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

Continuous Internal Assessment Test I – February 2026
VI Semester

Class : III UG (2019 & 2022 Repeaters)
Major : Computer Applications

Time: 2 hours
Maximum Marks: 60

18BCAC28/21BCAC28 and IoT Design and Applications

Course Outcomes:
At the end of the course, students will:
1. Identify the components of IoT.
2. Comprehend the schemas for real time applications in IoT.
3. Analyze the building blocks of internet of things and characteristics.
4. Gain programming knowledge in Raspberry Pi with Python.
5. Understand different IoT based real time applications.

Part - A **6 x 1 = 6**

Choose the Correct Answer

1. Which of the following is a bi-directional, fully duplex communication model that uses a persistent connection between the client and server? CO1 K1
   a. Request -response b. Publish-subscribe c. Exclusive pair d. Push-pull
2. Which of the following is used to capture data from the physical world in IoT devices? CO1 K1
   a.Sensors b.Perceiver c. Microprocessors d.Controllers
3. Which of the following layers provides end-to-end communication in IoT? CO2 K1
   a. Logical layer b.Data link layer c.Transport layer d.Session layer
4. A function in Python is a block of code that begins with the keyword _____ followed by the function name and parentheses? CO2 K1
   a.define b. def c. function d. fn
5. Raspberry Pi is based on _____ processor. CO3 K1
   a.RAM b. MAR c. AR d. ARM
6. Which of the following has the ability to route data approaching from the WSN network to the internet and send data coming from the internet to the WSN network? CO3 K1
   a.Router b. Internet gateway c. hub d. switch

Part - B **3 x 6 = 18**

Answer ALL Questions
Each answer should not exceed 400 words or two pages

7. a. Discuss briefly on IoT protocols. CO1 K1
   (or)
   b. Describe the characteristics and benefits of IoT. CO1 K2
8. a. Explain briefly on the importance of IoT in daily life with 6 examples. CO2 K2
   (or)
   b. Discuss on Python packages for IoT. CO2 K1
9. a. Explain basic building block of an IoT device with support of diagram. CO3 K2
   (or)
   b. Describe IoT architecture with diagram. CO3 K2

Part - C **3 x 12 = 36**

Answer ALL questions
Each answer should not exceed 800 words or four pages

10. a. Discuss about IoT enabling technologies with example. CO1 K2
    (or)
    b. Explain any four IoT levels and deployment templates. CO1 K2
11. a. Explain about IoT design methodology. CO2 K2
    (or)
    b. Discuss on IoT weather monitoring system. CO2 K2
12. a. Explain the characteristics, benefits of Python and motivation for using Python in IoT. CO3 K2
    (or)
    b. Explain the Raspberry Pi by discussing its board architecture, the use of Linux on Raspberry Pi,