



PIONEER INTERNATIONAL UNIVERSITY

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UNIVERSITY EXAMINATIONS

ACADEMIC YEAR: 2021/2022

SEMESTER: SEPT- DEC 2021

UNIT CODE: BSNA 4210

UNIT NAME: INTERNET TECHNOLOGIES AND APPLICATIONS

DATE: DEC 2021

TIME: 2 HOURS

INSTRUCTIONS: Answer question one and any other two

IMPORTANT NOTICE !!!!!!!!!!!!!

The following are the possible consequences if found guilty of an Examination Offence:

- a) Expulsion from the University.
- b) Academic Leave.

QUESTION ONE (30 MARKS)

- a) Define the following terms: (6 Marks)
- i. Cloud computing
 - ii. Internet of Things
 - iii. Block chain technology
- b) According to the CERT Coordination Center, a denial-of-service attack is characterized by an explicit attempt to prevent the legitimate use of a service. Describe three (3) approaches in which a DOS attack can be carried out (9 Marks)
- c) You have been tasked with buying a domain (afyanjema.co.ke) for your client and subsequently hosting their website. Give a stepwise account of how you would achieve this (7 Marks)
- d) Argue the case for and against the use of Content Management Systems (8 Marks)

QUESTION TWO (20 MARKS)

- a. Define the term web content filtering and discuss three (3) web content filtering techniques (10 Marks)

- b. Briefly explain the main contents that you would emphasize on in a service level agreement between your cloud service provider and your company (10 Marks)

QUESTION THREE (20 MARKS)

- a. Differentiate between POP and IMAP email protocols (4 Marks)
- b. Explain how the DNS works to retrieve a website, <https://www.piu.ac.ke> (6 Marks)
- c. Firewall technology is important for information security. Discuss three areas where you would implement firewalls on your network infrastructure (10 Marks)

QUESTION FOUR (20 MARKS)

- a. An ICT officer for a large law firm has approached you to write a report on how the firm can stop its senior management being bombarded by spam emails. In your report, you should describe the courses of actions that the firm can take to address the issue (10 Marks)
- b. You are the network administrator of Pioneer International University, how would you protect the University's wireless network against security breaches? (10 Marks)