(NO. OF PAGES: 2)

(FOR THE CANDIDATES ADMITTED **24UAI205**

DURING THE ACADEMIC YEAR 2024-2027 ONLY) REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS :May 2025

B.Sc.(Computer Science with AI & ML) **MAXIMUM MARKS: 75**

SEMESTER-II **TIME : 3 HOURS**

PART - III

24UAI205 – Operating Systems

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1 What is meant by the Booting in the Operating System?

a) Restarting Computer b) Install the Program

c) To Scan d) To turn off

2. The Operating System maintains all PCBs in _____.

a) Process Scheduling Queues b) Job queue

c) Ready queue d) Device queue

3. Which set of necessary conditions causes a ‘deadlock’ in an operating system?

a) Blocking send, race condition, hold and wait and RAM overflow

b) Blocking send, race condition , cache incoherency and RAM overflow

c) Mutual exclusion, no pre-emption, hold and wait, and circular wait

d) Mutual exclusion, race condition, cache incoherency and RAM overflow

4. ____ is a unique tag, usually a number identifies the file within the file system.

a) File name b) File Identifier

c) File Type d) File Created Date

5 If one or more devices use a common set of wires to communicate with the computer system,the connection is called _____.

a) CPU b) Monitor

c) Wirefull d) Bus

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

6. What is an Operating System?

7. Write the use of Text Section in Process State.

8. Define Deadlock Prevention in OS.

9. Decide the concept of File Operations.

10. What is Offsite Storage?

(CONT..2)

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SECTION – B (5 X 5 = 25 MARKS)

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

11. a) Examine the System Calls in Operating System with example.

(OR)

b) Illustrate the Operating System Structure with a neat diagram.

12. a) Construct the a Process Scheduling with a neat diagram.

(OR)

b) Compare Direct Communication and Indirect Communication in Interprocess Communication with example.

13. a) Analyse the Deadlock Avoidance in OS with an example.

(OR)

b) Illustrate the Deadlock Detection in OS with an example

14. a) Construct in detail the various File Concept in File System with example

(OR)

b) Examine in detail the File Sharing in File system with example

15. a) Explain in detail the FCFS Scheduling and SSTF Scheduling with neat diagram.

(OR)

b) Interpret in brief the SCAN , C-SCAN and LOOK Scheduling with neat diagram

SECTION – C (5 X 8 = 40 MARKS)

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

16. a) Examine in brief the Computer System Architecture in Operating System with example.

(OR)

b) Analyze in brief the various Operating System Services with example.

17. a) Describe in detail theFirst-Come, First Served Scheduling and Shortest-Job-First Scheduling with example.

(OR)

b) Discuss in brief about the Critical Section Problem in OS with example.

18. a) Compare and Contrast Hash Page Table and Inverted Page Table with a neat diagram

(OR)

b) Assess in detail the Swapping in Memory Management with a neat diagram

19. a) Explain the File System Structure and File System Implementation.

(OR)

b) Bring out the differences between UNIX and Windows.

20. a) Discuess in detail about Swap Space Management , Advantages and Disadvantages.

(OR)

b) Determine the Various Applications of Input and Output Interface.

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