1/8/24

10 - 12.30

Reg. No.

IV Semester B.Sc. Degree Examination, July/August - 2024

COMPUTER SCIENCE

Operating System

(NEP Scheme)

Time : 2 ½ Hours **Maximum Marks : 60**

Instructions to Candidates:

Answer All Sections. Answer any Four questions from each section.

SECTION - A

I. Answer any Four questions. Each question carries 2 marks. **(4×2=8)**

1. What is an operating system? State two types of OS.
2. Mention the components of operating system.
3. Define semaphore.
4. What is thrashing?
5. Define page fault and fragmentation.
6. What is a file? Mention any two attributes of file.

SECTION - B

II. Answer any Four questions. Each question carries 5 marks. **(4×5=20)**

7. Explain different status of a process with neat diagram.
8. Define critical section. Explain the conditions for solution to a critical section problem.
9. Explain deadlock with its necessary condition.
10. Write a note on directory structures.
11. Explain shortest seek time first scheduling algorithm.
12. Define and explain access matrix.

[P.T.O.

SECTION - C

III. Answer any Four questions. Each question carries 8 marks. **(4×8=32)**

13. a) Explain any two types of operating system. **(4)**

    b) Write a note on system call. **(4)**

14. Consider the following process with the CPU brust time.

Process	CPU Brust time
P1	15
P2	10
P3	06
P4	02

Draw the Gantt chart. Find average waiting time and turn around time, using

    a) SJF (Shortest Job First) **(4)**

    b) FCFS (First Come First Served). **(4)**

15. a) What is virtual memory management? **(3)**

    b) Explain demand paging. **(5)**

16. a) Define deadlock and discuss on necessary condition for a deadlock to occur. **(6)**

    b) What is Resource Allocation Graph? **(2)**

17. Explain any two file allocation methods. **(8)**

18. a) What are the goals and principles of protection? **(4)**

    b) Define virtual machine. State Two benefits of virtual machine. **(4)**
