University Village, Plot 91, Cadastral Zone,
Jabi – Abuja

FACULTY OF SCIENCE
DEPARTMENT OF COMPUTER SCIENCE
2024_1 EXAMINATION

Course Code: CIT882
Course Title: Internet of Things
Credit: 2 units
Time allowed: 3 Hours
Instruction: Answer Question ONE (1) and any other TWO (2) Questions

1a. Identify five (5) encryption algorithms used for data protection **(5Marks)**
 b. Briefly explain the term encryption **(3Marks)**
 c. Explain the principle of the following lightweight encryption algorithms **(8Marks)**
    (i) Lightweight Stream Ciphers Algorithm (ii) Lightweight Hash Functions
 d. Compare the features of symmetric and asymmetric cryptographic algorithms **(5Marks)**
 e. List three (3) examples of lightweight block cipher algorithms **(3Marks)**
 f. Identify key parameters for evaluating lightweight block cipher algorithms **(6Marks)**

2a. Mention two parameters that help lightweight block cipher algorithms save memory and energy consumption **(3Marks)**
 b. Briefly describe the meaning of the term 'Internet of Everything' **(10Marks)**
 c. Outline seven (7) goals of IoT-based data analytics in Business **(7Marks)**

3a. Highlight major IoT Use Cases in Utility companies **(8Marks)**
 b. Describe four (4) aspects of our lives that are affected by IoT ecosystem **(8Marks)**
 c. Identify four (4) application areas of IoE **(4Marks)**

4a. Mention five (5) IoT open-source solutions **(5Marks)**
 b. Differentiate between **Internet of Everything and Internet of Things (9Marks)**
 c. Briefly explain how IoT smart traffic concept can aid urban mobility **(6Marks)**

5a. Describe four (4) significant benefits of IoE **(8Marks)**
 b. Outline six (6) disadvantages of IoE **(6Marks)**
 c. Identify four (4) long term trends in the utility industry **(6Marks)**