



1. Answer any eight from the following

1×8 = 8

- (a) What is an Operating System?
- (b) Define real time Operating System?
- (c) What is deadlock?
- (d) Define the term virtual memory.
- (e) What is Direct Memory Access (DMA)?
- (f) What is trojan horse?
- (g) Define distributed file systems.
- (h) Define batch processing system.
- (i) What is Process Control Block (PCB)?
- (j) Name any two page replacement algorithm.

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2.. Answer any eight from the following

2×8 = 16

- (a) How does operating system acts as a resource manager.
- (b) Differentiate between process and thread.
- (c) How does avoid race condition?
- (d) What is context switch?
- (e) What is the purpose of long term scheduler?
- (f) What do you mean by safe and unsafe state?
- (g) What do you mean by storage interleaving?
- (h) Why does it combines both paging and segmentation?
- (i) What are viruses and worms?
- (j) What are the types of Operating System.

3. Answer any five from the following

4×5 = 20

- (a) What is multiprogramming and multitasking.
- (b) How a process can be created? What is parent and child process?
- (c) Explain about the deadlock prevention methods.
- (d) What is the difference between logical address and physical address?
- (e) Describe with suitable diagram the three level status of processes.
- (f) What is semaphore?
- (g) How to deal with shared files in a distributed system?

4. Answer any two from the following

8×2 = 16

- (a) Explain the Peterson's solution Algorithm to achieve mutual exclusion.
- (b) Explain I/O management in Operating System.
- (c) Explain the Banker's algorithm for Dead-lock avoidance.

5. Answer any two from the following

10×2 = 20

(a) Consider the following set of processes, with the length of the CPU-burst time given in milliseconds.

Process	Burstime	Priority
P1	10	3
P2	1	1
P3	2	3
P4	1	4
P5	5	2

The process are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0.

- (i) Draw four gantt charts illustrating the execution of these processes using FCFS, SJF.
- (ii) What is the turn around time of each processes for each of the scheduling algorithms in FCFS and SJF?
- (iii) What is the waiting time of each process for each of the scheduling algorithm in FCFS and SJF.
- (b) Describe the basic operations on file.
- (c) What are the different types of access methods for a file? Also mention why do we need different access methods?

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