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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
VI Semester

Class : III UG **Time : 3 Hours**
Major : Computer Science **Max. Marks : 100**

21BCSC29 Introduction to IoT

Course Outcomes:

CO1 Understand the basic ideas of IoT
CO2 Learn the functional design of the IoT based devices
CO3 Design and implement an IoT device for a given problem-domain
CO4 Become familiar with the areas in which IoT can be designed
CO5 Master the basics of IoT design methodologies

Part A **10 x 1 = 10**
Choose the Correct Answer

1. Which layer is used for wireless connection in IoT devices? CO1K1
   a. Application Layer b. Network Layer
   c. Data Link Layer d. Transport Layer

2. The _____ is used to capture data from the physical world in IoT devices? CO1K2
   a.Sensors b. Actuators
   c. Microprocessors d. Microcontrollers

3. Which of the following protocol is used to link all the devices in the IoT? CO2K2
   a. HTTP b. UDP
   c. Network d. TCP/IP

4. What is the role of Cloud in smart grid architecture of IoT? CO2K2
   a. Security b. Collect data
   c. Manage data d. Store data

5. Which programming language is used by Arduino IDE IoT software for writing codes? CO3K2
   a. Python b. Java
   c. C/C++ d. JavaScript

6. The smart grid is divided into _____ layers. CO3K2
   a. 2layers b. 3 layers
   c. 4 layers d. 5 layers

7. The IoT platforms are mainly divided into how many types. CO4K2
   a. 3 types b. 5 types
   c. 4 types d. 2 types

8. Who will use their own IoT business models? CO4K3
   a. PaaS b. SaaS
   c. IaaS d. Service provider

9. The _____ empowers IoT by bringing together everyday objects. CO5K1
   a.Intelligence b. Connectivity
   c. Dynamic Nature d. Enormous

10. IoT devices are naturally vulnerable to _____ threats. CO5K2
    a. Sensors b. Heterogeneity
    c. Security d. Connectivity

Part B — 5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. Narrate the characteristics of IoT.	CO1K1
(or)	
11.b. Explain the physical design of IoT.	CO1K2
12.a. Mention the role and functions of IoT in home automation.	CO2K3
(or)	
12.b. How to detect river flood? Explain with example.	CO2K3
13.a. Discuss about the requirements specification of IoT.	CO3K4
(or)	
13.b. Sketch the device and component integration with example.	CO3K3
14.a. Justify with examples, the building blocks of IoT.	CO4K5
(or)	
14.b. Illustrate the raspberry PI interfaces.	CO4K4
15.a. Enumerate the home intrusion detection with example.	CO5K4
(or)	
15.b. List out and explain the home automation techniques using IoT.	CO5K5

Part C — 5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Summarize the IoT enabled technologies with examples.	CO1K2
(or)	
16.b. Illustrate the logical design in IoT with neat diagram.	CO1K2
17.a. Describe the weather monitoring technique using IoT.	CO2K3
(or)	
17.b. Analyse the benefits of wearable devices in health and fitness monitoring.	CO2K4
18.a. Elaborate the domain model specification with example.	CO3K4
(or)	
18.b. How to design an application in IoT? Explain with example.	CO3K3
19.a. Outline the process of an interfacing LED switch using IoT.	CO4K6
(or)	
19.b. Explain about serial interfaces for developing an application.	CO4K4
20.a. Classify the productivity applications with example.	CO5K4
(or)	
20.b. Discuss in detail about the IoT printers.	CO5K4

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