

TILAK MAHARASHTRA VIDYAPEETH, PUNE

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)(044)/

BACHELOR OF SCIENCE (COMPUTER APPLICATIONS)₍₇₅₀₎/

BACHELOR OF COMPUTER APPLICATIONS (CYBER SECURITY) (464)/

BACHELOR OF SCIENCE(CYBER SECURITY)(760)

EXAMINATION: DECEMBER- 2024

SEMESTER - I

Sub: Operating System

(BCA146-20/18/BCA-CS-146-20/BCA23-104/BCAC23-104/BSC24-104/ BSCC24-104)

Total Marks : 60

Time: 10.00am To 12.30pm

Instructions:

1. All questions are compulsory unless and otherwise stated.
2. Bold figures to the right of every question are the maximum marks for that question.
3. Candidates are advised to attempt questions in order.
4. Answers written illegibly are likely to be marked zero.
5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
6. Draw neat and labelled diagrams wherever necessary.

Q.1. Fill in the blanks

(5)

- _____ is the full form of FAT?
 - File attribute table
 - File allocation table
 - Font attribute table
 - Format allocation table
- _____ process scheduling queue keeps all the processes in the system.
 - Job queue
 - Ready queue
 - Device queues
 - None of the above
- _____ is not an operating system
 - Windows
 - Linux
 - DOS
 - Oracle
- Information in a memory that is no longer valid or wanted is known as _____.
 - non-volatile
 - volatile
 - surplus
 - garbage
- _____ semaphores provide locks for mutual exclusions.
 - Binary
 - counting
 - Variable
 - None of the above

Q.2. State True/False

(5)

1. A real-time operating system guarantees task completion within a defined time frame.
2. A thread is a lightweight process and can exist without a parent process.
3. Swapping is the process of moving processes between main memory and secondary storage.
4. File allocation tables are used in file systems to keep track of allocated and free disk space.
5. Mutual exclusion ensures that no two processes can access a critical section simultaneously.

Q.3. Answer the following (Solve any 5) (10)

1. Define Multi Processing OS with example.
2. What are the different states of a process?
3. What is memory management important in operating systems?
4. Define semaphore.
5. What is the difference between a process and a thread?
6. What is a file in a computer system?

Q. 4. Answer the following in detail. (Solve any 6) (30)

1. What is contiguous memory allocation, and how does it work?
2. What is segmentation, and how is it different from paging?
3. Describe the different types of operating systems.
4. Describe all four classical epic problems.
5. Explain various components of OS.
6. Difference between N/w OS and DOS.
7. Describe process states with diagram.

Q. 5. Answer the following in detail. (Solve any 1) (10)

1. Describe any two classical epic problems with examples.
 2. List and explain all types of process scheduling algorithms.
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