



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

FACULTY OF SCIENCE
DEPARTMENT OF COMPUTER SCIENCE

2023_2 EXAMINATIONS

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. What are personal identifiable information (PII) **(3Marks)**
 - b. Mention four (4) IoT security considerations for protecting PII **(4Marks)**
 - c. What are sensitive data **(3Marks)**
 - d. What regulatory guidelines must service providers adopt to ensure security and protection of IoT data **(7Marks)**
 - e. Identify seven (7) IoT security best practices established by standard organizations **(7Marks)**
 - f. What three (3) measures are necessary to secure IoT networks **(6Marks)**
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- 2a. Identify six (6) types of sensors deployed in an IoT-based smart city application **(6Marks)**
 - b. Briefly explain the two (2) important security threats in the IoT support layer **(8marks)**
 - c. Enumerate six (6) IoT application layer protocols for secure exchange of packets between systems **[6Marks]**
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- 3a. Mention three (3) specific application layer considerations for mitigating security issues **(6Marks)**
 - b. Explain how Firmware Replacement Attack works **(5Marks)**
 - c. List six (6) security threats/vulnerabilities at IoT application layer **(9Marks)**
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- 4a. Identify four (4) major challenges of IoT security **(4Marks)**
 - b. Write short notes on the following IoT security considerations **(10Marks)**
(i) Data integrity (ii) Data confidential (iii) Data availability
(iv) Authentication (v) Authorization
 - c. List two (2) security solutions each for wired and wireless IoT network layer **(6Marks)**

- 5a. Briefly describe significant IoT security solutions for remote and mobile connections **(4Marks)**
- b. Outline ten (10) solutions for securing IoT applications **(10Marks)**
- c. What do you understand by the term Open IoT **(6Marks)**