

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)**

Branch - **COMPUTER TECHNOLOGY**

OPERATING SYSTEMS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Question No.	Question	K Level	CO
1	The technology that allows operating system to run as applications within other operating system is called _____ a) Virtualization b). embedded system c.) Mobile computing d.) Cloud computing	K1	CO1
2	The scheduler which controls the degree of multiprogramming is called _____ a) short-term b) Medium-term c) Long-term d) Intermediate term	K2	CO2
3	Match from the following parallelism that distributes task but not data across multiple computing cores a)Data b) Task c) work d) process	K1	CO1
4	Show the term that refers to number of processes that are completed per unit time a) Throughput b).Turn around time c.) Waiting time d.) Cpu Utilization	K2	CO2
5	Recall that a semaphore can be accessed only through two standard atomic operations wait() and ----- a) stop() b). start() c.) Signal() d.) run()	K1	CO1
6	Relate the following that represent deadlock more precisely in terms of directed graph a) process-allocation graph b). Resource-allocation graph c.) product-allocation graph d.) Deallocation graph	K2	CO2
7	Label the address generated by the CPU a) physical b). Real c.) Logical d.) Imaginary	K1	CO1
8	Show LRU stands for ----- algorithm a) Least recently used b). Lowest recent usage c.) Least return usage d.) Least recently unused	K2	CO2
9	Which of the following is NOT a common file attribute in most file systems? a) File name b) File size c) File location d) File type	K1	CO1
10	Interpret the value in a bit map used to represent a free block a) 0 b). 1 c.) undefined d.) negative	K2	CO2

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Explain user and operating system Interface.	K2	CO1
	(OR)		
11.b.	Outline the basic concepts of process.		
12.a.	Identify the multithreading models.	K3	CO3
	(OR)		
12.b.	Make use of the criteria used for comparing scheduling algorithms.		
13.a.	Apply Peterson's solution for critical-section problem.	K3	CO3
	(OR)		
13.b.	Identify the characteristics of deadlock.		
14.a.	Examine the working of contiguous memory allocation.	K4	CO4
	(OR)		
14.b.	Compare the FIFO and optimal page replacement.		
15.a.	Analyze various access methods involved in files.	K4	CO4
	(OR)		
15.b.	List and explain commonly used file operations.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Question No.	Question	K Level	CO
16	Classify different computing environments in which operating system is used in different ways.	K4	CO2
17	Inspect the working of priority and Round Robin CPU scheduling algorithms.	K4	CO3
18	Analyze the ways to avoid Deadlock.	K4	CO4
19	Examine the working of demand paging in detail.	K4	CO5
20	Discover different ways of performing file Allocation methods.	K4	CO5

Z-Z-Z

END