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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022 ONLY)

22PCS103

REG.NO

NGM COLLEGE (AUTONOMOUS) POLLACHI

END-OF-SEMESTER EXAMINATIONS: DECEMBER- 2022

M. Sc - Computer Science **MAXIMUM MARKS: 50**

I SEMESTER **TIME: 3 HOURS**

ADVANCED OPERATING SYSTEMS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Which one of the following is used manage the concurrent processes?
   a) Pipe b) Thread c) Semaphore d) Socket

2. Choose the characteristics of Distributed Operating System_____
   a) No Resource Sharing b) No memory sharing
   c) Reliable d) Single Centralized data repository

3. Real time is _____.
   a) Logical time b) Qualitative notion of time.
   c) Virtual time d) Quantitative notion of time

4. Which of the following uses handheld operating systems?
   a) Laptop b) Super computer
   c) Smartphone d) PC

5. _____ is the core of the operating system.
   a) Shell b) Kernel c) Command d) Script

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. What is Cooperating process?
7. Why is deadlock handling difficult in distributed systems?
8. What is a fail-safe state of a system?
9. Give an example for Handheld OS.
10. Specify the different Linux file systems.

(CONTD …. 2)

SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(Qn. No. 11 to 15 Questions for Short Answers with internal choices) (K3)

11. a) List the functions of operating system.

(OR)

b) Brief a note on critical section problem.

12. a) List out the issues in Distributed Systems.

(OR)

b) Elucidate Deadlock resolutions.

13. a) Mention few applications of real time operating system.

(OR)

b) What are the techniques to be followed for developing high reliable software?

14. a) Write short notes on characteristics and features of Handheld system.

(OR)

b) Comment on Handheld system security.

15. a) What are the commands used to track the process in Linux? Define any two commands.

(OR)

b) Write down the features of iOS.

SECTION – C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(Qn. No. 16 to 20 Questions for Long Answers with internal choices (K4 (Or) K5)

16. a) What is meant by process synchronization? Explain any two synchronization mechanisms.

(OR)

b) Demonstrate deadlock situation with example. What are the methods for handling deadlock problem?

17. a) Describe the purpose and rules of Lamport's logical clock in detail.

(OR)

b) What are the strategies followed in handling a deadlock in a distributed system. Explain.

18. a) Discuss the characteristics of Real- time operating systems.

(OR)

b) Explain the basic model of a real time operating system with a neat sketch.

19. a) Explain functions and features of Palm OS.

(OR)

b) Elaborate the architecture of Symbian OS.

20. a) Explain the memory management techniques used in Linux.

(OR)

b) Elaborate the functions of different layers in iOS architecture