



**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI –  
ABUJA**

**FACULTY OF SCIENCES  
DEPARTMENT OF COMPUTER SCIENCE**

**2023\_1 POP EXAMINATION**

**COURSE CODE: CIT722**

**COURSE CREDIT: 3**

**COURSE TITLE: COMPUTER NETWORKS**

**TIME ALLOWED: 3 HOURS**

**INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3)  
QUESTIONS**

**QUESTION**

1a. Describe with the aid of relevant diagrams, any two (2) classes of network topology, highlighting the key benefit of each class. (9 marks)

1b) Briefly explain an ATM Network (6marks)

1c) Write a brief note on each of the following types of communication using examples to illustrate:

- i. Baseband Communication (3marks)
- ii. Broadband Communication (3marks)

1d. Give a brief explanation of the concept of ‘Routers’. (4marks)

2a) Briefly describe the OSI Reference model and list all its layers in their proper order. (10marks)

2b) Write a short note on network topology (5marks)

3a) List and define the two types of Internet Control Message Protocol (ICMP) messages. (6marks)

3b) Write short notes on the following protocol:

- (i) User Datagram Protocol (UDP) (3 marks)
- (ii) HTTP (Hyper Text Transfer Protocol) (3 marks)
- (iii) Data Link control (DLC) (3 marks)

4a Enumerate and explain the two types of query (6marks)

4b) Write a brief note on each of the following:

- i. Hub (2marks)
- ii. Router (2marks)

4c) State any five simple rules to follow when running a network cable (5 marks)

5a) Complete the Ethernet cable summary below: (6marks)

S/N	Specification	Cable Type	Maximum length (in meters)
1.	10BaseT		
2.	10Base2		
3.	10Base5		
4.	10BaseF		
5.	100BaseT		

6.	100BaseTX		
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5b) Describe each of this Ethernet cabling types. (9marks)

6a) Discuss the following:

a) Switches (4 marks)

b) Repeaters (4 marks)

c) Bridges (4 marks)

6b) State the benefits of the OSI model (3marks)