

Dr. Babasaheb Ambedkar Open University, Ahmedabad

Term-End Examination : January-2026

Course Name : MSCCS

Subject Name : Mobile Operating System and Security

Subject Code : MSCCS-301

Date : 16-02-2026

Time : 03:00PM TO 05:15PM

Max Marks : 70

Section A

Q.-1. Respond to any three of the following questions in brief. (30)

- (1) Discuss in detail the need and objectives of a Generalized Operating System in modern computing environments.
- (2) Describe the concept of Distributed Operating Systems, including their working mechanism, benefits, and challenges.
- (3) Explain the concept, characteristics, and evolution of Mobile Computing.
- (4) Explain Symbian OS architecture and its components.
- (5) Explain Windows Phone architecture and features.

Section B

Q.-2. Write short notes on any four of the following topics. (20)

- (1) Discuss the Process Life Cycle and explain each state with suitable examples.
- (2) Discuss the concept of Threading and compare Process vs Thread.
- (3) Discuss the advantages and disadvantages of various OS structures with suitable examples.
- (4) Analyze application lifecycle management in mobile OS.
- (5) Discuss reasons for decline of Symbian OS.
- (6) Explain mobile OS security threats and countermeasures.

Section C

Q.-3. Select the correct response for each of the following questions. (10)

(1) Which software acts as an interface between user and hardware?

- | | |
|---------------------|-------------------------|
| A) Compiler | B) Application Software |
| C) Operating System | D) BIOS |

(2) The operating system that manages resources over a network is called:

- | | |
|-------------------|-----------------|
| A) Distributed OS | B) Network OS |
| C) Embedded OS | D) Real Time OS |

(3) Which scheduling algorithm gives equal time to all processes?

- | | |
|----------------|-------------|
| A) FCFS | B) Priority |
| C) Round Robin | D) SJF |

(4) Which memory allocation is done at runtime?

- | | |
|------------|-------------|
| A) Static | B) Fixed |
| C) Dynamic | D) Absolute |

(5) Which security objective ensures protection from unauthorized disclosure?

- | | |
|--------------------|-------------------|
| A) Integrity | B) Authentication |
| C) Confidentiality | D) Availability |

(6) Android OS is based on which kernel?

- | | |
|-------------------|------------------|
| A) Windows Kernel | B) Linux Kernel |
| C) Unix Kernel | D) Hybrid Kernel |

(7) Which mobile OS uses sandboxing extensively?

- | | |
|------------------|------------|
| A) Windows Phone | B) Symbian |
| C) Android | D) DOS |

(8) Power management is a key feature of:

- | | |
|---------------|--------------|
| A) Desktop OS | B) Mobile OS |
| C) Network OS | D) Batch OS |

(9) Which OS was mainly used in Nokia smartphones?

- | | |
|------------|---------------|
| A) Android | B) iOS |
| C) Symbian | D) Blackberry |

(10) Which component converts logical address to physical address?

- | | |
|----------|--------|
| A) ALU | B) MMU |
| C) Cache | D) PCB |

Section D

Q.-4. State whether the following statements are true or false.

(10)

- (1) A program and a process are the same.
- (2) Threads share the same address space of a process.
- (3) Android OS uses Linux kernel.
- (4) Dynamic memory allocation occurs at compile time.
- (5) Confidentiality prevents unauthorized data disclosure.
- (6) BIOS loads the operating system into RAM.
- (7) Microkernel architecture has a large kernel size.
- (8) Embedded OS is designed for general-purpose computing.
- (9) Secure boot prevents loading of untrusted software.
- (10) Mobile operating systems must manage power efficiently.
