

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

**MSc (SS) DEGREE EXAMINATION MAY 2023
(Third Semester)**

**Branch – SOFTWARE SYSTEMS
(Five year integrated)**

OPERATING SYSTEMS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 The number of processes completed per unit time is known as _____.
 (i) Output (ii) Throughput
 (iii) Efficiency (iv) Capacity
- 2 Which one of the following is the deadlock avoidance algorithm?
 (i) Bankers (ii) round robin
 (iii) elevator (iv) Karn's
- 3 _____ is a memory buffer and it is used to contain speed differential.
 (i) cache (ii) accumulator
 (iii) disk buffer (iv) stack pointer
- 4 _____ is the time taken when accessing data on the disk.
 (i) settle time (ii) Rotation latency
 (iii) seek time (iv) waiting time
- 5 Which type of VM is full virtualization?
 (i) type 1 (ii) type 2
 (iii) type 3 (iv) type 4

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Explain briefly the objectives and functions of operating system.
 OR
 b Analyze the process states with neat sketch.
- 7 a Prioritize the scheduling algorithms and explain them briefly.
 OR
 b Explain about the dead lock detection and recovery.
- 8 a Explain the simple paging in brief.
 OR
 b State the significance of virtual memory management.

Cont...

- 9 a Enumerate the disk scheduling algorithms in brief.
OR
b Elucidate the file access methods in OS.
- 10 a Explain the I/O virtualization in short.
OR
b Discuss about the virtual machine on multicore CPU's.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Explain about the process description and control in detail.
OR
b List the types of thread in OS and explain them in detail.
- 12 a Evaluate the importance of semaphore in detail.
OR
b Discuss on Mutual exclusion.
- 13 a Explain the memory management requirements.
OR
b Elaborate the page replacement strategies with example.
- 14 a List and discuss on the types of I/O devices.
OR
b Describe on free space management.
- 15 a Elucidate on the types of Virtualization.
OR
b Comprehend Type 1 and Type 2 Hypervisors.

Z-Z-Z

END