



## UNIVERSITY COLLEGE TATI (UC TATI)

## FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE	: BNS 1013
COURSE	: DATA COMMUNICATION
SEMESTER/ SESSION	: 1 - 2022/2023
DURATION	: 3 HOURS

## Instructions:

1. This booklet contains 5 questions. Answer **ALL** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise your hands and ask the invigilator.

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO**

**THIS BOOKLET CONTAINS 3 PRINTED PAGES INCLUDING THE COVER PAGE**

**QUESTION 1**

- a) Express a data communication system. (2 marks)
- b) State **FIVE (5)** components on the OSI layer. (5 marks)
- c) Differentiate between data and information. (3 marks)
- d) Describe **THREE (3)** improvements of the digital practice in data communication. (6 marks)
- e) Full-fill the speed based on the Ethernet cable categories in Table 1 below. (5 marks)

Table 1

Category	Speed
Cat 1	
Cat 2	
Cat 3	
Cat 4	
Cat 5	

**QUESTION 2**

- a) What is Ethernet? List **THREE (3)** difficulties using the Ethernet system. (4 marks)
- b) In what way are WLANs diverge commencing the Ethernet? (4 marks)
- c) Why LAN backbone significant to the network organization? (4 marks)
- d) Criticize the substance of the satellite network to the data communication. (4 marks)
- e) Express the following terms: (2 marks)
- i) Router
  - ii) Switch

**QUESTION 3**

- a) Clarified between **TWO (2)** IP protocols, IP V4 and IP V6. (4 marks)
- b) Internet users often use a modem, the public telephone network, and its necessary IP address to connect their home computers to the network. State only **THREE (3)** IP classes available on the network. (3 marks)
- c) Why is address plotting needed in the network system. (4 marks)
- d) What are the benefits of using DHCP? (3 marks)

**QUESTION 4**

- a) State **FIVE (5)** dissimilarities between TCP and UDP? (5 marks)
- b) Clarify SCTP and **FOUR (4)** structures on the SCTP itself. (6 marks)
- c) Why Domain Name System (DNS) is imperative to the network system and states the element of the DNS itself? (6 marks)
- d) Define the association between the WWW and HTTP. (5 marks)

**QUESTION 5**

- a) Explain **TWO (2)** problems in a collision and how to detect the collision. (6 marks)
- b) What are Fast Ethernet and Gigabit Ethernet? (2 marks)
- c) Does Gigabit Ethernet involve distinctive cable? (2 marks)
- d) From Table 2 below, fill up the maximum segment on each cable type. (4 marks)

Table 2: Maximum segment on each cable type.

Cable type	Max. Segment
1000 BASE SX	
1000 BASE LX	
1000 BASE CX	
1000 BASE T	

- e) Lots of tendencies involved in the data communication system. In this ordinal era of globalization, criticism on how to maintain the Quality of Services that reflects Service Level Agreement on data communication systems? (11 marks)

