

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

Course	: BSCIT	Date	: 27/02/2026
Subject Code	: BSCIT-502	Time	: 03:00pm to 05:15pm
Subject Name	: Mobile Operating System	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. What is an Operating System? Explain the different types of Operating Systems based on their processing capabilities.
2. Define a Process. Explain the various states of a Process Life Cycle with the help of a transition diagram.
3. Discuss the Kernel-based Operating System Architecture. Provide a detailed comparison between Monolithic and Microkernel architectures.
4. Explain the evolution of Wireless Communication Technologies from 1G to 5G, highlighting the key features of each generation.
5. What are the core components of the Android Operating System? Explain the Android Software Stack in detail

Section B

Answer the following (Attempt any four) (20)

1. Write a short note on the Process Control Block (PCB) and its significance.
2. Explain the concept of Multi-threading and its advantages in mobile computing.
3. What is the Booting process? Briefly explain the steps involved in the General Booting Sequence.
4. Describe the various types of sensors commonly found in mobile devices and their functions.
5. What is "Jail breaking" in the context of iOS? Discuss its implications.
6. Briefly explain the architecture and key features of the Symbian Operating System.

Section C

Part – A (Multiple Choice Questions) (10)

- 1 Which OS type is designed to respond to events within a strictly defined time?
A. Batch OS B. Network
C. Real-Time OS D. Multi-user OS
- 2 The unique identifier assigned to every process is known as:
A. TCB B. PID
C. PC D. PGP
- 3 Which architecture is used by the Linux Kernel?
A. Microkernel B. Hybrid
C. Monolithic D. Exo-kernel
- 4 1G wireless technology was based on which type of signals?
A. Digital B. Analog
C. Microwave D. Satellite
- 5 Which layer of the Android Stack contains the ART (Android Runtime)?
A. System Apps B. Linux Kernel
C. Android Framework D. Libraries & Runtime

- 6 Which sensor allows a phone to adjust screen brightness automatically?
A. Gyroscope B. Accelerometer
C. Ambient Light Sensor D. Magnetometer
- 7 The first commercial Android phone was:
A. iPhone B. HTC Dream
C. Motorola Razr D. Nexus One
- 8 Which company originally developed the iOS platform?
A. Google B. Microsoft
C. Apple D. BlackBerry
- 9 In iOS, which layer provides the basic interface for system services?
A. Cocoa Touch B. Media Layer
C. Core Service D. Core OS
- 10 BlackBerry 10 OS is based on which Real-Time Operating System?
A. Symbian B. QNX
C. Windows Phone D. Palm OS

Part – B (Do as Directed)

(10)

State whether the following statements are true or false

- 1 A Process is a "passive" entity while a Program is an "active" entity.
- 2 The BIOS is responsible for the initial hardware check during booting.
- 3 4G technology introduced the concept of "Mobile Broadband."
- 4 Android is an open-source operating system.
- 5 iOS allows users to install apps from third-party sources by default.
- 6 The Magnetometer sensor helps in determining the orientation of the device.
- 7 Windows Phone used a "Live Tiles" based user interface.
- 8 Symbian OS was widely used by Nokia before the arrival of Lumia series.
- 9 "Swapping" is a memory management technique.
- 10 The Kernel is the central part of an operating system.
