

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

**BSc DEGREE EXAMINATION DECEMBER 2024
(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	The main function of the _____ interpreter is to get and execute the next user-specified command. (a) Random (b) Command (c) Direct (d) Relative	K2	CO1
2	3	The round-robin (RR) scheduling algorithm is designed especially for _____ systems. (a) Random (b) Round (c) Time sharing (d) Relative	K1	CO2
	4	The _____ is the module that gives control of the CPU to the process selected by the short-term scheduler. (a) Dispatcher (b) Scheduler (c) Analyzer (d) Messenger	K2	CO2
3	5	The _____ scheme is not applicable to a resource-allocation system with multiple instances of each resource type. (a) Cyclic graph (b) Wait-for graph (c) Network graph (d) Random	K1	CO3
	6	A state is _____ if the system can allocate resources to each process in some order and still avoid a deadlock. (a) Normal (b) Active (c) Safe (d) Dead	K2	CO3
4	7	Both the first-fit and best-fit strategies for memory allocation suffer from _____ fragmentation. (a) Internal (b) Random (c) Relative (d) External	K1	CO4
	8	The run-time mapping from virtual to physical addresses is done by a hardware device called the _____. (a) MMU (b) MUN (c) MUU (d) MIU	K2	CO4
5	9	_____ contains information about the file, including ownership, permissions and location of the file contents. (a) PCC (b) PCB (c) PBB (d) PPC	K1	CO5
	10	Linked allocation solves all problems of _____ allocation. (a) Direct (b) Contiguous (c) Discreate (d) Indirect	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 the features of System calls.	K4	CO1
		(OR)		
	11.b.	Examine on Linkers and Loaders in operating system.		
2	12.a.	Sketch the different states of Process. Give examples.	K3	CO2
		(OR)		
	12.b.	Outline the concept of Process scheduling.		
3	13.a.	Discuss about Deadlock characterization with examples.	K3	CO3
		(OR)		
	13.b.	Analyse the condition for Deadlock with examples.		
4	14.a.	Explain the concept of Paging with its working.	K4	CO4
		(OR)		
	14.b.	Summarize the various operating system policies for Virtual Memory.		
5	15.a.	Assess different Access methods in File System.	K5	CO5
		(OR)		
	15.b.	Interpret on applications of I/O interface.		

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 the System Structure of Operating system with a neat diagram.	K6	CO1
2	17	Examine in detail on the process of scheduling algorithms. Explain any two of them.	K4	CO2
3	18	Summarize an algorithm to detect Deadlock with an example.	K4	CO3
4	19	Describe Single contiguous memory management with example.	K5	CO4
5	20	What is File allocation? Explain the issues involved in it.	K4	CO5

Z-Z-Z

END