



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
COMPUTER SCIENCE DEPARTMENT
2021 EXAMINATIONS

CIT 461 – Internet Architecture and Communication

Credit: 3 units

TIME ALLOWED: 2½ Hours

INSTRUCTION: Answer Question 1 and any other FOUR (4) Questions

QUESTIONS

1a) Briefly describe each of the following:

- i) Internetworking. (2 marks)
- ii) Internet Protocol. (2 marks)
- iii) Internet Browser. (2 marks)
- iv) Internet Technology. (2 marks)
- v) Internet Access. (2 marks)

b) Explain the following E-business Security concerns:

- i) Confidentiality
- ii) Non-Repudiation
- iii) Availability (6 marks)

c) Describe common header fields of e-mail (6 marks)

2a) In tabular form, list **six(6)** domain names suffixes with their associated organizations (3 marks)

2b) Describe the main functions of Internet Protocol (3 Marks)

2c) Define Internet Control Message Protocol and highlight four (4) different types of messages it generates. (6 marks)

3a) TCP corresponds to the transport layer (Layer 4) of the OSI reference model, describe **three (3)** services TCP provides in an IP environment. (6 marks)

3b) Briefly discuss User Datagram Protocol

3c) State four (4) application-layer protocols that UDP supports

4a) Describe the following network devices

- i. Repeater
- ii. Router **(5 marks)**

4b) List and explain two (2) types of Packet Switching Systems **(5 marks)**

4c) Enumerate four (4) e-business security solutions **(2 marks)**

5a) Most Web browsers share the same user interface features, state **six (6)** of these features. **(6marks)**

5b) Connectivity supports company's business in a number of ways, state four (4) reasons why company uses the Internet. **(4 marks)**

5c) Highlight **typical issues** that need to be considered before internet connections can be implemented **(2 marks)**

6a) The Internet Service Provider (ISP) has a major influence on the effectiveness of your Internet connectivity design and implementation, Highlight the factors to be considered well selecting ISP. **(6marks)**

6b) Describe two types of internet connection. **(4 marks)**

6c) For large organizations a T1 line can be used to connect the whole office to the Internet, state four (4) main characteristics of T1 line. **(4 marks)**