(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY) 23UAI205

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY 2024

BSC(Computer Science with AI & ML) **MAXIMUM MARKS: 75**

SEMESTER-II **TIME : 3 HOURS**

PART - III

23UAI205- OPERATING SYSTEMS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

(K1)

1. The bus which is used to connect the monitor to the CPU is _____
   a) PCI bus
   b) SCSI bus
   c) Memory bus
   d) Rambus
2. A process can be _____
   a) single threaded
   b) multithreaded
   c) both single threaded and multithreaded
   d) none of the mentioned
3. Because of virtual memory, the memory can be shared among _____
   a) processes
   b) threads
   c) instructions
   d) paging
4. Which one of the following is the deadlock avoidance algorithm?
   a) banker's algorithm
   b) round-robin algorithm
   c) elevator algorithm
   d) karn's algorithm
5. Interrupts form an important part of _____ systems.
   a) Batch processing
   b) Multitasking
   c) Real-time processing
   d) Multi-user

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

6. Define Buses.
7. What are semaphores?
8. Illustrate the Virtual Memory.
9. Define Deadlock Prevention.
10. What is DMA?

(CONT….2)

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Explain the History of Operating system.

(OR)

b) Describe the client/server models.

12. a) Examine the process hierarchies and States.

(OR)

b) Summarize the race condition and Mutual Exclusion in thread.

13. a) Describe scheduling in batch systems.

(OR)

b) Explain the design issues for paging system.

14. a) Describe the deadlock detection and recovery.

(OR)

b) Summarize the distributed systems.

15. a) Explain the memory mapped I/O.

(OR)

b) Describe the goals of I/O software.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a) Discuss the Input and Output devices.

(OR)

b) Examine the different kinds of operating system**.**

17. a) Summarize the Process model.

(OR)

b) Justify the classical thread model.

18. a) Discuss the Page replacement algorithms

(**OR)**

b) Summarize the segmentation.

19. a) Examine the deadlock modeling**.**

(OR)

b) Discuss the operating system types synchronization.

20. a) Justify the Principles of I/O hardware and software.

(OR)

b) Summarize the File System Management and Optimization.

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