23CMU313N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch – **COMPUTER SCIENCE**

OPERATING SYSTEM

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	A _____ is a loosely coupled system where each processor has its own memory. a) Multiprocessor System b) Clustered System c) Distributed System d) Symmetric Multiprocessing System	K1	CO1
	2	In Round Robin scheduling, the parameter that determines performance is _____. a) Quantum time b) Arrival time c) Burst time d) Priority	K2	CO1
2	3	Spinlocks are an implementation of _____. a) Counting semaphores b) Starvation handling c) Deadlock prevention d) Busy waiting	K1	CO2
	4	_____ algorithm is used for deadlock avoidance. a) Round Robin b) Banker's Algorithm c) Peterson's Algorithm d) Dining Philosopher's Algorithm	K2	CO2
3	5	The part of memory that holds the OS, user programs, and data is called _____. a) Cache Memory b) Virtual Memory c) Main Memory d) Secondary Storage	K1	CO3
	6	The smallest unit of logical storage recognized by the OS is a _____. a) Sector b) Directory c) Page d) File	K2	CO3
4	7	The smallest unit of data transfer between disk and memory is a _____. a) Sector b) Track c) Cylinder d) Block	K1	CO4
	8	Spooling is commonly used for _____. a) Disk I/O b) Printer I/O c) Keyboard Input d) DMA Operations	K2	CO4
5	9	Solaris was developed originally by _____. a) IBM b) Sun Microsystems c) Microsoft d) Oracle from the start	K1	CO5
	10	Android is based on _____. a) Solaris Kernel b) Windows NT Kernel c) Linux Kernel d) BSD Kernel	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain about multiprocessor system.	K2	CO1
		(OR)		
	11.b.	Discuss about process control block.		
2	12.a.	Summarize the system model neatly.	K3	CO2
		(OR)		
	12.b.	Analyse how resource preemption helps in recovering from deadlock.		
3	13.a.	Illustrate swapping in memory management.	K4	CO3
		(OR)		
	13.b.	Explain how the LRU algorithm selects a page for replacement		
4	14.a.	Describe about disk attachment in mass storage structure.	K3	CO4
		(OR)		
	14.b.	Explicate about Direct Memory Access.		
5	15.a.	Classify the difference between mobile computing and cloud computing.	K4	CO5
		(OR)		
	15.b.	Outline the open source operating system of Linux and solaris.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	List the types of system calls in an operating system and explain.	K4	CO1
2	17	Demonstrate Banker's Algorithm with an algorithm and example.	K4	CO2
3	18	Illustrate file attributes and file operations neatly with an example.	K4	CO3
4	19	Explain the applications of I/O interface.	K4	CO4
5	20	Classify the client server and peer to peer computing concepts.	K4	CO5

Z-Z-Z **END**