Roll No. .....

Total No. of Questions : 6] [Total No. of Printed Pages : 5

EY-236

B.Tech. Vth Semester (New Scheme) CSE

Examination, 2023-24

Operating System

Paper - CS-503

Time : 3 Hours] **[Maximum Marks : 60**

Note :- Attempt all questions. All questions carry equal marks.

There are internal choices between ques.2 to ques. 6.

1. Explain briefly : **2×5**

(i) I/O Buffering

(ii) File Handling

(iii) Paging

(iv) Semahores

(v) Graphs

Unit-I

2. (a) What is Process of System Cells? Explain. **10**

(b) Explain Real Time scheduling with examples?

OR

(a) Define I/O Device Organization its features.

(b) Explain Time-Sharing Os with its work.

Unit-II

3. (a) What are concept of Interprocess Communication? Explain. **10**

(b) Explain the term Critical section Problem.

OR

(a) What is the process of Deadlock Characterization? Explain.

(b) What do you mean by non-contiguous allocation? Explain.

Unit-III

4. (a) Explain the Segmentation with an example. **10**

(b) Explain Concepts of Memory Management and its characteristics.

OR

(a) What is Physical Address Spaces? Explain.

(b) Define Swapping and its features.

Unit-IV

5. (a) Explain Security Thread Protection with examples. **10**

(b) Assume the following jobs are to be executed on one processor.

Process	Execution Time	Arrival Time	Priority
0	80	0	2
1	25	10	4
2	15	20	3
3	20	30	4
4	45	40	1

Develop a Gantt-Chart and calculate the average waiting time using :

(i) FCFS

(ii) LIF & SJF

(iii) Round Robin (q = 1)

OR

(a) Explain the concept of demand paging.

(b) Consider the main memory with a capacity of 3 frames.

Assume the pages of a process are referenced in the order as given below :

7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3

Which one is better : FIFO or LRU and why?

Unit-V

6. (a) What are the various differences between disk caching and disk mirroing? **10**

(b) Explain file protection and its characteristics.

OR

(a) Explain Disk Scheduling.

(b) Consider the following disk request sequence for a disk with 100 tracks 98, 137, 122, 183, 14, 133, 65, 78. Head pointer starting at 54 and moving in the left direction. Find the number of head movements in cylinders using C-SCAN scheduling.

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