



ZIMBABWE EZEKIEL GUTI UNIVERSITY

**FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD
SYSTEM DEVELOPMENT**

DEPARTMENT OF INFORMATION SYSTEMS

EXAMINATION PAPER

COURSE CODE : DIS122
COURSE TITLE : Data Communications and Networks
DURATION : 3 Hours
LEVEL : 1.2
DATE : 2024 13 JUN 2024

INSTRUCTIONS TO CANDIDATES:

1. There are five questions in this paper
2. Each question carries 25 marks
3. Answer ANY 4 questions.

Question One

- (a) Define a network protocol. (4)
- (b) List seven layers of the OSI Model (7)
- (c) From the seven OSI Model, explain their function (14)

Question Two

- a) Giving all details, explain two differences between ring and bus network topologies. (6)
- b) With the aid of a diagram, describe the TCP/IP layer model. (6)
- c) Compare and contrast the OSI Model and the TCP/IP layer model (13)

Question Three

- a. What is IP addressing and why is it important in computer networks? [2]
- b. Explain the structure of an IP address. [8]
- b. In every form of communication there are common elements. Identify and explain five components that makes up a communication network. (15)

Question Four

- a) What are the advantages and disadvantages of wired transmission media like copper and fiber-optic cables?[10]
- b) How do wireless transmission media such as radio waves, microwaves, and infrared work? Give examples of their applications.[15]

Question 5

- a. Assume that you are the Network Engineer of a company, identify different types of security attacks that an organisation's computer network can face and how you can fight those attacks.

(25)

10/0 (pm)