



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI, ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2021_2 EXAMINATIONS

COURSE CODE: CIT305

COURSE TITLE: NETWORKING AND COMMUNICATION TECHNOLOGY

COURSE CREDIT: 3 UNITS

TIME ALLOWED: 2½ HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER FOUR (4) QUESTIONS

QUESTIONS

- 1a (i) Briefly describe Infrared communication as used in wireless technologies (3 marks)
(ii) Differentiate between Intranets and extranets (3 marks)
(iii) State any four predefined enterprise networks are created upon installation (2 marks)
- 1b (i) State four (4) most common network protocols in data communication (2 marks)
(ii) *IEEE 802* splits the *OSI* data link layer into two sub-layers. List these layers (2 marks)
(iii) State any six (6) *typical project business requirements* used for effective network planning and design (3 marks)
- 1c (i) What is the aim of digital modulation? (3 marks)
(ii) List any four (4) components of ISDN as defined by ITU standards (4 marks)
- Total Marks = 22 marks**

- 2a Write short notes on the following types of IP networks classes: (6 marks)
(i) Class A (ii) Class B Class C
- 2b . Differentiate between interior routers and exterior routers as used in IP environment (6 marks)

Total Marks = 12 marks

- 3 In tabular form, present the following working group of the *IEEE 802* standard and their descriptions:

(12 marks)

- | | | |
|-------------------------|-------------------|-----------------|
| (a) IEEE 802.15.4 | (b) IEEE 802.15.5 | (c) IEEE 802.16 |
| (d) IEEE 802.11 a/b/g/n | (e) IEEE 802.5 | (f) IEEE 802.7 |

Total Marks = 12 marks



4. Write short notes on the following key strategies for ensuring efficient network security in data communication:

(12 marks)

- (a) Prevent unknown applications
- (b) Use security applications from reliable vendors
- (c) Establish effective configuration management processes
- (d) All connections to the network must be known

Total Marks = 12 marks

5a. What do you understand by Residual Networks? **(2 marks)**

IP addresses that belong to a configurable enterprise network but do not belong to any configurable array-level network are considered to be part of a residual network

5b Write short notes on the following common types of threats- that affect enterprise network when connected to the internet: **(10 marks)**

- (i) Insider threats
- (ii) Malware
- (iii) Socially engineered attacks
- (iv) Authentication attacks

Total Marks = 12 marks

6a Briefly describe the activities carried out in Business requirements as a step to Effective Network Planning and Design. **(6 marks)**

6b Outline any three *typical business drivers used in* Effective Network Planning and Design **(6 marks)**

Total Marks = 12 marks