

B.Sc. Sem.-6 (Rep) Examination

CC-310

Computer Science (OS)

October-2025

Time : 2-30 Hours]

[Max. Marks : 70

Q.1 Write the following

- i) What is Operating System ? Explain evolution and history of operating system. 07
- ii) Explain Single User and Multi User Operating System in detail. 07

OR

- i) Explain Elements of an Operating System. 07
- ii) Explain different types of an Operating System. 07

Q.2 Write the following

- i) Explain Memory Management Functions in detail. 07
- ii) Explain Paging in detail with appropriate example. 07

OR

- i) Explain Static Memory Partition and Dynamic Memory Partition in Contiguous Memory Allocation. 07
- ii) Explain Segmentation in detail with example. 07

Q.3 Write the following

- i) Explain Producer/Consumer Problem with example. 07
- ii) Explain STN algorithm with proper example. 07

OR

- i) What is Process ? Explain Process State diagram. 07
- ii) Explain SJF algorithm with proper example. 07

Q.4 Write the following

- i) Explain device management with its functions. 07
- ii) Write a note on Disk space management. 07

OR

- i) Explain Disk Scheduling Methods. 07
- ii) Explain device management characteristics. 07

Q.5. Attempt any seven out of twelve :-

- i) To access the services of the operating system, the interface is provided by the _____
 a) Library b) System calls c) Assembly instructions d) API
- ii) CPU scheduling is the basis of _____
 a) multiprogramming operating systems b) larger memory sized systems
 c) multiprocessor systems d) none of the mentioned
- iii) Define Starvation.
- iv) Define Semaphores.
- v) What does OS X has?
 a) monolithic kernel with modules b) microkernel
 c) monolithic kernel d) hybrid kernel
- vi) In operating system, each process has its own _____
 a) open files b) pending alarms, signals, and signal handlers
 c) address space and global variables d) all of the mentioned
- vii) When a process is in a "Blocked" state waiting for some I/O service. When the service is completed, it goes to the _____
 a) Terminated state b) Suspended state c) Running state d) Ready state
- viii) The FCFS algorithm is particularly troublesome for _____
 a) operating systems b) multiprocessor systems
 c) time sharing systems d) multiprogramming systems
- ix) A deadlock avoidance algorithm dynamically examines the _____ to ensure that a circular wait condition can never exist.
 a) operating system b) resources c) system storage state
 d) resource allocation state
- x) The main memory accommodates _____
 a) cpu b) user processes c) operating system d) all
- xi) The operating system is responsible for?
 a) bad-block recovery b) booting from disk
 c) disk initialization d) all of the mentioned
- xii) In real time operating system _____
 a) process scheduling can be done only once
 b) all processes have the same priority
 c) kernel is not required
 d) a task must be serviced by its deadline period.
