

S.NO: 22N1- PCS

Course Code: PGXC

A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM

(AUTONOMOUS)

M.Sc (Computer Science) Degree Examination

I Semester – November – 2022

CC III – MODERN OPERATING SYSTEMS

Time: 3 hours

Maximum Marks: 75

Section –A

10X2=20

Answer ALL the Questions

1. What is the role of program counter?
2. What do you mean by UNIX special file and list its types?
3. Difference between physical address and virtual address?
4. List the three parts of memory management system.
5. Define UFD and MFD.
6. How does DMA increase system concurrency?
7. Define busy waiting and Spinlock.
8. What is a semaphore?
9. What do you mean by binary exponential backoff?
10. How sandbox works?

Section-B

5X5=25

Answer **ALL** the Questions

11. a) Analysis and explain how your operating system act as a resource manager.

(or)

b) To create and explain independent CPU with its multicore chips of four mini chips on them.

12. a) Demonstrate how a segmented memory allows table to grow or shrink independently.

(or)

b) How to run multiple programs without a memory abstraction? Explain.

13. a) To write a simple UNIX program that copies one file from its source file to a destination file.

(or)

b) Elaborate the layers of the I/O software system in detail.

14. a) Briefly explain earliest deadline first CPU scheduling algorithm with example.

(or)

b) With an example explain how deadlock occurs and how it can be avoided?

15. a) create and explain the three protection domain objects with its access rights.

(or)

b) Give a comparison of three kinds of multiple CPU systems.

Section -C

3 X 10 = 30

Answer any **THREE** Questions

16. Discuss in detail about real-time and smart card operating systems.
17. With neat sketch discuss how the two-level page table works.
18. Elaborate the most common system calls relating to files.
19. Describe the Banker's Algorithm for a Single Resource with example.
20. Elaborate on Secret-Key Cryptography with example.

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