



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway,
Jabi – Abuja

FACULTY OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE

2024_2 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. Explain the functions of the main layers of IoT architecture **(9Marks)**
- b. Identify four (4) techniques used to detect errors in stored or transmitted IoT data **(4marks)**
- c. What are IoT platforms **(3Marks)**
- d. Enumerate five (5) IoT platforms/tools that support development of IoT projects **(5Marks)**
- e. Identify five (5) cloud platforms used for IoT development **(5Marks)**
- f. Describe the concept of data management for IoT **(4Marks)**

- 2a. Explain the roles or features of these IoT tools **(9Marks)**
(i) Thingier.io (ii) SiteWhere (iii) Zetta
- b. Describe the concept of dark data and give two examples **(4Marks)**
- c. State the importance of edge computing in IoT data management **(7Marks)**

- 3a. State the functions of multicast Domain Name System (mDNS) and DNS-based Service Directory (DNS-SD) in IoT scalability **(6Marks)**
- b. Briefly explain the roles of these IoT platforms **(9Marks)**
(i) Microsoft Azure (ii) Google Cloud (iii) IBM Watson
- c. Distinguish between edge computing and cloud computing **(5Marks)**

- 4a. State three (3) advantages of pre-processing IoT data for analysis **(6Marks)**
- b. Briefly describe the concept of data archiving **(6Marks)**
- c. Identify four (4) tools as components of android SDK for mobile app development **(8Marks)**

- 5a. Identify two (2) primary mobile IoT technologies for developing cost-effective IoT solutions **(5Marks)**
- b. Clearly analyze the functions of KDDI's Mobile IoT strategy **(8Marks)**
- c. List seven (7) benefits of LoRaWAN communication protocol **(7Marks)**