

Name:

CSC3320

When answering the questions below, make sure to show all of your work. Pay attention to the point values on each question. State your assumptions, and explain your answers thoroughly.

Time: Hours | Max Marks: 100

- 1. What does a return value of -1 from `fork()` indicate?** [1]
 - a) Fork failed
 - b) Child process
 - c) Parent process
 - d) Normal execution
- 2. What is returned by `read()` on end-of-file?** [1]
 - a) 0
 - b) -1
 - c) 1
 - d) NULL
- 3. Which system call changes file permissions?** [1]
 - a) chmod()
 - b) chown()
 - c) fchmod()
 - d) umask()
- 4. What is the default action of the SIGKILL signal?** [1]
 - a) Terminates the process
 - b) Ignores the signal
 - c) Suspends the process
 - d) Restarts process
- 5. Which system call renames a file?** [1]
 - a) rename()
 - b) move()
 - c) unlink()
 - d) link()
- 6. Which system call checks the accessibility of a file?** [1]
 - a) access()
 - b) read()
 - c) open()
 - d) stat()

7. Which system call allows parent to wait for child process termination? [1]

- a) wait()
- b) pause()
- c) exit()
- d) kill()

8. Which system call replaces the current process image with a new process image? [1]

- a) exec()
- b) fork()
- c) wait()
- d) exit()

9. What is the return value of `exec()` on success? [1]

- a) Does not return
- b) 0
- c) 1
- d) -1

10. Which system call is used to create a new child process? [1]

- a) fork()
- b) clone()
- c) exec()
- d) wait()

11. What is returned by `open()` on success? [1]

- a) File descriptor
- b) 0
- c) -1
- d) Pointer to file

12. How many times is `fork()` executed when called once? [1]

- a) Twice
- b) Once
- c) Depends on OS
- d) Infinite

13. Which function is used to duplicate a file descriptor? [1]

- a) dup()
- b) copy()
- c) link()
- d) open()

14. Which of the following is not a system call? [1]

- a) printf()
- b) fork()
- c) exec()

d) wait()

15. Which header is needed for using fork?

[1]

- a) unistd.h
- b) stdio.h
- c) stdlib.h
- d) string.h

16. What happens if `exec()` is called without `fork()`?

[1]

- a) Current process is replaced
- b) New process is created
- c) Nothing happens
- d) Error is thrown

17. Which of the following is not a scheduling algorithm?

[1]

- a) LRU
- b) Round Robin
- c) SJF
- d) FCFS

18. What is a Gantt chart used for in scheduling?

[1]

- a) Visualizing process execution timeline
- b) Memory layout
- c) Disk scheduling
- d) Network routing

19. Which system call is used to monitor multiple file descriptors?

[1]

- a) select()
- b) wait()
- c) read()
- d) write()

20. Which file descriptor represents standard input?

[1]

- a) 0
- b) 1
- c) 2
- d) 3

21. Name one reason why the C programming language is commonly used in system-level programming.

[5]

22. Name a programming language commonly used in system-level programming. [5]

23. What is Terminal, Give Example? [5]

24. List some commands [5]

25. What is manual memory management, and where is it commonly used? [5]

26. Define system software with examples?

[5]

27. Name a few examples of system programs.

[5]

28. What is an interpreter?

[5]

29. Differentiate between static and dynamic linking, with examples?

[7]

30. 444 Question 300

[7]

31. Describe the potential consequences of minor inefficiencies in system-critical software.

[7]

32. 222 Question 222

[7]

33. Explain reentrant code and its importance in interrupt service routines.

[6]

34. Describe signal masking and its internal working.

[6]
