ΠAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Faculty of Computing and Informatics

Department of Computer Science

QUALIFICATION: Bachelor of IT: Systems Administration and Networks; Bachelor of Computer Science Cyber Security; Bachelor of Computer Science: Systems Administration; Communication Networks; Software Development	
QUALIFICATION CODE: 80BSAN / 07BACS / 07BCCS	**LEVEL:** 5
COURSE: Introduction to Operating Systems and Networks	**COURSE CODE:** OSN521S
DATE: January 2020	**SESSION:** 2
DURATION: 2 Hours	**MARKS:** 100

SECOND OPPORTUNITY / SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Ms Albertina Shilongo Ms Katazo Amunkete Ms. Teresia Ankome Ms. Jovita Mateus Ms Ruusa Iipinge
MODERATOR:	Dr. Fungai Bhunu Shava

THIS QUESTION PAPER CONSISTS OF 5 PAGES
(Including this front page)

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.
4. When answering questions you should be guided by the allocation of marks. Do not give too few or too many facts in your answers.

SECTION A: Operating Systems Commands   [20 Marks]

1. With the aid of examples, distinguish between Single user and Multi-user Operating Systems.   (4)

2. Give three (3) advantages why students at NUST use virtual machines.   (3)

3. Below is a screenshot of the ls –l output command in Linux. Explain the meaning of this output.   (8)

```
total 1
-rwxrw-r--    1 phillipa    chemistry      18715 Sep 24  2004 report.pdf
```

4. State any two (2)-industry certifications that you can pursue in order to have a competitive advantage in Systems Administration.   (2)

5. What is a Shell? Give an examples of Shells that can be found in Linux Systems   (3)

SECTION B: Operating Systems Commands   [15 Marks]

1.   Interpret the following Windows commands.
   i.   md OSN521S is good   (2)
   ii. cp test exam   (2)
   iii. dir   (1)

2. On Windows Operating System, create a batch file using wild cards that lists all files that match any of the criteria below, within the current working directory. Save the batch file as Wild.   (5)

i) Files with an extension of COM and have four letters in the filename.

ii) EXE files whose Third letter is a.

Note: Write down all the steps from opening a batch file to saving and running the

Batch file.

3. Interpret the following Linux commands:

    i. chmod 711 2019.txt   (2)

    ii. rd –r 2018   (2)

    iii. touch 2020.txt   (1)

SECTION C: Systems Administration & User Management   [30 Marks]

1. Explain in detail why an organisation should hire a System Administrator.   (3)

2. Briefly explain the following default groups in Windows.   (5)

    i. Guest
    ii. Administrator
    iii. User
    iv. Backup Operators
    v. Power Users

3. Differentiate between a temporary profile and a mandatory profile?   (2)

4. List the steps and command to perform the following on a Linux Operating System:

    i.   Disable the account of a user **Mike**   (2)

    ii.   Create a new group called **Tutors** with group id 1090   (2)

    iii.   Add a user called **Michael** with user id 1099 and group ID 1090   (2)

    iv.   Switch on to a user **Michael**   (1)

5. Using the Windows OS, write down the steps of assigning a user **Eddy** the rights to log in to remote desktop services.   (5)

6. Give a detailed explanation of the purpose of the of the Linux **/etc/passwd** file and all the fields found in this file.   (8)

SECTION D: Resources Management   [15 Marks]

SECTION E: Networking Concepts [20 Marks]

1. Differentiate between peer to peer and client/server network architectures (4)

2. Briefly explain the following networking terms: (4)

    i. Internet

    ii. LAN

    iii. Server

    iv. protocol

3. With an aid of a diagram, discuss the mesh topology. (6)

4. Write down two challenges of networking computers? (3)

5. Explain how to achieve the following tasks on Linux operating system: (3)

    i. Check whether your computer is connected to domain **www.google.com**

    ii. View the name of the computer you are using

    iii. Check for computer detailed configuration information.

End

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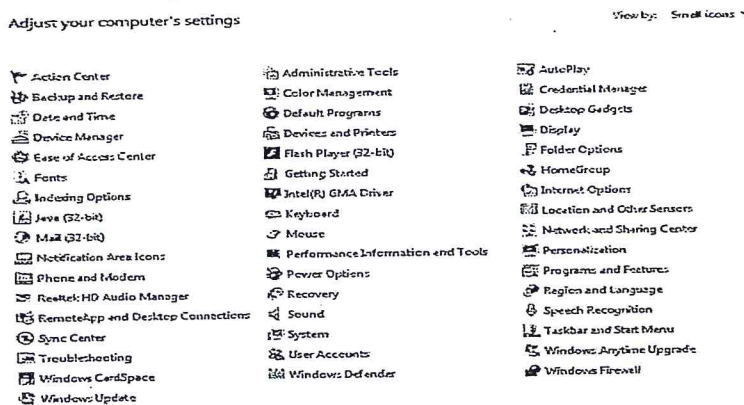
SECTION D: Resources Management   [15 Marks]

1. Give any two (2) reasons why it is important for System Administrators to carry out backups. (2)

2. The following snapshot was taken from Windows operating systems.
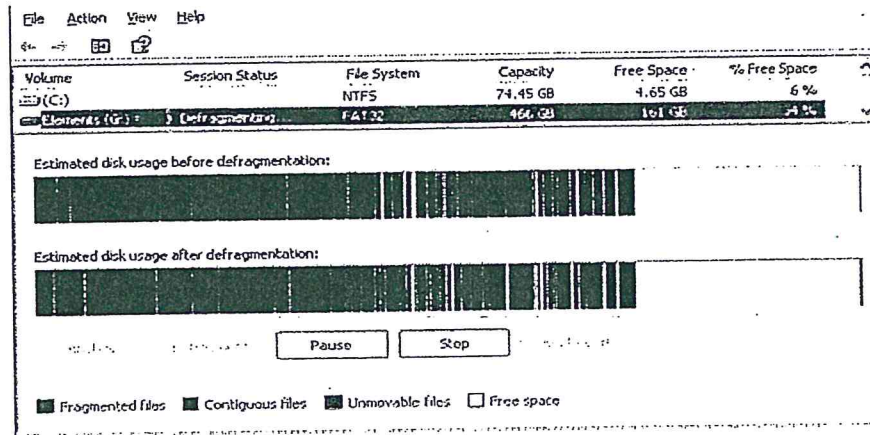
   i. Name the tool. (1)

   ii. Write down the steps of opening the tool. (2)

   iii. What is the importance of this tool? (2)

3. With examples, explain the use of the following Linux resource management utilities (5)

   i. Kill
   ii. vmstat
   iii. ps

4. Name the following snapshot and briefly explain its use in Windows. (3)

SECTION E: Networking Concepts [20 Marks]

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