



CRAWFORD UNIVERSITY, FAITH CITY IGBESA
DEPARTMENT OF COMPUTER AND MATHEMATICAL SCIENCES
Bachelor of Science (BSc.) Degree in Computer Science and Technology

FIRST SEMESTER EXAMINATION

SESSION: 2024/2025

COURSE CODE: CSC 411 (NET-CENTRIC COMPUTING)

UNITS: 3

DURATION: 2 HRS

INSTRUCTION: ANSWER FOUR QUESTIONS. QUESTION ONE IS COMPULSORY

QUESTION ONE (30 marks)

- (A) (i) Discuss the concept of Net-centric Computing and how it represents the future of computing? (3mrks)
(ii) Discuss the evolution of cellular wireless network technologies from 2G to 5G (3mrks)
- (B) (i) Discuss the following with examples: (2mrks)
• API (2mrks)
• DevOps (3mrks)
(ii) All web services are APIs, but not all APIs are web services. Discuss (3mrks)
- (C) (i) Enterprise networks encounter varying degrees of threats, and therefore should be prepared to identify and respond to a full range of attacks. Briefly discuss seven (7) common network security vulnerabilities and specific tools and techniques designed for each of them. (7mrks)
(ii) Comprehensively discuss the steps you may follow in building a good web application (10mrks)

QUESTION TWO (10 marks)

- (A) A security property describes a desired feature of a system with regards to a certain type of attack. Discuss the following common features: (i) Authentication (ii) Non-repudiation (iii) Integrity (6mrks)
- (B) Discuss Local versus Distributed Objects (4mrks)

QUESTION THREE (10 marks)

- (A) Distributed systems generally could be any of four different basic architectural models. Discuss (4mrks)
- (B) Write short notes on the following protocols: (2mrks)
(i) TCP/IP (2mrks)
(ii) Java RMI (2mrks)
(iii) SOAP (2mrks)

QUESTION FOUR (10 marks)

- (A) Define Cloud Computing and briefly discuss its service and deployment models (7mrks)
- (B) Suggest practical solutions to any three (3) identified issues of concern in the usage of Mobile and Cloud computing (3mrks)

QUESTION FIVE (10 marks)

- (A) Distributed transactions, as any other transactions, must have four ACID properties. Discuss briefly (4mrks)
- (B) Identify and briefly discuss the three (3) major strategies that constitute the focus of network security (6mrks)

QUESTION SIX (10 marks)

- (A) Discuss any five (5) key characteristics of distributed computing systems (5mrks)
- (B) Briefly discuss the following: (3mrks)
(i) Multiple Access techniques for wireless systems (3mrks)
(ii) Cloud vs edge computing (2mrks)