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**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATION
YEAR THREE SEMESTER ONE EXAMINATIONS**

**FOR THE BACHELOR OF
(INFORMATION TECHNOLOGY)**

COURSE CODE : BIT 313
COURSE TITLE : INFORMATION ASSURANCE AND SECURITY

DATE: 16/11/2022

TIME: 8.00 A.M. – 10.00 A.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

- a. Define Policy as used in information security policies, standards and practices. [2 marks]
- b. Discuss the difference between information assurance and information security. [4 marks]
- c. Traditionally, computer facilities have been physically protected for three reasons, give the three reasons. [3 marks]
- d. Information assurance should be viewed as spanning four security engineering domains; state and explain the four engineering domains. [4 marks]
- e. Information assurance, focuses on ensuring the availability, integrity, authentication, confidentiality, and non-repudiation of information and systems, give the difference between integrity and non-repudiation. [2 marks]
- f. Define Information assurance and security [2 marks]
- g. The offensive players in the world of Information Warfare come in six types, discuss at least three. [3 marks]
- h. Name and explain at least three Cyber Crime Prevention Tips. [3 marks]
- i. An Issue-specific policy is concerned with a certain functional aspect that may require more attention. For this reason, a separate policy is prepared for that issue to explain with details the required level of security, and the instructions that all staff in the organization must abide by to achieve this level. Give at least FOUR examples for this type of policy [4 marks]
- j. Information assurance is based on three principles explain these principles. [3 marks]

QUESTION TWO [20 MARKS]

- a. Discuss the five most pressing ethical and legal issues confronting the industry today in information assurance and security. [10 marks]
- b. Information system is the entire set of components necessary to use information as a resource in the organization, discuss the six components of an information system. [10 marks]

QUESTION THREE [20 MARKS]

- a. IT Security Policy and Guidelines provides references and guidance to Government bureau and departments in respect of the protection of information systems and data assets.

Explain the following IT security policy and guidelines

[8 marks]

- i. Baseline IT Security Policy
- ii. IT Security Guidelines
- iii. Practice Guide for Security Risk Assessment & Audit
- iv. Practice Guide for Information Security Incident Handling.

- b. State and explain the three Critical Skills for Cyber Security Professionals [6 marks]

- c. Explain the difference between Computer intrusions and Data privacy as used in information assurance and security. [4 marks]

- d. Authorization is determining what a subject can access after authentication state the two types of authorization. [2 marks]

QUESTION FOUR [20 MARKS]

- a. Explain at least two benefits of information assurance. [2 marks]

- b. Discuss at least **SIX** Threats to Information Security. [6 marks]

- c. As an information assurance and security expert state and explain The Six Data Protection Principles. [12 marks]

QUESTION FIVE [20 MARKS]

- a. Differentiate between Hacker and Criminal as used in information assurance and security. [2 marks]

- b. The flip side of Information Assurance is Information Warfare. Explain the three types of information warfare. **[6 marks]**
- c. The security policy is a high-level document that defines the organization's vision concerning security, goals, needs, scope, and responsibilities. List the three main types of policies. **[3 marks]**
- d. Discuss the three Information assurance levels stating the Desired Effects, Attacker's Operations and Defender's Operations on each. **[9 marks]**