HOLIDAYS PACKAGE

Module TITLE: IoT System Installation

RTQF LEVEL: Three
TRADE: NIT
INSTRUCTION:

- ➢ Answer all questions
- ➢ Please provide Clear answers
- ➢ Make sure you write full notes in your notebooks
- ➢ Make internet research for better answers

Question 1: What is an IoT devices? Eliminate three (3) layers of IoT devices in an IoT system.

Question 2: Differentiate a sensor from an actuator by using their applications in IoT devices.

Question 3: Differentiate symmetric encryption from asymmetric encryption in IoT security.(with one example for each)

Question 4: List and explain security level responsibilities in IoT system to have a strong security level that protects at least from the most common vulnerabilities.

Question 5: The way of communication takes place locally within a Local Area Network (LAN) between IoT devices and smart gateways through short-range wireless communication protocols. Give 6 examples of such protocols.

Question 6: List 5 IoT applications in conservation Agriculture and Farming.

Question 7: Outline five (5) layers of Bluetooth stack with the help of application for each layer and four (4) use cases of Bluetooth, what is the operating frequency of Bluetooth

Question 8: Differentiate Bluetooth (classic) from Bluetooth Low Energy, in terms of power consumption, range, data transfer rate, connection setup time and applications.

Question 9: State and explain (with any 2 examples) the applications of the following types of sensors:

   a. Water quality sensor

   b. Proximity sensor

   c. Chemical sensor

   d. Temperature sensor

Question 10: Define the following Terms:

   i. Encryption
   ii. Bluetooth protocol stack
   iii. Encryption key
   iv. IoT
   v. BLE
   vi. IoT cloud

Question 11: State and explain four (4) types of actuators used in IoT systems with their applications.

Question 12: Discuss on the working principle of Smart Door access control system.
(At least a half of page)

MERRY CHRISTMAS AND HAPPY NEW YEAR 2024