Code: Name: Class:

1. **What is an operating system?**
   a) A programming language
   b) A type of application software
   c) An intermediary between the user and hardware
   d) A database management system

2. **Which of the following is NOT a goal of an operating system?**
   a) Making user tasks easier
   b) Managing computer hardware efficiently
   c) Running only one program at a time
   d) Providing a convenient environment for users

3. **Which component directly interacts with the hardware in a computer system?**
   a) Users
   b) Operating system
   c) Application programs
   d) Database system

4. **Which of the following is an example of an application program?**
   a) Compiler
   b) Kernel
   c) CPU
   d) BIOS

5. **What is the primary role of a kernel in an operating system?**
   a) Managing hardware and system resources
   b) Providing a user interface
   c) Running user applications
   d) Executing scripts and commands

6. **Which of these storage types is typically volatile?**
   a) Hard disk drive
   b) Solid-state drive
   c) RAM (Random Access Memory)
   d) Flash memory

7. **Which system component provides basic computing resources?**
   a) Users
   b) Application programs
   c) Hardware
   d) Network interfaces

8. **What is the purpose of an interrupt in a computer system?**
   a) To slow down the CPU
   b) To notify the CPU of an event that needs attention
   c) To permanently stop a running program
   d) To store data in memory

9. **What is a ‘trap’ in an operating system?**
   a) A physical hardware component
   b) A software-generated interrupt
   c) A type of memory
   d) A method of user authentication

10. **Which of the following devices typically use an embedded operating system?**
   a) Smartphones
   b) Desktop computers
   c) Servers
   d) Cars and household appliances

11. **What does an operating system do in a multiprogramming environment?**
   a) Executes only one program at a time
   b) Ensures the CPU is always executing a job
   c) Prioritizes only user programs
   d) Prevents multiple programs from executing simultaneously

12. **Which of the following is NOT an example of secondary storage?**
   a) SSD
   b) Hard disk drive
   c) RAM
   d) Flash drive

13. **How does a CPU interact with I/O devices?**
   a) Through device drivers
   b) By directly accessing them
   c) By using RAM as an intermediary
   d) By communicating through application software

14. **Which of the following describes a time-sharing system?**
   a) It allows only one user at a time
   b) It provides immediate response to multiple users
   c) It eliminates the need for memory management
   d) It does not support multitasking

15. **What is a device driver?**
   a) A physical hardware component
   b) A software component that manages communication with hardware
   c) A type of malware
   d) A network connection protocol

16. **Which storage level is directly accessible by the CPU?**
   a) RAM
   b) Hard disk
   c) USB drive
   d) Cloud storage

17. **Which type of interrupt is caused by a software request?**
   a) Hardware interrupt

b) Trap (Exception)
c) Direct Memory Access (DMA)
d) Bus signal

18. **What is the purpose of virtual memory?**
a) To increase CPU clock speed
b) To allow processes to execute even if they don’t fit in RAM
c) To permanently store operating system files
d) To reduce power consumption

19. **Which component of the OS decides which process gets CPU time?**
a) File manager
b) Process scheduler
c) Memory manager
d) Network manager

30. **How does an operating system handle a system call?**
a) By switching to kernel mode
b) By launching a new process
c) By halting the CPU
d) By modifying system BIOS settings

31. **Which type of multiprocessing allows each processor to perform all tasks?**
a) Asymmetric multiprocessing
b) Symmetric multiprocessing
c) Parallel computing
d) Cluster computing

32. **What is a key advantage of a clustered system over a multiprocessor system?**
a) Higher power consumption
b) The ability to share storage and survive failures
c) It requires a single operating system
d) Lower processing speeds

33. **Which of the following best describes direct memory access (DMA)?**
a) CPU manages memory transfers
b) Data transfers between memory and devices without CPU involvement
c) Operating system handles all memory requests
d) A type of secondary storage

34. **What is the main benefit of using a timer in an operating system?**
a) It allows user processes to modify memory directly
b) It prevents a process from monopolizing the CPU
c) It ensures the fastest process always gets CPU time
d) It eliminates the need for interrupts

35. **What is a dual-mode operation in operating systems?**
a) A system with two CPUs
b) A way to distinguish user mode and kernel mode

c) A technique to run multiple OS simultaneously
d) A process scheduling method