

## Operating System – MCQs with Explanations

### Q1. Which of the following is not done by OS Usually?

*(ACF & FRO Exam, 23 Feb 2021)*

- (a) Power On Self Test (POST)
- (b) Resource Management
- (c) Error Handling
- (d) Encryption

☒ **Answer: (a) Power On Self Test (POST)**

#### Explanation:

- POST is performed by **BIOS (Basic Input Output System)** when the computer starts.
- OS functions include **resource management, error handling, providing security (encryption), and user interface.**

#### Definition:

- **BIOS:** Firmware that initializes hardware during booting and performs POST before OS takes over.

### Q2. Which one of the following terminologies is not related to OS?

*(SET Exam, 26 Mar 2023)*

- (a) Swapping
- (b) Semaphore
- (c) Process Control Block
- (d) Dynamic Programming

☒ **Answer: (d) Dynamic Programming**

#### Explanation:

- **Swapping, Semaphore, PCB** → all OS concepts.
- **Dynamic Programming** → an **algorithmic problem-solving technique** used in optimization, not an OS term.

#### Definition:

- **Semaphore:** Synchronization tool used to control access to shared resources.
- **PCB (Process Control Block):** A data structure that stores process details like ID, state, registers.

### Q3. Which statement is not correct about Shell and Kernel?

(SET Exam, 26 Mar 2023)

- (a) Kernel performs memory management while Shell is a command interpreter
- (b) Shell is an interface between Kernel and User
- (c) Kernel is a command interpreter
- (d) Both (b) and (c)

☒ **Answer: (c) Kernel is a command interpreter**

 **Explanation:**

- **Kernel** = core of OS, manages CPU, memory, I/O devices.
- **Shell** = command interpreter, interface between user and kernel.

 **Definition:**

- **Kernel:** The heart of the OS, providing hardware abstraction.
- **Shell:** Software that interprets user commands (CLI or GUI).

### Q4. When a process is in a "Blocked" state, after I/O completion it goes to?

(Sr. Computer Instructor Exam, 19 June 2022)

- (a) Terminated state
- (b) Suspended state
- (c) Running state
- (d) Ready state

☒ **Answer: (d) Ready state**

 **Explanation:**

- **Blocked state** = process is waiting for I/O.
- After I/O completes → process becomes **Ready**, waiting for CPU allocation.

 **Definition:**

- **Ready State:** Process is prepared for execution but CPU not assigned yet.

**Q5. How many states can be processed in Operating System?**

*(Basic Computer Instructor Exam, 18 June 2022)*

- (a) 2
- (b) 3
- (c) 4
- (d) 5

☒ **Answer: (d) 5**

☐ **Explanation:**

Standard **5 Process States** are:

1. New
2. Ready
3. Running
4. Waiting (Blocked)
5. Terminated

**Q6. Which component does not belong to PCB (Process Control Block)?**

*(Asst. Director Cyber Forensic Exam, 10 June 2022)*

- (a) CPU Register
- (b) CPU Scheduling Information
- (c) Operating System Information
- (d) Accounting Information

☒ **Answer: (c) Operating System Information**

☐ **Explanation:**

- PCB contains → Process ID, registers, scheduling info, accounting, memory info.
- It does **not contain OS information**.

☐ **Definition:**

- **PCB:** Data structure containing process details for CPU scheduling and context switching.

**Q7. Which OS function is concerned with managing execution of multiple processes?**

*(Police Constable Exam, 15 May 2022)*

- (a) Device Management
- (b) Security Management
- (c) File Management
- (d) Processor Management

☒ **Answer: (d) Processor Management**

☐ **Explanation:**

- **Processor management (CPU Scheduling)** ensures fair execution of multiple processes.

☐ **Definition:**

- **CPU Scheduling:** Method used by OS to decide which process in the ready queue will get CPU next.

**Q8. Which allows users to interact with OS usually by typing commands?**

- (a) Command Line Interface (CLI)
- (b) Editplus
- (c) WordPad
- (d) Graphical User Interface (GUI)

☒ **Answer: (a) Command Line Interface (CLI)**

☐ **Explanation:**

- CLI = allows direct interaction with OS through commands.
- GUI = allows interaction via graphical elements (icons, menus).

☐ **Definition:**

- **CLI:** Text-based user interface for interacting with OS.

### Q9. Which is a correct statement for Safe State?

(ACF & FRO Exam, 23 Feb 2021)

- (a) A state in which there is at least one process that can run till completion.
- (b) The number of resources are less than or equal to allocations.
- (c) A safe state leads to a circular wait.
- (d) A safe state leads all processes to run to completion.

☒ **Answer: (a) A state in which at least one process can run till completion**

 **Explanation:**

- Banker's Algorithm ensures system is in **Safe State** if **at least one process can finish** without deadlock.

 **Definition:**

- **Safe State:** Condition in resource allocation where deadlock is avoided.

### Q10. Which is an essential file of a MS-DOS boot disk?

- (a) TREE.COM
- (b) START.COM
- (c) COMMAND.COM
- (d) VER.COM

☒ **Answer: (c) COMMAND.COM**

 **Explanation:**

- **COMMAND.COM** = Command interpreter in DOS (loads user commands).
- Other files like TREE.COM, VER.COM are utility files.

 **Definition:**

- **Boot Disk:** Storage device containing files to start OS.

**Q11. Which is not a valid file organization method?**

*(ACF & FRO Exam, 23 Feb 2021)*

- (a) Sequential Access
- (b) Circular Access
- (c) Direct Access
- (d) Indexed Sequential Access

☒ **Answer: (b) Circular Access**

☐ **Explanation:**

- Valid methods: Sequential, Direct (Random), Indexed Sequential.
- Circular access does not exist.

☐ **Definition:**

- **Sequential Access:** Records accessed in order.
- **Direct Access:** Records accessed by key.

**Q12. Which is not a valid state of a process in OS?**

*(ACF & FRO Exam, 23 Feb 2021)*

- (a) New
- (b) Start
- (c) Running
- (d) Ready

☒ **Answer: (b) Start**

☐ **Explanation:**

- Valid states: New, Ready, Running, Waiting, Terminated.
- "Start" is not a standard state.

**Q13. Which interface allows user to interact with OS by typing commands?**

(Same as Q8, repeated)

- (a) Command Line Interface
- (b) Editplus
- (c) WordPad
- (d) GUI

☒ **Answer: (a) Command Line Interface**

☐ **Explanation:**

- CLI directly allows command typing to interact with OS.