QUESTION BANK

SUBJECT : Operating Systems

SEM / YEAR: IV Sem/ II Year

UNIT I - Introduction			
Introduction: What Operating Systems Do?, Computer System Architecture, Operating System Structure, Operating System Services-User Operating system interface, system Calls, Types of System calls, System programs, Operating System Structure, System boot. **Process Concept:** Process Concept, Process Scheduling, Operations on Processes, Inter-process Communication			
PART – A			
Q.No	**Questions**	**BT Level**	**Competence**
1.	Give the objectives of an operating system. **Or** What are the three main purposes of an operating system?	BTL-2	Understanding
2.	List out the various operating system components. **Or** List the four steps that are necessary to run a program on a completely dedicated machine.	BTL-1	Remembering
3.	Define Operating System.	BTL-1	Remembering
4.	What is the responsibility of kernel? **Or** What is the kernel?	BTL-1	Remembering
5.	Analyze the layers in operating systems.	BTL-4	Analyzing
6.	List out some system calls required to control the communication system.	BTL-4	Analyzing
7.	What are the services of an operating system?	BTL-1	Remembering
8.	Is OS a resource Manager? If so justify your answer.	BTL-3	Applying
9.	What is meant by system call?	BTL-1	Remembering
10.	What is SYSGEN and system boot?	BTL-2	Understanding
11.	What is the purpose of system programs?	BTL-1	Remembering
12.	Compare and contrast serial processing and batch processing.	BTL-5	Evaluating
13.	Write the differences of batch systems and time sharing systems.	BTL-2	Understanding
14.	Do timesharing differ from multiprogramming? If so, How?	BTL-3	Applying
15.	What are batch systems?	BTL-1	Remembering
16.	What are privileged instructions?	BTL-1	Remembering
17.	Differentiate between tightly coupled systems and loosely coupled systems.		
18.	What is process control block?	BTL-2	Understanding
19.	What are schedulers?	BTL-1	Remembering
20.	What is co-operative process?	BTL-1	Remembering
21.	What are the use of job queues, ready queues and device queues.	BTL-2	Understanding
22.	What is the main advantage of multiprogramming?	BTL-2	Understanding
23.	What is the use of inter process communication?	BTL-2	Understanding
24.	What is meant by context switch?	BTL-2	Understanding
25.	What is independent process?	BTL-1	Remembering
26.	Give the functions of operating systems.	BTL-2	Understanding
27.	Why API's need to be used rather than system calls?	BTL-5	Evaluating

28.	How would you build clustered systems?	BTL-6	Creating
29.	What is dual mode operation and what is the need of it?	BTL-4	Analyzing
30.	Illustrate the use of fork and exec system calls.	BTL-3	Applying
31.	What are the advantages of Peer –to- peer system over client -server systems?	BTL-6	Creating
32.	State the advantage of multiprocessor system.	BTL-2	Understanding
33.	Give the types of system calls in operating system.	BTL-2	Understanding
34.	What are the benefits OS co-operating processes?	BTL-2	Understanding
35.	How can a user program disturb the normal operation of the system?	BTL-4	Analyzing
36.	What are the three major activities of an operating system in regard to Secondary- storage management.	BTL-2	Understanding
37.	Illustrate the main purpose of an operating system	BTL-3	Applying
38.	Analyze the different types of operating system.	BTL-4	Analyzing
39.	Evaluate Why the operating system is important.	BTL-5	Evaluating
	PART – B		
1.	(i) Explain the various types of system calls with an example for each.(8) (ii) Discuss the functionality of system boot with respect to an Operating System. (5)	BTL-5	Evaluating
2.	Illustrate how the operating system has been evolved from serial processing to multiprogramming system.	BTL-3	Applying
3.	(i) Explain the various structure of an operating system. (8) (ii)Describe system calls and system programs in detail with neat sketch. (5)	BTL-1	Remembering
4.	Describe the evolution of operating system.	BTL-2	Understanding
5.	(i) State the operating system structure (4) (ii) Describe the operating system operations in detail. Justify the reason why the lack of a hardware supported dual mode can cause serious shortcoming in an operating system? (9)	BTL-6	Creating
6.	Explain the different architecture of OS starting from simple structure, layered structure, micro kernels, modules and hybrid systems, with suitable examples OS structure, including Google's Android.	BTL-3	Applying
7.	Discuss about micro kernel architecture.	BTL-2	Understanding
8.	Explain the module architecture of an operating system with neat diagram.	BTL-1	Remembering
9.	Discuss hybrid system design of an Operating system.	BTL-4	Analyzing
10.	Distinguish between the dual mode and multi-mode operation in operating systems.	BTL-1	Remembering
11.	Discuss the essential properties of the following types of systems. (i) Time sharing systems. (7) (ii) Multi-programmed batch systems. (6)	BTL-1	Remembering
12.	Explain inter–process communication.	BTL-4	Analyzing
13.	How could a system be designed to allow a choice of operating systems from which to boot? (6) What would the bootstrap program need to do? (7)	BTL-4	Analyzing
	PART – C		

1.	(i) With neat sketch discuss operating system overview.(8) (ii) Enumerate the different operating system structure and explain with neat sketch. (7)	BTL-6	Creating
2.	(i) State the basic functions of OS.(5) (ii) Explain system calls, system programs and OS generation.(10)	BTL-5	Evaluating
3.	Evaluate in detail the operating system services.(15)	BTL-5	Evaluating
4.	Summarize about four resources that will be allocated by operating systemto users and processes.(15)	BTL-5	Evaluating
5.	Develop System Call – OS Relationship.(15)	BTL-6	Creating