

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2026

Course	: BSCCS	Date	: 17/02/2026
Subject Code	: BSCCS-102	Time	: 11:30am to 01:45pm
Subject Name	: Fundamentals of Operating System and Security	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Explain Structure of Operating System.
2. Explain various states of Process with figure.
3. List and explain steps of Program execution with figure.
4. List Disk Scheduling Algorithms and explain any two in detail.
5. Explain the process of Cryptography in detail.

Section B

Answer the following (Attempt any four) (20)

1. What is Distributed processing?
2. Explain Components of Process in brief.
3. What are two types of process scheduling policies?
4. List and explain Scheduling Criteria in brief.
5. What are some of the operations defined on Directories?
6. What are two types of Threats? Explain in brief.

Section C

Part – A (Multiple Choice Questions) (10)

- Q-1 Which of the following is the main purpose of an Operating System?
A) Perform calculations B) Manage hardware and software resources
C) Connect to the internet D) Edit text documents
- Q-2 The user interface provided by the operating system is called:
A) Kernel B) Shell
C) Cache D) BIOS
- Q-3 In process management, a process in the waiting state is:
A) Using the CPU B) Waiting for a resource
C) Terminated D) Swapped to disk
- Q-4 Which of the following is a valid thread benefit?
A) Slower execution B) Efficient CPU utilization
C) Higher memory usage D) None of these
- Q-5 Process scheduling is done by the:
A) File manager B) Scheduler
C) Device driver D) BIOS
- Q-6 Mutual exclusion is important in:
A) Memory management B) Process synchronization
C) File backup D) System booting
- Q-7 Which of these is a memory management technique?
A) Paging B) Buffering
C) Virtualization D) Formatting

Q-8 Which of the following is a type of file system?

- A) FAT32
- B) EXT4
- C) NTFS
- D) All of these

Q-9 Which security measure prevents unauthorized access to a network?

- A) Firewall
- B) Compiler
- C) Printer driver
- D) Scheduler

Q-10 During OS installation, the first step is usually to:

- A) Format the storage device
- B) Create user accounts
- C) Install antivirus software
- D) Run application programs

Part – B (State whether the following statements are true or false)

(10)

- 1 The kernel is the core part of the operating system.
- 2 Multithreading allows multiple threads to run in parallel.
- 3 In a deadlock, processes can complete without waiting.
- 4 FIFO is a commonly used process scheduling algorithm.
- 5 Virtual memory allows the execution of processes larger than the available physical memory.
- 6 NTFS is a file system format used in Linux.
- 7 Device drivers are part of device management in an operating system.
- 8 A firewall is used to prevent unauthorized network access.
- 9 OS installation can only be done using a CD/DVD.
- 10 Protection in an OS ensures that only authorized users can access system resources.
