UNIVERSITY COLLEGE TATI

UNIVERSITY COLLEGE TATI (UC TATI)

FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE	: DNT 1014
COURSE	: INTRODUCTION TO NETWORK
SEMESTER/SESSION	: 1-2024/2025
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 COVER PAGE

QUESTION 1

a) List and describe **TWO (2)** network topologies.   (4 marks)

b) State **FOUR (4)** most common network types.   (4 marks)

c) Describe the following internet connection.

    i.   Cable   (2 marks)

    ii.   Cellular   (2 marks)

    iii.   Satellite   (2 marks)

d) Give all traffic in converged network   (3 marks)

e) Describe the following OSI layer in Table 1.

Table 1

OSI Model Layer	Description
i. Application	(2 marks)
ii. Session	(2 marks)
iii. Transport	(2 marks)
iv. Network	(2 marks)
v. Physical	(2 marks)

QUESTION 2

a) Summarize the purpose of Data Link layer.   (2 marks)

b) List **TWO (2)** sublayers in Data Link layer.   (2 marks)

c) Identify **THREE (3)** WAN topologies along with their description.   (6 marks)

d) Compare CSMA/CA with CSMA/CD in terms of protocol.   (2 marks)

e) Define **THREE (3)** advantages of star topologies.   (3 marks)

f) State components of data link frames.   (3 marks)

QUESTION 3

a) List **FOUR (4)** basic operations in network layer. (4 marks)

b) Give **THREE (3)** characteristics of IP. (3 marks)

c) Identify **THREE (3)** limitation in IPv4 with their description. (6 marks)

d) Describe the following types of routes.

    i. Directly Connected (2 marks)

    ii. Default Route (2 marks)

e) How the host know the default gateway value? (2 marks)

f) Give **ONE (1)** network devices that working in transport layer (1 mark)

QUESTION 4

a) Outline the responsible of transport layer. (2 marks)

b) Differentiate **TWO (2)** features TCP with UDP protocols. (4 marks)

c) Give port number for the following application protocols. (3 marks)

    i. Secure Shell (SSH)

    ii. Hypertext Transfer Protocol (HTTP)

    iii. Hypertext Transfer Protocol Secure (HTTPS)

d) List **FOUR (4)** example protocol in application layer. (4 marks)

e) Illustrate Peer to Peer network that consist of 2 computers, 1 switch and 1 printer and give summarization your illustration. (9 marks)

QUESTION 5

a) List **FOUR (4)** factors must be considered when selecting network devices.

(4 marks)

b) What method use to maintain high degree of reliability? (1 mark)

c) Identify **FOUR (4)** elements required to scale or growth a network. (4 marks)

d) What happened if default gateway is incorrect? (2 marks)

e) Describe about **"ping"** command. (2 marks)

.....................................**End of Question**.................................