

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. Remember that an explanation is expected with every answer except the multiple choice and true/false questions when the answer is true. Use blank paper if you do not have enough room.
Time: 30 Hours | Total Marks: 30

undefined

I. Answer all the following

Marks: 20

1. List correct command in linux

- a) ls
- b) mkdir
- c) cd
- d) all

2. What does the `exit()` system call do?

- a) Terminates the current process
- b) Creates a child process
- c) Waits for child
- d) Sends signal

3. Which system call is used to wait for a child process to terminate?

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

4. Which of the following is not a system call?

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

5. How many times is `fork()` executed when called once?

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

6. What does `O_APPEND` do in `open()`?

- a) Appends data to file
- b) Overwrites file
- c) Creates new file
- d) Reads file backwards

7. Which system call changes file permissions?

- a) chmod()
- b) chown()
- c) fchmod()
- d) umask()

8. Which function is used to duplicate a file descriptor?

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

9. What is returned by `read()` on end-of-file?

- a) 0
- b) -1
- c) 1
- d) NULL

10. Which system call is used to write to a file?

- a) write()
- b) read()
- c) fopen()
- d) copy()

11. What is a zombie process?

- a) A terminated child not yet waited for
- b) A sleeping process
- c) A paused process
- d) A killed process

12. What is the role of the `exit()` system call?

- a) Terminates the current process
- b) Starts a new process
- c) Closes all file descriptors
- d) Restarts the OS

13. What does the `wait()` system call return?

- a) PID of terminated child
- b) 0
- c) -1
- d) Exit status

14. Which signal cannot be caught or ignored?

- a) SIGKILL
- b) SIGTERM
- c) SIGINT
- d) SIGSTOP

15. Which system call is used to create a new child process?

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

16. Which scheduling algorithm gives minimum average turnaround time?

- a) SJF
- b) FCFS
- c) Round Robin
- d) Priority Scheduling

17. Which of the following is non-preemptive scheduling algorithm?

- a) First Come First Serve
- b) Round Robin
- c) SJF
- d) Priority Scheduling

18. Aging is a technique used to:

- a) Prevent starvation
- b) Increase response time
- c) Create zombie processes
- d) Prioritize I/O

19. Which of the following is true about Multilevel Queue Scheduling?

- a) Processes are permanently assigned to queues
- b) Processes can move between queues
- c) Used for disk I/O
- d) Rarely used in OS

20. Which is a preemptive CPU scheduling algorithm?

- a) Round Robin
- b) FCFS
- c) Non-preemptive SJF
- d) Priority Scheduling without preemption

II. Answer all the following

Marks: 10

1. What is a loader in system programming?

2. What are the functions of system programs?

3. What are system utilities?

4. What is an operating system?

5. (True/False) Is cd a command in Linux?
