BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE
BSc HONS DEGREE IN INFORMATION TECHNOLOGY
IT214/NWE217: NETWORK AND SERVER ADMINISTRATION

DURATION: 2 HOURS 30 MINUTES   TOTAL MARKS: 100

INSTRUCTION TO CANDIDATES   JUN 2025

The paper consists of **five (5)** questions, candidates are expected to answer **all** questions.

Question 1

a. Describe the following data centre/server room infrastructure stating their purpose:

   (i)   Server rack,   **[3]**

   (ii)   UPS hardware,   **[3]**

   (iii) Cooling unit, and   **[3]**

   (iv)   Network connection.   **[3]**

b. A server is the software that handles a specific task and delivers services to other hosts on a network. This software is normally supported by powerful hardware to ensure efficient and low latency response to requests from hosts. With assistance of this definition write notes on the following types of servers:

   (i)   Application server   **[4]**

   (ii)   Print server   **[4]**

Question 2

a. Describe any **three** environmental factors which an administrator should monitor in a server room/data centre.   **[6]**

b. Explain the following ethical issues which guides network and server administrators in conducting their work.

   (i)   Invasion of privacy   **[2]**

   (ii)   Equality in reporting   **[2]**

(iii)   Sensitive information   [2]

(iv)   Whistle blower situations   [2]

c. Give a detailed description of the following trouble shooting commands:

(i)   IPCONFIG and   [2]

(ii)   NET STAT.   [2]

Question 3

a. An organisation network contains an Active Directory domain named myhub.com. The domain contains a server named Admin1 that runs Windows Server. Admin1 has the File Server Resource Manager role service installed. You configure a quota threshold and need to ensure that a user named User1 receives an email notification when the threshold is exceeded. Explain what you need to do to achieve this.   [10]

b. Explain Network Address Translation (NAT).   [2]

c. Describe the operation activities of Network Address Translation (NAT). [8]

Question 4

a. Discuss desktop virtualisation infrastructure with help of examples.   [10]

b. Masaisai Technologies has an Active Directory domain. You install a new domain controller in the domain. Twenty users report that they are unable to log on to the domain. Explain what you need to do and which command to run.   [5]

c. Explain Denial of Service attack (DoS).   [2]

d. Describe how DoS attacks are detected.   [3]

Question 5

a. Write the **five** steps followed by a web server in handling a request from client.   [10]

b. Explain backup and restore process in detail.   [10]

**** END OF PAPER****