Summary in Graph

Exam Summary (GO Classes CS Test Series | Operating Systems | Topic Wise Test 1)

64% Marks | 9 Correct | 3 Wrong | 3 Skipped | 45m of 45m

Qs. Attempted:	12 (+ 0)	Correct Marks:	16 (+ 16)	Total Questions:	15 (1 + 1)
Correct Attempts:	9 (+ 9)	Penalty Marks:	0 (+ 0)	Total Marks:	25 (+ 25)
Incorrect Attempts:	3 (+ 0)	Resultant Marks:	16 (+ 16)	Exam Duration:	45 Minutes
				Time Taken:	45 Minutes

Individual Question Statistics

View Order: Sorted Order | Select Metric: Marks Obtained



* Average Stats based on first attempt stats of Top 10% (40) out of 1449 users

Good Attempt | Easy Ques | Mistake

Technical

Q.01 Multiple Select Type | Award: 1 | Penalty: 0 | Operating System | Hard (18%)

Which of the following statements are true?

A. A user-level process cannot modify its own page table entries.
B. The scheduler is the part of an Operating System that determines the priority of each process.
C. Shortest Remaining Time First is the best preemptive scheduling algorithm that can be implemented in an Operating System.
D. No process will starve for CPU in round robin scheduling.

Your Answer: A,D | Correct Answer: A,B | Correct | Time taken: 01min 19sec | Review

Q.02 Multiple Choice Type | Award: 1 | Penalty: 0.33 | Operating System | Easy (90%)

A starvation-free job-scheduling policy guarantees that no job waits indefinitely for service. Which of the following job-scheduling policies is starvation-free?

A. Round-robin
B. Priority queuing
C. Shortest job first
D. Youngest job first

Your Answer: A | Correct Answer: A | Correct | Time taken: 00min 17sec | Review

Q.03 Multiple Select Type | Award: 1 | Penalty: 0 | Operating System | Medium (49%)

Consider the following transition diagram in which a thread moves between each of the 3 states :



Below we give some conditions that cause the thread to move between each of the 3 states, and causes each arrow :

- **7** : process is scheduled by the scheduler and executed by CPU.
- **Q** : Time slice runs out, but the process is still wanting to run.
- **R** : I/O completes, or lock is acquired. Woken up by a semaphore or conditional.
- **S** : Any blocking action. I/O request, lock blocks.

Match the transitions in the diagram with the conditions that cause them :
Which of the following is/are correct?

A. 1 - 7
B. 2 - Q
C. 6 - R
D. 5 - S

Your Answer: A,B,C,D | Correct Answer: A,B,D | Incorrect | Time taken: 00min 57sec | Review

Q.04 Multiple Select Type | Award: 1 | Penalty: 0 | Operating System | Hard (16%)

Which of the following statements are true?

A. The processor can be switched to kernel mode during execution of a user process, if the user process issues a system call.
B. The processor can be switched to kernel mode during execution of a user process, without the user process issuing a system call.
C. The number of threads in the system may exceed the number of CPU cores.
D. To safely process system calls, the kernel MUST maintain a separate stack in the kernel for each thread in each user process.

Your Answer: A,B,D | Correct Answer: A,B,c | Incorrect | Time taken: 00min 46sec | Review

Q.05 Multiple Select Type | Award: 1 | Penalty: 0 | Operating System | Medium (55%)

Which of the following are (virtually) shared by threads within a single process?
In other words, is it instantiated per process instead of per thread? Select all that apply.

A. Heap
B. Stack
C. Code/Program Text
D. Registers

Your Answer: | Correct Answer: A,C | Not Attempted | Time taken: 01min 13sec | Review

Q.06 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Easy (80%)

Consider three processes P1, P2, and P3 with respective arrival times of 0 ms, 10 ms, and 20 ms and respective processing times of 30 ms, 15 ms, and 30 ms. The three processes are preemptively scheduled on a single CPU system using the shortest-remaining-processing-time-first scheduling policy. Which of the following shows the order in which the processes complete, from first to last?

A. P1 P2 P3
B. P1 P3 P2
C. P2 P1 P3
D. P2 P3 P1

Your Answer: C | Correct Answer: C | Correct | Time taken: 01min 04sec | Review

Q.07 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Easy (75%)

Four processes P_1, P_2, P_3, and P_4 -- are scheduled to use a single processor. The following table shows the arrival time and duration of each of the four processes.

Process	Arrival Time (seconds)	Duration (seconds)
P_1	0	3
P_2	2	4
P_3	4	5
P_4	5	4

If the system uses a preemptive shortest job-first scheduling algorithm, what is the average waiting time for the four processes, in seconds?

A. 2
B. 3
C. 4
D. 5

Your Answer: B | Correct Answer: A | Correct | Time taken: 01min 01sec | Review

Q.08 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Hard (18%)

Consider the following table showing a set of jobs to be processed on a single processor. the number of seconds of service that each requires, and each job's arrival time.

Job	Service Time (sec.)	Arrival time
1	2	t_A
2	5	t_A
3	1	t_A + 1 sec.
4	9	t_A + 5 sec.
5	3	t_A + 10 sec.
6	2	t_A + 15 sec.

If a round-robin scheduling algorithm with a time slice of 10 milliseconds is assumed, then at approximately what time is Job 3 completed?

A. t_A + 22 sec.
B. t_A + 8 sec.
C. t_A + 4 sec.
D. t_A + 2 sec.

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 01min 13sec | Review

Q.09 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Easy (72%)

Consider the following table showing a set of jobs to be processed on a single processor. the number of seconds of service that each requires, and each job's arrival time.

Job	Service Time (sec.)	Arrival time
1	2	t_A
2	5	t_A
3	1	t_A + 1 sec.
4	9	t_A + 5 sec.
5	3	t_A + 10 sec.
6	2	t_A + 15 sec.

If a first-come-first-served scheduling algorithm is assumed, where ties are resolved in favor of the smaller numbered job, what is the average (arithmetic mean) number of seconds that a job waits before being assigned to the processor?

A. 20.6
B. 21.6
C. 23.6
D. 31.6

Your Answer: C | Correct Answer: C | Correct | Time taken: 00min 03sec | Review

Q.10 Numerical Type | Award: 2 | Penalty: 0 | Operating System | Hard (22%)

An arriving thread is run at the beginning of its arrival time, if the scheduling policy allows it. Turnaround time is defined as the time a process takes to complete after it arrives. Now Consider the following data available for FIFO CPU Scheduling where we have 4 processes A, B, C, D.

Entry Times

A	1
B	2
C	3
D	8

Current Time ↓ Scheduler →	FIFO
1	A
2	A
3	A
4	B
5	B
6	B
7	C
8	D
9	D
10	D
Avg Turnaround Time	3.5

What is the entry time for process C?

Your Answer: 1 | Correct Answer: a | Incorrect | Time taken: 01min 17sec | Review

Q.11 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Easy (79%)

If there are N jobs, arrived at almost same time in the system, all of the same length(burst time) L. Round robin algorithm is used by the scheduler. Where T is the length of the time slice, $L > T$ and L is multiple of T.
Then the first job will finish at approximately

A. L
B. N + L
C. N + L - (N - 1) + T
D. N + L - (N) + T

Your Answer: | Correct Answer: C | Not Attempted | Time taken: 01min 57sec | Review

Q.12 Numerical Type | Award: 2 | Penalty: 0 | Operating System | Hard (24%)

Consider the following Scheduling Algorithm "Least Used First(LUF)". Least Used First (LUF): When given the choice to schedule two processes on the run queue, the scheduler will select the one that has used the fewest CPU cycles thus far. In case of a tie, the queue is otherwise FIFO. When a process is deschedulled it goes to the end of the queue. Duration is of a process. The amount of CPU time it will need, in time units. Consider the following 4 processes:

Job	Arrival Time	Duration
A	0	25
B	15	25
C	25	5
D	40	5

Supposing a running job is only preempted when a new job arrives (no interrupts). Assume all jobs are purely CPU-bound. What is the average turn around time using LUF scheduling algorithm?

Your Answer: 27.5 | Correct Answer: 27.5 | Correct | Time taken: 00min 14sec | Review

Q.13 Numerical Type | Award: 2 | Penalty: 0 | Operating System | Medium (52%)

Consider a system with a single CPU core and three processes, A, B, C. Process A arrives at $t = 0$, and runs on the CPU for 10 time units before it finishes. Process B arrives at $t = 6$, and requires an initial CPU time of 3 units, after which it blocks to perform I/O for 3 time units. After returning from I/O wait, it executes for a further 5 units before terminating. Process C arrives at $t = 8$, and runs for 2 units of time on the CPU before terminating. Recall that only the size of the current CPU burst (excluding the time spent for waiting on I/O) is considered as the "job size" in these schedulers. For Shortest Remaining Time First (preemptive) scheduling policy, what is the time of completion of process C?

Your Answer: 11 | Correct Answer: 11 | Correct | Time taken: 00min 59sec | Review

Q.14 Multiple Choice Type | Award: 2 | Penalty: 0.67 | Operating System | Medium (55%)

Consider the following processes with CPU burst time in ms. Assume all processes arrive at time 0.

Process	Burst Time (ms)
P1	10
P2	3
P3	8
P4	5

If the processes use First Come First Served Scheduling, for which of the following process order, the average waiting time of the processes will be minimum?

1. Order 1: P1 P2 P3 P4
2. Order 2: P2 P3 P4 P1
3. Order 3: P4 P3 P2 P1
4. Order 4: P4 P2 P3 P1

A. Order 1
B. Order 2
C. Order 3
D. Order 4

Your Answer: B | Correct Answer: B | Correct | Time taken: 00min 24sec | Review

Q.15 Numerical Type | Award: 2 | Penalty: 0 | Operating System | Easy (71%)

Consider the following set of jobs to be scheduled for execution on a single CPU system.

Job	Arrival Time	Size(cssec)	Priority
J_1	0	10	2 (Silver)
J_2	2	8	1 (Gold)
J_3	3	3	3 (Bronze)
J_4	10	4	2 (Silver)
J_5	12	1	3 (Bronze)
J_6	15	4	1 (Gold)

The completion time of process J_5 using non-preemptive PRIORITY scheduling for these jobs is _____. In non-preemptive PRIORITY scheduling, jobs are executed based on their PRIORITY, and ties are broken in favor of the earliest arrival time.

Your Answer: 30 | Correct Answer: 30 | Correct | Time taken: 00min 43sec | Review

You're doing good, you can target above 70 percentage!

Copyright © Stuff