



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