PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022
(Fourth Semester)

Branch – APPLIED ELECTRONICS

IoT AND IT'S APPLICATIONS

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 x 1 = 10)

1   IoT stands for
    (i) Internet of Things   (ii) Internet of Tools
    (iii) Infrastructure of Things   (iv) Information of Things

2   Which of the following in IoT device is associated with data?
    (i)   Cloud   (ii) Network
    (iii) Internet   (iv) Automata

3   Which of the following is an example of a short-range wireless network?
    (i)   VPN   (ii) WWW
    (iii) Wi-Fi   (iv) Internet

4   VANET stands for _____
    (i) Vehicular Adhoc Network   (ii) Wireless Sensor Network
    (iii) Vehicular Address Network   (iv) Vehicular Adhoc Neural Network

5   Which of the following is used to enable precise rotational movements of device
    components?
    (i) Relays   (ii) Actuators
    (iii) Motors   (iv) Solenoids

6   What is the bit size of CC32XX?
    (i) 8   (ii) 16
    (iii) 32   (iv) 64

7   Which is a component based open source operating system?
    (i) Contiki   (ii) FreeRTOS
    (iii) OpenWrt   (iv) Tiny OS

8   Which of the following kernel is used in Android?
    (i) MAC   (ii) Windows
    (iii) Linux   (iv) Redhat

9   How many categories of function are involved in data mining?
    (i) 2   (ii) 3
    (iii) 4   (iv) 5

10 Which forecasting technique is used for repeated forecasts?
    (i) Moving average   (ii) Multiple linear regression
    (iii) Straight line   (iv) Simple linear regression

SECTION - B (35 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks (5 x 7 = 35)

11 a Discuss the design challenges of IoT system.
OR
   b Explain the basic architecture of IoT.

12 a Compare WSN with Adhoc network.
OR
   b Explain the necessity of cross layer design in WSN.

13 a Explain how to conserve battery life in IoT system.
OR
   b Describe the structure of system on chip.

14 a Develop the server side components for IoT applications.
OR
   b Explain the basic architecture of embedded Linux.

15 a Schedule the flow of data in IoT system.
OR
   b Discuss the Challenges in managing data for IoT applications.

SECTION - C (30 Marks)
Answer any THREE Questions
ALL Questions Carry EQUAL Marks (3 x 10 = 30)

16 Explain level 4 of IoT system with an example.

17 Discuss how security issues affect the QoS of IoT system.

18 Sketch the block diagram of CC32XX and explain.

19 Develop an IoT application using CC32XX and Beagle Bone Black.

20 Explain how queries are processed and optimized in sensor network.

Z-Z-Z END