TOTAL PAGES: 2

22NMB210

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2023
(Second Semester)

Branch – **NETWORKING & MOBILE APPLICATION**

OPERATING SYSTEM CONCEPTS

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 Banker's algorithm is used _____.
(i) to prevent deadlock (ii) to deadlock recovery
(iii) to solve the deadlock (iv) None of these

3 The address of a page table in memory is pointed by _____.
(i) stack pointer (ii) page register
(iii) program counter (iv) page table base register

4 RAID stands for _____.
(i) Redundant Allocation of Inexpensive Disks
(ii) Redundant Array of Important Disks
(iii) Redundant Allocation of Independent Disks
(iv) Redundant Array of Independent Disks

5 Mapping of file is managed by _____.
(i) file metadata (ii) page table
(iii) virtual memory (iv) file system

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Mention the objectives and functions of Operating System.
OR
b Summarize the Generation of Operating System.

7 a Elucidate Threads and its type.
OR
b Define Deadlock in the context of OS. List the four necessary conditions for a deadlock to occur.

8 a What is paging? How does it differ from traditional memory partitioning?
OR
b Compare Shortest Job First vs Shortest Remaining Job First.

9 a Describe the concept of memory – mapped I/O and its advantages.
OR
b Show the benefits and limitations of using a Disk Cache.

Cont...

10 a What are the benefits of using record blocking in file storage?

OR

b Bring out the primary goals of File System Security.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a What is meant by Process? Explain various fields of Process Control Block with neat diagram.

OR

b Discuss the concept of Process State Transition and draw a neat transition diagram.

12 a Categorize the different approaches for preventing deadlock.

OR

b Analyze the deadlock avoidance with suitable example.

13 a Draw a diagram of segmentation memory management scheme and explain its principle.

OR

b Evaluate the following process of scheduling algorithm with example.
i. FCFS ii. Round Robin

14 a Analyze the SCAN and C-SCAN disk scheduling algorithm and their advantages.

OR

b What do you mean by RAID structure and explain its types of RAID level?

15 a Describe in detail about File Sharing and Protection.

OR

b Elaborate on file system and directory implementation with neat diagram.

Z-Z-Z END