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TBC–404/TBS–404

B. C. A./B. SC. (CS)
(FOURTH SEMESTER)
MID SEMESTER EXAMINATION, 2021
OPERATING SYSTEM/OPERATING SYSTEM USING LINUX

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any ***one*** of the sub-questions.

(ii) Each question carries 10 marks.

1. (a) Consider the following scenario of processes in a system :

Process	Time Arrival	Execution Time
P1	0	5
P2	2	4
P3	3	7
P4	5	6

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Draw a Gantt chart for the execution of the processes, showing their start time and end time using FCFS algorithm. Calculate turnaround time, and waiting time for each process, and average turnaround time and average waiting time for the system.

10 Marks (CO3, CO2)

OR

(b) "Operating System provides different services to the user and to the system." What are these services ?

10 Marks (CO3, CO2)

2. (a) Consider the following scenario of processes in a system :

Process	Time Arrival	Execution Time
P1	0	3
P2	1	4
P3	2	4
P4	3	6

Draw a Gantt chart for the execution of the processes, showing their start time and end

time using Round Robin algorithm with time quantum two. Calculate turnaround time, normalized turnaround time, and waiting time for each process, and average turnaround time, average normalized turnaround, and average waiting time for the system. 10 Marks (CO3)

OR

(b) Define the term schedulers in operating system ? Explain its various types.

10 Marks (CO3)

3. (a) Briefly explain process control block with a diagram. Explain system call and library function in operating system.

10 Marks (CO3)

OR

(b) Explain the process of context switching with a neat diagram. 10 Marks (CO3)

4. (a) Define the following : 10 Marks (CO3)

(i) Dispatcher

(ii) Thread

OR

(b) Discuss the life cycle of a process.

10 Marks (CO3)

5. (a) Define the term operating System. Also explain its layered architecture with a diagram. 10 Marks (CO1, CO3)

OR

(b) Define the term process scheduling. Explain its various types.

10 Marks (CO1, CO3)