1315

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, CategoryA 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 Applications **Max. Marks: 100**

21BCAC28 IoT Design and Applications

Course Outcomes:

CO1: Identify the components of IoT.
CO2: Comprehend the schemas for real time applications of IoT.
CO3: Analyze the building blocks of IoT and characteristics.
CO4: Gain programming knowledge in Respberry Pi with python.
CO5: Understand different IoT based real time applications.

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

1. IoT stands for _____ CO1 K1
   a. internet of telegram b. internet of things
   c. intelligent of things d. intercommunication of things

2. Which of the following is the way in which an IoT device is associated with data? CO1 K2
   a. Internet b. Cloud
   c. Automata d. Network

3. _____ specifies the function that will be called on an error event. CO2 K1
   a. Callback b. Error
   c. Connect d. Reconnect

4. How many numbers of the element in the open IoT architecture? CO2 K2
   a. Four elements b. Five elements
   c. Six elements d. Seven elements

5. Choose correct principle of IoT. CO3 K1
   a. focus on the value b. focus on the machine
   c. build a strong machine d. neither one

6. SAAS stands for _____ CO3 K2
   a. software as a service b. service as a software
   c. service as a service d. software as a software

7. __ software supporting integration binds all system devices to create body of IoT system. CO4 K1
   a. real time analytics b. data collection
   c. device integration d. real time collection

8. TCP stands for _____ CO4 K2
   a. transmission control protocol b. telecommunication control protocol
   c. temperature control protocol d. transmission and communication protocol

9. What is the role of Cloud in smart grid architecture of IoT? CO5 K1
   a. Store data b. Manage data
   c. Collect data d. Security

10. IoT gateway must provide _____ CO5 K2
   a. Simple and fast installation b. Security with hardware
   c. Data storage d. Protocol abstraction

Part B — 5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. Examine the characteristics of Internet of Things.	CO1 K1
(or)	
11.b. Describe the different types of protocols in IoT.	CO1 K2
12.a. Illustrate the purpose and requirements specification of IoT Design.	CO2 K3
(or)	
12.b. Summarize the motivation for using Python in IoT design.	CO2 K2
13.a. Explain the interfacing a light sensor (LDR) with Raspberry Pi.	CO3 K3
(or)	
13.b. Device the different types of Raspberry Pi interfaces.	CO3 K4
14.a. Evaluate the need of programming connected devices in IoT.	CO4 K5
(or)	
14.b. Point out the real time applications of IoT System.	CO4 K4
15.a. Appraise the different types of supporting boards with IoT.	CO5 K5
(or)	
15.b. Express the windows OS for IoT system.	CO5 K6

Part C — 5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Enumerate the implementations of IoT communication models.	CO1 K1
(or)	
16.b. Demonstrate the different IoT levels and deployment templates.	CO1 K2
17.a. Discover the functional view specification of IoT design.	CO2 K3
(or)	
17.b. Estimate the python packages of interest for IoT.	CO2 K2
18.a. Examine the interfacing a LED and swtich with Raspberry Pi.	CO3 K3
(or)	
18.b. Conclude the basic building blocks of an IoT device.	CO3 K4
19.a. Assess the steps to connecting devices using python and C language.	CO4 K5
(or)	
19.b. Integrate the Raspberry Pi with Raspbian operating system.	CO4 K5
20.a. Conclude the general architecture of Intel Galileo board.	CO5 K4
(or)	
20.b. Generalize the process of IoT temperature controller.	CO5 K6

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