23DAU314N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Third Semester)

Branch – **COMPUTER SCIENCE WITH DATA ANALYTICS**

OPERATING SYSTEMS

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	To start a new process the shell executes a _____ system call. (a) fork () (b) new () (c) start () (d) try()	K1	CO1
	2	Messages can be exchanged between the processes either directly or indirectly through a common _____ (a) Scheduler (b) Mailbox (c) Dispatcher (d) Messenger	K2	CO1
2	3	To decide which kernel thread to schedule onto a CPU, the kernel uses (a) System-contention scope (b) System-contention service (c) System-contention setting (d) System-contention self	K1	CO2
	4	The _____ selects a process from the processes in memory that are ready to execute and allocates the CPU to that process. (a) Dispatcher (b) Scheduler (c) Analyzer (d) Messenger	K2	CO2
3	5	Which one of the following is the deadlock avoidance algorithm? (a) Karn's Algorithm (b) Banker's Algorithm (c) Round robin Algorithm (d) Elevator Algorithm	K1	CO3
	6	For larger page tables, they are kept in main memory and a _____ points to the page table. (a) Page table base register (b) Page table base pointer (c) Page table base register pointer (d) Page table base	K2	CO3
4	7	The _____ table contains the base address of each page in physical memory. (a) Process (b) Memory (c) Page (d) Frame	K1	CO4
	8	Memory is arranged on disk in the form of _____. (a) Blocks (b) Sectors (c) Memory (d) Data	K2	CO4
5	9	The direct-access method is based on a disk model of a file, since disks allow _____ access to any file block. (a) Direct (b) Random (c) Indirect (d) Relative	K1	CO5
	10	The block number by the user to the operating system is normally a _____ block number. (a) Fixed (b) Random (c) Relative (d) Direct	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.	Inspect on Operating system services with examples.	K4	CO1
	(OR)			
	11.b.	Examine System Structure of Operating system with a neat diagram.		
2	12.a.	Model an example to show the basic concepts of Process Scheduling.	K3	CO2
	(OR)			
	12.b.	Identify the importance of Operations on process.		
3	13.a.	Plan the condition for Deadlock with examples.	K3	CO3
	(OR)			
	13.b.	Model the concept of recovery from deadlock. Give example.		
4	14.a.	Examine the types of Paging. Illustrate with example.	K4	CO4
	(OR)			
	14.b.	Inspect on the importance of Swapping.		
5	15.a.	Assess different Kernal I/O subsystems.	K5	CO5
	(OR)			
	15.b.	Interpret on Free space management in operating system.		

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	Estimate on Linkers and Loaders in operating system.	K6	CO1
2	17	Dissect in detail on any two scheduling algorithms with example.	K4	CO2
3	18	Inspect on deadlock avoidance. Give examples.	K4	CO3
4	19	Evaluate the concept of Page Table structure with a neat diagram.	K5	CO4
5	20	Examine the different File allocation methods.	K4	CO5

Z-Z-Z END