

Course Code	:	MCS-022
Course Title	:	Operating System Concepts and Networking Management
Assignment Number	:	BCA(VI)/022/Assignment/2024-25
Maximum Marks	:	100
Weightage	:	25%
Last Dates for Submission	:	31st October, 2024 (For July, Session)
	:	30th April, 2025 (For January, Session)

Answer all the questions of the assignment having 80 marks in total. 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation. Answer of each part of the question should be confined to about 300 words.

Q1.

- (a) Compare and contrast the Distributed operating system with the Network operating system. Give an example of each. **(6 Marks)**
- (b) Define a Real Time Operating System. Give any two examples of a real time operating system. **(4 Marks)**

Q2.

- (a) What is EFS service? Describe the concept of encryption using EFS service. **(5 Marks)**
- (b) Compare TFTP and FTP. Which protocol is used by TFTP at the transport layer and why? **(5 Marks)**

Q3.

- (a) List and explain the file systems supported by Linux operating system. Also, write the security features provided by Linux in each file system. **(5 Marks)**
- (b) Compare and Contrast the "Mandatory Access Control" and "Discretionary Access Control" mechanism in windows 2000. **(5 Marks)**

Q4. Write the step-by-step procedure to create a group named "MCS022". Now add a user "SOCIS" in Windows 2000 operating system. Assume user "SOCIS" is already a member of the guest account in your system. Also explain the basic purpose of enabling the offline features in Windows 2000 operating system.

(10 Marks)

Q5. Answer the following questions related to Linux commands:

(10 Marks)

- (i) Show the users logged in on the network.
- (ii) List the files having more than one digit in the name.
- (iii) Tell the system to run the process continuously even if the user logs out.
- (iv) To allow a user to communicate with another user, logged in by splitting the screen and providing two-way communication.
- (v) To kill a process after one hour.

Q6.

- (a) List and describe the various security features in Windows 2000 operating system. **(5 Marks)**
- (b) What is Virtual Memory? Explain the abstract model of virtual to physical address mapping with reference to Linux operating system. **(5 Marks)**

Q7. Write a Linux shell script for automatic grouping of files given in a directory. All files will be grouped on the basis of their size and will be saved into the newly created folders based on file size groups given below: Files will be grouped into 0 to 5 kB, 5 kB to 5 MB, 5 MB to 1 GB and greater than 1 GB. **(10 Marks)**

Q8. Write short notes on the following:

(10 Marks)

- (a) LAN Topologies
- (b) Token Ring
- (c) Network Monitoring Tools
- (d) Firewall
- (e) Active Directory in Windows 2000