

Satyug Darshan Institute of Engineering & Technology, Faridabad

Department of Computer Science & Engineering

Academic year 2025-26

Programme: BCA-DS/GEN	Year & Semester : 2nd
Course Name: Operating System	Course Code: BCG-106-V1
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Unit I

Short answer questions

Q.N.	Question	KL
1	Define Operating System.	K1
2	List the main functions of an operating system.	K1
3	Define system call.	K1
4	State batch operating system.	K2
5	Define multiprogramming.	K1

Long answer questions

Q.N.	Question	KL
1	Explain the role and objectives of an operating system.	K3
2	Discuss different types of operating systems.	K3
3	Explain system calls and their types with examples.	K4
4	Describe the structure of an operating system.	K3
5	Compare monolithic, layered, and microkernel OS structures.	K4

Unit II

Short answer questions

Q.N.	Question	KL
1	Define process.	K1
2	State Process Control Block (PCB).	K1
3	Define context switching.	K1
4	Explain thread.	K1
5	Define inter-process communication (IPC).	K2

Long answer questions

Q.N.	Question	KL
1	Explain process states and state transition diagram.	K3
2	Describe CPU scheduling and scheduling criteria.	K3
3	Explain different CPU scheduling algorithms.	K4
4	Discuss threads and their types.	K3
5	Explain inter-process communication mechanisms.	K4

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Unit III

Short answer questions

Q.N.	Question	KL
1	Define deadlock.	K1
2	List necessary conditions for deadlock.	K1
3	Define critical section.	K1
4	Define semaphore.	K1
5	State mutual exclusion.	K2

Long answer questions

Q.N.	Question	KL
1	Explain deadlock with suitable examples.	K3
2	Describe methods for deadlock prevention and avoidance.	K4
3	Explain Banker's algorithm with example.	K4
4	Discuss synchronization problems and solutions.	K3
5	Explain semaphores and monitors.	K4

Unit IV

Short answer questions

Q.N.	Question	KL
1	Define memory management.	K1
2	State paging.	K1
3	Define segmentation.	K1
4	Explain virtual memory.	K1
5	Define page fault.	K2

Long answer questions

Q.N.	Question	KL
1	Explain contiguous and non-contiguous memory allocation.	K3
2	Describe paging and segmentation techniques.	K3
3	Explain virtual memory concept in detail.	K4
4	Discuss page replacement algorithms.	K4
5	Compare paging and segmentation.	K4