1411E1195

Candidate's Seat No : _____

B.Sc. (NEP) Sem.-5 Examination
DSC-C-352
Computer Science
November-2025

Time : 2-00 Hours] [Max. Marks : 50

Q.1 **Write the following.**

A What is PCB ? Design basic framework of process control block. 5

B Describe the different types of operating systems with examples 5

OR

A What is Fragmentation Problem ? Describe the external & internal fragmentation. 5

B What is Different between process & program. 5

Q.2 **Write the following.**

A What is deadlock? Explain the conditions for deadlock and the methods to handle it. 5

B Discuss the difference between paging and segmentation with examples. 5

OR

A Explain the concept of scheduling. Describe different CPU scheduling algorithms. 5

B Consder the following reference string: 5
1,2,3,4,2,1,6,5,1,2,3,7,6,3,2,1,2,3,6
How many page fault will occur for:
(1) LRU replacement
(2) FIFO replacement?
Note: Initial all frames are empty , Best to assure 5 Frames.

Q.3 **Write the following.**

A Consider the following process: 5

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

Calculate the average WT.time and TAT by SJF preemptive and SJF non-preemptive scheduling.

B Explain Synchronization in Distributed Systems. 5

OR

P.T.O

A Explain Processes and Processors in Distributed Systems. Discuss their characteristics. 5

B Explain with example of your Own, the following process scheduling algorithm: 5
(I) Round Robin

Q.4 **Write the following.**

A What is Disk scheduling? Define various types of Disk Scheduling. 5

B Explain the difference between thread and process. 5

OR

A Define timesharing differ from multiprogramming? 5

B Discuss the difference between symmetric and asymmetri multiprocessing. 5

Q.5 **MCQ** 10

1. Which of the following is NOT an operating system?
A. Windows
B. Linux
C. Oracle
D. macOS

2. The program that manages hardware resources is called
A. Application software
B. Operating system
C. Compiler
D. Assembler

3. Which scheduling algorithm gives the highest priority to the shortest job?
A. FCFS
B. SJF
C. Round Robin
D. Priority Scheduling

4. Thrashing occurs when
A. CPU is idle
B. Too many processes are in memory
C. Page fault rate is high
D. There is insufficient I/O

5. A process in the blocked state is
A. Waiting for CPU
B. Running
C. Waiting for I/O
D. Terminated

—X—