supports highest data rate? CO3 K2
   a. Ethernet b. Bluetooth
   c. Optical Fibre d. Wi-Fi

6. MQTT Stands for _____ CO3 K1
   a. Mass Query Telemetry Transport b. Message Queuing Telemetry Transport
   c. Message Query Text Transport d. Mass Queuing Text Transport

7. There are _____ main service models of cloud computing. CO4 K1
   a. Four b. Three
   c. Seven d. Five

8. Which of the following that provides an application development environment? CO4 K1
   a. PaaS b. IaaS
   c. SaaS d. DaaS

9. Arduino is an_____ CO5 K1
   a. Programming language b. Image editing software
   c. Open-source electronics platform d. Text editor

10. What is the use of the Arduino.h header file? CO5 K1
    a. It enables the programmer to access all of Arduino's core functionality
    b. It doesn't have any use and can be omitted at any point of time in the code
    c. It gives root access to the micro controller's file system
    d. It allows other people to create libraries for the Arduino code

Part B — 5 × 6 = 30

Answer ALL Questions

Each answer should not exceed 400 words or two pages

11. a. Explain the components of IoT.	CO1 K2
(or)	
11.b. Explain in brief about the Design Architecture of IoT.	CO1 K3
12. a. What are the applications of IoT in Smart cities?	CO2 K2
(or)	
12. b. Explain the sensors used in Smart Car Parking System.	CO2 K2
13. a. Write a note on Wireless Networking.	CO3 K2
(or)	
13.b. Explain briefly about Bluetooth and RFID.	CO3 K2
14. a. What are the Benefits of Cloud Computing?	CO4 K2
(or)	
14. b. Explain the Configuration of ThingSpeak.	CO4 K3
15. a. What are the basics of Embedded C Programming?	CO5 K2
(or)	
15. b. Explain the libraries used in Arduino.	CO5 K2

Part C — 5 × 12 = 60

Answer All Questions

Each answer should not exceed 800 words or four pages

16.a. Explain briefly about the various levels of IoT.	CO1 K2
(or)	
16. b. Elaborate on IoT enabling Technologies.	CO1 K2
17. a. Illustrate the working principle of Smoke Detector.	CO2 K3
(or)	
17.b. Discuss how smart parking aapplications enhance urban living and safety.	CO2 K3
18. a. Explain in detail about Communication Modules and their types.	CO2 K3
(or)	
18.b. Explain in detail about Communication APIs.	CO3 K2
19.a. Illustrate on Cloud Architecture for IoT and Explain in detail.	CO4 K2
(or)	
19.b. Elaborate on Cloud Computing services used in IoT.	CO4 K3
20.a. Explain the working principle of Home Automation System with a diagramm.	CO5 K4
(or)	
20.b. Discuss in detail about Interfacing Arduino with DTH11 and Ultrasonic sensor.	CO5 K3

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