NAMIBIA 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: November 2019	**SESSION:** 1
DURATION: 2 Hours	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	**Ms Albertina Shilongo** **Ms. Teresia Ankome** **Ms. Jovita Mateus** **Ms Katazo Amukete** **Ms Ruusa Iipinge**
MODERATOR:	**Dr. Fungai Bhunu Shava**

THIS QUESTION PAPER CONSISTS OF 6 PAGES
(Including this front page)

INSTRUCTIONS

1. Answer ALL the questions.
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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 System   [20 Marks]

1. Define the following terms.

   (i)   Shell   (2)

   (ii)   Kernel   (2)

2. Below is a snapshot from Windows operating systems Control Panel.

Name	Date modified	Type	Size
Component Services	19/03/2019 6:45 A...	Shortcut	2 KB
Computer Management	19/03/2019 6:45 A...	Shortcut	2 KB
Defragment and Optimise Drives	19/03/2019 6:45 A...	Shortcut	2 KB
Disk Clean-up	19/03/2019 6:45 A...	Shortcut	2 KB
Event Viewer	19/03/2019 6:45 A...	Shortcut	2 KB
Internet Information Services (IIS) Manag...	19/03/2019 6:46 A...	Shortcut	2 KB
iSCSI Initiator	19/03/2019 6:45 A...	Shortcut	2 KB
Local Security Policy	19/03/2019 6:46 A...	Shortcut	2 KB
ODBC Data Sources (32-bit)	19/03/2019 6:46 A...	Shortcut	2 KB
ODBC Data Sources (64-bit)	19/03/2019 6:45 A...	Shortcut	2 KB
Performance Monitor	19/03/2019 6:45 A...	Shortcut	2 KB
Print Management	19/03/2019 6:46 A...	Shortcut	2 KB
Recovery Drive	19/03/2019 6:45 A...	Shortcut	2 KB
Registry Editor	19/03/2019 6:45 A...	Shortcut	2 KB
Resource Monitor	19/03/2019 6:45 A...	Shortcut	2 KB
Services	19/03/2019 6:45 A...	Shortcut	2 KB
System Configuration	19/03/2019 6:45 A...	Shortcut	2 KB
System Information	19/03/2019 6:45 A...	Shortcut	2 KB
Task Scheduler	19/03/2019 6:44 A...	Shortcut	2 KB
Windows Defender Firewall with Advanc...	19/03/2019 6:44 A...	Shortcut	2 KB
Windows Memory Diagnostic	19/03/2019 6:45 A...	Shortcut	2 KB

   (i) What is the name of the configuration applet above?   (1)

   (ii) What is the general use of this tool?   (2)

3. Below is a screen shot of Linux OS file system structure. Define is the purpose of the
    following directories with examples?   (6)
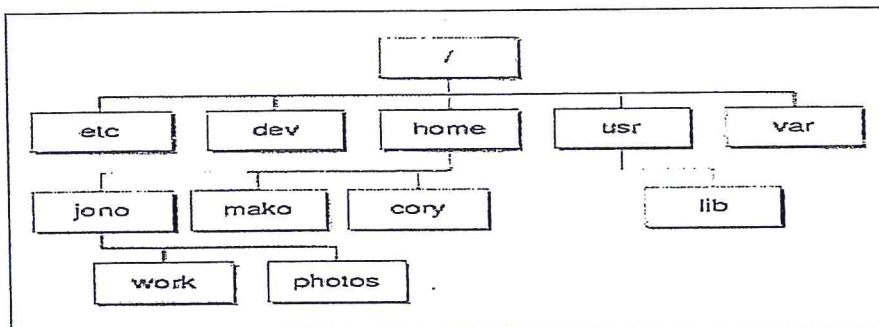
(i) Home:

(ii) Etc:

(iii) /:

4. Distinguish between Batch Operating System and Real-time Operating Systems (4)

5. Explain the purpose of the following Computer Panel tools: (3)

(i) System

(ii) Network and Sharing Centre

(iii) Internet Options:

SECTION B: Operating Systems Commands [20 Marks]

1. With the aid of examples, explain the use of two wildcard characters. (4)

2. Interpret the following Windows commands (4)

(i) Copy C:*.ppt   C:\Personal

(ii) Copy con Personal.docx

(iii) md "Today is Friday"

(iv) move ???ed.* C:\Personal

3. Create the directory structure below using Linux commands in the correct directory. Write the commands in order of execution. (5)

```
/:
                |__OSN/
                |       |__ Test1/
                |.      |       |__ Test1.txt
                |       |       |
                |       |__ Group Assignment\
                |       |        |__ Group Assignment.sh
                |       |       |
                |       |__ Quizzes/
                |       |
                |__ COA/
```

4. List all the steps and command to create a short script that prompt a user for 2 numbers, once the user enters the 2 numbers via the keyboard the script should find the difference of the 2 numbers and display it on the screen. (7)

SECTION C: Systems Administration & User Management [20 Marks]

1. Differentiate between a user account and a user profile (4)

2. Compare and contrast Roaming and Local user profile. (4)

3. Write down the steps of adding/creating a new local user account on Windows operating systems. Use the information below to create the user account. (5)

    (i) Username: **Mike**

    (ii) Full name: **Mike Smith**

    (iii) From the IT Department

    (iv) The user must change password at next login.

4. Write down the steps of achieving the following tasks on Linux operating systems:

    (i) Create a group called Students with group id 590 (1)

    (ii) Create a user called Mike with user id 1001 and his user directory should be in /tmp/Mike (2)

    (iii) Create a file called Exams (1)

    (iv) Assign full permission to the owner of the file Exams and execute to other and group (1)

    (v) Mike's user password should expire on the 31 December 2019. (1)

5. What will be the consequence of creating Mike's Data directory in the tmp directory? (1)

SECTION D: Resources Management [20 Marks]

1. Why should computer resources be managed on a computer system? Give at least three main examples of such resources and their use in the computer. (4)

```
File  Options  View
Processes  Performance  App history  Startup  Users  Details  Services
                                          30%      86%       11%      0%
Name                          Status      CPU      Memory    Disk     Network

Apps (11)
>  Google Chrome (20)                      2.1%     1,257.4 MB  0.3 MB/s  0.1 Mbps
>  Microsoft Word (32 bit)                 0%       16.1 MB     0 MB/s    0 Mbps
>  OneNote (2)                             0%       0.3 MB      0 MB/s    0 Mbps
>  paint.net                               0%       52.4 MB     0 MB/s    0 Mbps
>  Slack (3)                               0%       61.7 MB     0.1 MB/s  0.1 Mbps
>  Steam Client Bootstrapper (32 bit)      0.3%     35.6 MB     0.1 MB/s  0 Mbps

   Fewer details                                                    End task
```

2. The snapshot above was taken from Windows operating systems.

    (i) Name the tool. (1)

    (ii) Write down the steps of opening the tool. (1)

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

3. Scan Disk tool/chckdsk is another tool used by Administrator to manage their Hard disk.

    (i) What is the importance this tool? (2)

    (ii) What are the possible causes of the issues repaired by the Scan Disk tool? (2)

4. A backup policy is a document in an organisation that guides the backup activities in that organisation. Why would be the differences in backup policies, in terms of frequency for a banking institution from that of educational institution? (2)

5. Write down the steps of achieving the following Linux tasks:

    (i) View the process ID of Apache (2)

    (ii) View full details of running processes assigned to the user *Mike*. (2)

    (iii) Kill a process with PID of 2223 (1)

    (iv) Show Processes that are CPU intensive (1)

SECTION E: Networking Concepts   [20 Marks]

1. Briefly explain what the following fields represent when connecting a computer to a network. (6)

    (i) MAC address

    (ii) Default gateway

    (ii) DHCP Server

2. Write down **four** (4) the benefits of networking computers? (4)

3. Write down the steps of configuring a Windows computer to a LAN. (5)

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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

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1

4. Write down the command to assign an IP address 192.168 20.5 and Subnet Mask 255.255.255.0 on a Linux machine and ensure that the interface is up. (3)

5. Check whether your computer is connected to domain **www.nust.edu.na** (1)

6. View the name of the computer you are using. (1)

End