

# CS604-OPPERATING SYSTEM MID TERM MCQS

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1. When a process has undivided access to a shared piece of code than no other process can execute code, this state is called\_.
  - Race condition
  - Progress
  - **Mutual exclusion** Page 98
  - Bounded waiting
2. Critical section is a place where certain shared structure is updated. Its solution required certain precaution: one of them is the access to critical section by one process at a time only. What this condition is termed as?
  - Progress
  - Entry section
  - **Mutual exclusion** Page 97
  - Bounded waiting
3. Which of the following is not a major advantage of multiprogramming system is
  - More than one jobs can be processed at a given time
  - CPU utilization can be increases
  - Jobs can be completed quickly
  - **If more process can exist, the rest must wait until the CPU is free and can be rescheduled** page 31
4. We can suspend a foreground process by pressing\_\_ which sends a STOP/SUSPEND signal to the process.
  - Ctrl-w
  - Ctrl-x
  - Ctrl-y
  - **□□□□□Ctrl-z** pg#65
5. \_\_\_\_\_command in LINUX is used to copy file.
  - ls
  - **cp** pg#27

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- mv
- mkdir

6. System calls provide the interface between a \_\_\_ and the Operating System.

- User
- Machine
- Process pg#15
- Kernel

7. In critical section problem \_\_\_ requirement illustrates that, “If no process is executing in its critical section and some processes wish to enter their critical sections, then only those processes that are not executing in their remainder section can participate in the decision on which will enter its critical section next, and this selection cannot be postponed indefinitely.”

- Mutual exclusion
- Progress pg#98

- Bounded waiting
- Slow execution

8. Batch programs are usually \_\_\_\_\_ programs.

- Interactive
- Non-interactive My Point of View
- Foreground
- Preemptive

9. You can use the mv file1 file2 command to move \_\_\_\_\_

- File1 to file 2 (Page 27)
- File 2to file 1
- This command will not work for moving files
- None of the option correct

10. The \_\_\_\_\_ defines an operating system as a bridge between computer user and hardware for a user’s convenience.

- System-view
- Bottom-up view
- Top-down view ( page 03)
- Layered-view

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11. The section of code before the critical section is called \_\_\_\_.

- **Entry section (Page 97)**
- Remainder section
- Exit section
- Crystal section

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12. \_\_\_\_\_ are used by shell commands to pass data from one shell pipeline to another, without creating temporary files.

- Pipes
- Message queues
- BSD sockets
- **FIFOs (Page 58)**

13. system call is used to create a child process.

- **Fork (page 48)**
- Parent
- Child
- None of them

13. The problem with priority scheduling algorithm is \_\_\_\_.

- Deadlock
- **Starvation (page 83)**
- Aging
- Nice value

14. The basic purpose of \_\_\_\_ is to help the users to utilize the hardware resources for completing different task in a simplified manner.

- **Operating system (page 01)**
- Application software
- All software
- All of the given

15. If your processor does not have two slots empty in Pre Process file Descriptor Table, then your\_system call will fail.

- **Pipe (page 52)**

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- Read
- Write
- Open

16. Which of the following are TRUE for direct communication?

- A communication link can be associated with N number of process(N=maximum number of processes supported by system)
- A communication link can be associated with exactly two processes (pg 44)**
- Exactly N/2 links exist between each pair of processes(N=maximum number of processes supported by system)
- Exactly two links exist between each pair of processes

17. POSIX is a standard develop by\_\_.

- ANSI
- IEEE**
- ISO
- ACM

**My Point of View**

18. Keeping in mind scheduling algorithm, when you go to any famous fast food franchise. On entering the store, each customer receive a number. The customer with a lowest number is served next. This algorithm is called\_\_\_\_\_.

- Dijkstra's algorithm
- Simple algorithm
- Deadlock algorithm
- Bakery algorithm ( page 102)**

19. Which scheduling algorithm allocates the CPU first to the process that request the CPU first?

- First come First served scheduling (page 80)**
- Shortest job scheduling
- Priority scheduling

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- None of the given

20. Bounded buffer is a buffer of \_\_\_ size.

- Variable

- **Fixed** (page 41)

21. The wait operation of the Semaphore basically works on the basic \_\_\_ system call.

- Stop()
- Block()
- Hold()

- **Wait()** (page 111)

23. Priority scheduling cannot be pre-emptive.

- True

- **False** Page 83

24. When a process P1 switches from the running state to the waiting state because a I/O

request is being completed. This scheduling is called .

- **Non preemptive pg#79**

- Switching
- Termination
- Preemptive

25. The priority of a process can be changed using \_\_\_ command.

- cmd
- cat
- grep
- **Nice**

26. In \_\_\_ addressing, the recipient is not required to name the sender.

- Symmetric

- **Asymmetric** (page 44)

- Both(Symmetric and Asymmetric )

- None

27. An operating system is easily portable between varying hardware designs in structural approach.

- Virtual Machines
- Simple

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- Layered

- **Micro kernels** **Page**

28. The \_\_\_\_\_ approach include the ease of extending the OS.

- Macro Kernels

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- Small Kernel

- Monolithic Kernel

- **Micro Kernel** **(page 19)**

29. Which of the following information is not displayed with top command?

- **Number of threads in a process** **(page 64)**

- CPU Usage
- Top processes
- Nice value

30. \_\_\_\_\_ processes or thread often need access to shared data and shared resources.

- Parallel

- **Concurrent** **(page 95)**

- Single
- Temporary

31. To terminate a process <ctrl-c> is pressed, which signal it actually passes to process for termination?

- SIGTERM

- **SIGINT** **(page 66)**

- SIGKILL
- SIGTRAP

32. UNIX System V scheduling uses queues, which run algorithm.

- First Come First Serve

- **Round Robin** **Page 90**

- Shortest Job First

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- Shortest Remaining Time First

33. Which part of the computer system helps in managing the file and memory management system?

- **Operating system** (page 12 & 13)

- Device Drivers
- Application Software
- Hardware

34. CPU bound processes are scheduled before short or I/O bound processes in \_\_\_\_\_ scheduling, therefore, resulting in less CPU and device utilization.

- **First Come First Serve** (Page 81)

- Round Robin
- Shortest Job First
- Shortest Remaining Time First

35. Performance measures of scheduling algorithms are calculated with charts, in order to evaluate an algorithm for a particular workload.

- Simulation
- Analytic evaluation
- **Deterministic modeling** (Page 92)
- Queuing Models

36. In multi-threaded process thread () take two argument, they are used to take \_\_\_\_\_ and \_\_\_\_\_.

- Program counter value, address space limit.
- New thread ID, process name
- Register count, program counter
- **New thread function name, new thread ID** Page 68

37. In the Bakery algorithm, processes are prioritized based on highest ticks among computing processes.

- True
- **False** Page 102



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38. The solution type where in critical section we use “entry section and “exit section” is called kind of\_\_\_\_\_.

- Hardware solution
- Assumption

**Software Solution (Page 98)**

- Operating System Solution

39. How many modes are supported in operating system?

- 1
- **2**
- 3
- 4

**My point of View**

40. \_\_\_ Scheduler selects the process from the JOB Pool and put them in main memory

**Long term (Page 33)**

- Short term
- Medium term
- Swapper

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41. A parent process calling system call will be suspended until children processes terminate.

**Wait (Page 36)**

- Fork
- Exit
- Exec

42. A time-sharing system is

- Multi user

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- Multitasking
- Interactive

• **All of these** (Page 06)

43. Pipes simply used on the command line to connect the standard input of one process to the standard input of another. Which of the following syntax is correct use of command line Linux/UNIX pipes?

- Cmd1 % cmd2 %.....%cmdN

• **Cmd1 | cmd2 |.....| cmdN** Page 53

- Cmd1 \$ cmd2 \$.....\$ cmdN
- Cmd1 & cmd &.....&cmdN

44. Which is not basic computing hardware?

- CPU
- Memory

Compact Disc (Page 1)

- I/O Devices

45. Consider a system of N processes (Po, P1.....Pn-1). Each process in its critical section and process may be changing common, updating a table. No other process is allowed to execute in its section. This problem is called \_\_\_\_\_.

- Bakery algorithm

• **N-Process Critical Section** (Page 102)

- N-Mutual exclusion
- Deadlock algorithm

46. \_\_\_\_\_ Scheduling can be made into a processor sharing approach.

- First Come First serve

• **Round Robin** (Page 86)

- Shortest remaining time

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- Shortest Job First
47. Linux uses \_\_\_ directory to store system configuration files.
- /bin
  - /dev
  - /boot
  - /etc (page 23)
48. A thread shares its resources (like data section, code section, open files, signal) with\_\_\_
- Other process similar to the one that the thread belongs to
  - Other threads that belong to similar processes
  - Other thread that belong to the same processes pg#69+Google
  - All of the mentioned
49. \_\_\_\_\_ is a piece of code in a cooperating process in which the process may update shared data (variable, file, database, etc).
- Critical Analysis
  - Critical Section pg#97
  - Critical Path
  - Critical Code
50. A program in execution is called a \_\_\_\_
- Command
  - Process pg#12
  - Software
  - Compiler
51. This layered approach is taken to its logical conclusion in the concept of a
- Virtual Machine pg#19
  - Logical Machine AL-JUNAID INSTITUTE OF GROUP
  - Physical Machine
  - None of the given
52. CPU bound processes are scheduled before short or I/O bound processes in scheduling therefore, resulting in less CPU

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and device utilization.

- Shortest Job First
- Shortest Remaining Time first

First Come First Serve (page 80)

- Round-Robin

53. Using \_\_\_\_\_ system, we can create a new process in Linux.

• Fork pg#36

- Exec
- Wait
- Exit

54. A shell command mkfifo can be used to create a/an \_

• Named pipe pg57

- Message queue
- Pipe
- Unnamed pipe

55. While using the read /write system call which data type is used to return the size of file to buffer from file descriptor fd?

- Pipefd
- SSIZE-MaX pg#45
- FIFO
- Ssize\_t

56. For reading input, which of the following system call is used?

- write
- rd

read pg#45

- change

57. \_\_\_\_\_ multi-threading model provides full concurrency.

- One-to-Many
- Many-to-Many
- One-to-One pg#71

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- Many-to-One

58. A solution to the critical section must satisfy the following requirements except

- Progress
- Mutual Exclusion
- Bounded Waiting
- Race Condition pg#98

59. Which is not a parameter of pthread\_create().

- Function
- Return status pg#73
- Thread ID
- Thread attributes

60. Preemptive SJF (Shortest Job First) scheduling is sometimes called scheduling.

- shortest time-last
- shortest remaining-time-first pg#82
- smallest time-first
- biggest time-first

61. The file descriptor for Standard Input (stdin) is

0 pg#52

- 1
- 2
- 3

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62. Rather than maximizing CPU utilization and use of peripheral devices, \_\_\_\_\_ systems are for maximizing user convenience and responsiveness.

- Single-user Page 4
- Batch
- Multi-user Batch
- Time-sharing

63. The Operating system is a layer of software between \_\_\_\_\_ and \_\_\_\_\_.

Hardware, software application

My Point Of View

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- Kernel, hardware
- Dos, Windows
- Windows, Kernel

64. You can have a thread wait for another thread with the same process by using the system call.

□□□□ pthread\_join() pg#73

- pthread\_exit()
- pthread\_create()
- pthread\_terminate()

65. In indirect communication between processes P and Q\_\_\_

- There is another process R to handle and pass on the messages between P and Q.
- There is another machine between the two processes to help communication
- **There is mailbox to help communication between P and Q** Page 44
- A link is associated with exactly two processes

66. Which process can be affected by other processes executing in the system?

□□□□ cooperating process pg#41+Google

- child process
- parent process
- init process

67. \_\_\_\_\_ are used to show executions of processes.

• **Gantt charts pg#85**

- Time slice
- Quantum
- Sequence

68. The ready queue in RR (Round Robin) scheduling algorithm is referred to as \_\_\_\_\_.

- Time Quantum
- Time Slice
- LIFO (Last in First Out)
- **Circular Queue pg#85**

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69. Linux redirection features can be used to\_ and attach other files with them for a single execution of a command.

- detach the default files from stdin and stdout
- detach the default files from stdin and stderr

□□□□□ detach the default files from stdin, stdout and stderr pg 55

- detach the default files from stdout, and stderr

70. Linux redirection features can be used to\_ and attach other files with them for a single execution of a command.

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□□□□□ detach the default files from stdin, stdout and stderr pg 55

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71. A\_\_\_\_\_ is an integer variable that, apart from initialization is accessible only through standard atomic operations.

- Mutual Exclusion
- Semaphore pg#108
- Mutex
- Busy waiting

72. \_\_\_\_\_ displays information about the top processes.

- Is
- Cs
- Top
- Cd

Page 64

73. In critical section problem, each process must first request permission to enter its critical section. The section of code implementing this request is called the \_\_\_\_\_.

- Remainder section

□□□□□ Entry section page 97

- Exit section
- Sub section

74. \_\_\_\_\_ scheduling allows a process to move between queues.

- Round Robin
- First Come First Serve

□□□□□ Multilevel Feedback Queue page 89

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- Shortest Remaining Time First

75. To terminate a process <ctrl-c> is pressed, which signal it actually pass to process for termination?

- SIGTERM

SIGINT pg#66

- SIGKILL
- SIGTRAP

76. The time it takes for the dispatcher to stop one process and start another running is known as the

• Dispatch latency Page 79

- Dispatch time
- Stop time
- Sleep time

77. In \_\_\_\_\_ inter process communication, a sender mention the name of a recipient.

- Indirect

Direct pg#43

- Automatic
- Synchronous

78. Consider three processes in scheduling. Here are the waiting time for three processes  $P_1=5, P_2=10, P_3=3$ . Which one of the following is correct average waiting time per process?

- 3
- 2
- 18

• 6 My Point of View

79. The priorities of processes in the \_\_\_\_\_ group remain fixed

- Kernel pg#90
- User

80. \_\_\_\_\_ algorithm is used for solving n-process critical section problem.



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- Bankers
- Bakery page 102
- Babbles
- None of the given

81. The situation in which no context switching is required in multiprocessor system is referred to as \_\_\_\_\_.

- Busy waiting
- Spin lock pg#110
- Interrupt
- Scheduler

82. \_\_\_\_\_ system call is used to write to a file or FIFO or any other IPC channel.

- Read
- Write pg#45
- Open
- Fork

83. In LINUX/UNIX environment Ali want to know the number of processes running on the system and their status, number of CPUs in the system and their usage, amount of main memory and its usage. Which of the following command will help in this regard?

- \$ ps
- \$ gcc
- \$ fifo
- \$ top Page 64

84. IN the result displayed by `ls -l` command, 5<sup>th</sup> column shows

- Group of the owner
- File size in bytes page 26
- Time last updated
- Owner of the file

85. In Unix/Linux by default the standard input file is attached to the

- Mouse

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□□□□□Keyboard pg#52

- Light pen
- Joystick

86. In which of the following system multiple user are allowed to used the computer simultaneously?

- Single user
- Two user
- Three user
- Multi user Page 6

87. In the layered approach of operating system\_\_.

- Bottom Layer(0) is the user interface

□□□□ Highest layer(N)is the user interface pg#18

- Bottom Layer(N) is the hardware
- Highest Layer(N) is the hardwar

88. A heavy weight process.

- Has multiple threads of execution

□□□□□Has a single thread of execution pg#67

- Multiple or single thread
- None of the mentioned

89. Is a solution of the problem of indefinite blockage of low-priority processes.

- Starvation
- Deadlock

□□Aging pg#84

- None of these

90. The child process can

- Be a duplicate of the parent process
- Never be a duplicate of the parent process
- Cannot have another program loaded into it
- Never have another program loaded into it

Page 36

91. FIFO's(also known as named pipes)are used for communication between UNIX/Linux system.

- Related and Unrelated
- Parent-child

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- Unrelated processes
- Related processes Page 49

92. \_\_\_\_\_ Command is used to change the directory.

- Is
- Cp
- Cd Page 219
- Mv

93. In Unix/Linux environment, Ayesha wants to know the complete picture of current processes in her session. Which of the following command will help her in this regard?

□□□□□\$ ps Page 63

- \$ gcc
- \$ top
- \$ fifo

94. Which of the following conditions must be satisfied to solve the critical section problem?

- Mutual Exclusion
- Progress
- Bounded waiting
- All of the mentioned Page 98

95. The \_\_\_\_\_ process creates two FIFOs, FIFO2, and opens FIFO1 for reading and FIFO2 writing

- Server Page 60
- Client
- Both server and client AL-JUNAID INSTITUTE OF GROUP
- None of the given options

96. Use of semaphore create problem of busy waiting , this wastes CPU cycle that some other process may be able to use productively. This type of semaphore is also called \_\_\_\_\_.

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- semaphore S
  - spinlock Page 109
  - locking semaphore
  - mutex
97. Kernel is responsible for scheduling the user level threads
- True
  - False Page 70
98. Which of the following of two operations are provided by the IPC facility?
- Write & Delete message
  - Delete & Receive message
  - Send & Delete message
  - Receive & send message My Point of View
99. Access of variable semaphore is possible only through two atomic operation \_\_\_\_\_ and \_\_\_\_\_
- TestAndSet, Swap
  - Lock, Key
  - Boolean, integer
  - Wait, signal pg#108
100. Kill command is used to terminate a process. The syntax of the command is kill {- signal}PID when executed without a signal number, the command sends the \_\_\_\_\_ signal to the process.
- SIGINT
  - SIGKILL
  - SIGTERM pg#66
  - None of the given option
101. Given below to statement can be categorized in some sort of message passing technique. This type is named as \_\_\_\_\_
1. Send (A message)
  2. Receive (B message)

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- Synchronization

□□□□ Direct communication pg#43

- Explicit buffering
- Send by copy communication

102. Cooperating processes never share any data, code, memory or state.

- True

• **False (Page 41)**

103. \_\_\_\_\_ Command display the status of the process.

- Is

□□□□□Ps pg#63

- Gcc
- Cat

104. \_\_\_\_\_ Command display the status of the process.

- Is

□□□□□Ps pg#63

- Gcc
- Cat

105. For undivided and uninterrupted testing and setting of semaphore, uni-processor systems tend to\_\_\_\_\_.

• **Disable interrupts (Page 109)**

- Use bakery algorithm
- Use spinlock
- Use signal

106. A\_\_ enables a user process to request the operating system to execute a privileged instruction for it

- Interrupt
- Library call
- System Call

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- **Trap** (page 8)

107. We can terminate a thread explicitly by either returning from the thread function or by using the \_\_\_ call.

- `express()`

□□□□ `pthread_exit()` (page 73)

- `win()`

- `slow()`

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108. Ali is an operating system designer. One user requirement regarding OS is easy to debug and modify. In your opinion which one of the following OS structure Ali needs to follow?

- Simple OS Approach

- Micro kernels

• **Layered approach** My Point of View+G

- Virtual machine

109. Is not system call in Linux.

- **Mkfifo** (Page 57)

- `Mknod`

- `Read`

- `Open`

110. \_\_\_\_\_ is also called swapper .

- Long term

- Short term

- **Medium term** pg#34

- Swap space

111. After `fork()` system call is made, parent and child process have their separate copy

of\_\_\_\_\_.

- Environment

- Nice value

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- File mode creation mask
  - **File descriptors pg#38**
112. Critical section problem is to \_\_\_ the concurrent execution of cooperating process.
- Update
  - **Srialize My Point of View**
  - Stop
  - Start
113. Round Robin algorithm is most suitable for \_\_\_.
- **Time sharing system (Page 85)**
  - Real time system and batch systems
  - Running batch progress
  - Expert system
114. Concurrent processes must be synchronized to prevent \_.
- Mutual exclusion
- Race condition (Page 96)**
- Critical Section
  - Waiting
115. In instruction TestAndSet mutual exclusion implementation is done by declaring a Boolean variable lock\_\_\_\_\_
- Initialized as zero
  - Initialized as true
  - Initialized as 1
  - **Initialized to false (Page 106)**
116. \_\_\_ The kernel is a computer program that manages \_\_\_ request from software
- **Input/output My Point of View**
  - Process
  - Hardware
  - Software
117. \_\_\_ is used in real time operating systems.
- Non-preemptive scheduling
  - **Preemptive scheduling My Point of View**
  - Dispatching scheduling

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118. ○ FCFS scheduling  
Which of the following provide interface to access the services of the operating system?

- API

**System call (PAGE 15+Google)**

- Library call
- Assembly Instructions

119. In process management some of the jobs can be suspended for some time in order

to give other job a chance to be in execution. Which command can be used to place back a suspended command?

**fg (Page 65)**

- top
- ps
- bg

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120. ~symbol in the pathname ~/docs/cs604/handouts represented\_\_.

- Root directory
- **Login directory pg#22**
- Parent directory
- Child directory

121. Which of the following statement is not true regarding the cooperating processes?

- It provides an environment to allow concurrent user to access same resources.
- It provide an environment to run parallel processes to speedup computation.
- It construct the system in a modular fashion, dividing the system functions into separate processes or threads.

**It may affect or be affected by any other process**

**executing in the system. (Page 41)**

122. A process 'A' that has finished working but its parent process has also finished its

execution. In this state the process 'A' will be called as process.

- Child
- Thread

**Zombie My Point of View**

- Fork



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123. The nice value helps in assigning \_\_\_ to process
- **Priority My Point of View**
  - Weight
  - Time
  - Scheduling
124. In critical section problem \_\_\_ requirement illustrates that “There exists a bound on the number of times that other processes are allowed their critical sections after a process has made a request to enter its critical section and before that request is granted.”
- Progress
  - Mutual Exclusion
  - **Bounded Waiting Page 98**
  - Race Condition
125. When process opens its first file explicitly it will get descriptor number \_\_\_\_\_
- 1
  - 2
  - 3 My Point of View**
  - 4
126. \_\_\_\_\_ is a solution to critical section problem.
- **Lamport’s bakery algorithm My Point Of View**
  - Safety algorithm
  - Dijkstra’s algorithm
  - Banker’s algorithm
125. Which of the following is used to show the end of the file in UNIX?
- Ctrl+A
  - Ctrl+D My Point of View**
  - Ctrl+O
  - Ctrl+E
126. \_\_\_\_\_ is used to request the OS by the process to take an I/O or initiating child process
- Interrupt
  - Trap
  - Signal

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## ▪ System call(Page 195)

129. \_\_\_\_\_ is a segment of code that access a shared resource like data structure or device that must not be concurrently accessed by more than one thread of execution.

- Multithreading
- Context switching

Critical section My Point of View

- Pipelining

130. Under \_\_\_\_\_ once the CPU has been allocated to a process the process keeps the CPU until either it switches to the waiting state, finishes its CPU burst, or terminates.

Non-preemptive scheduling pg#79

- Preemptive scheduling
- Force scheduling
- Dynamic scheduling

131. The round-robin RR scheduling algorithm is designed especially for \_\_\_\_\_

- Single-user systems
- Nice systems
- Batch system

Time-sharing system pg#85

132. In producer-consumer problem synchronization is required. On which shared area this synchronization actually effect?

- Entry section
- Exit section
- Counter

Buffer Page 94

133. A process is \_\_\_\_\_ if it cannot affect or be affected by any other process executing in the system.

- Both(independent and dependent)

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- None of the given
- Dependent

○ **Independent** **Page 41**

134. Command-line interpreter is also called \_\_\_\_\_ in some operating system

○ **Shell** **My Point of View**

- Signal
- API
- Kernel

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135. When processes are generated using fork () system call and then after they are

coordinated with each other using IPC channel. They are utilizing a separate address space for each process (parent. child) .Kernel resources and IPC channel. This makes it a more heavy. Which strategy can be used to make it light?

- Termination of child process when these become more
- Scheduling of each process
- Use of batch systems
- **Use of threads** **(Page 67)**

136. All UNIX and LINUX systems have one thing in common which is \_\_\_\_\_.

• **Set of system calls** **My Point Of View**

- Set of commands
- Set of instructions
- Set of text editors

137. First \_\_\_\_\_ entries in pre-process file descriptor table are used as soon as the process is created.

- 1
- 2
- **3**
- 4

**Page 52**

138. \_\_\_\_\_ directory includes essential system boot files including the kernel image

- /bin
- **/boot** **Page 23**
- /dev

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- /etc

139. A\_\_signal is generated when a write performed to fifo that no process is opened for reading.

▪  **SIGPIPE (Page 58)**

- Named PIPE
- Unnamed PIPE
  - SIGFIFO

140. Consider a scenario of CPU protection,\_\_is added to the operating system in order to detect and avoid loop in a user program.

- I/O
- **Timer (Page 11)**
- Base and limit register
- Turning interrupt enable off

141. The process id returned to the child process after successful fork system call execution is\_\_\_\_\_.

**0 (Page 37)**

- 1
- 2
- 3

142. Semaphore S is a/an\_\_\_\_\_ type of variable to use as synchronization tool.

• **Integer (Page 108)**

- Boolean
- Double
- Float

143. In the bakery algorithm to solve the critical section problem\_\_\_\_\_.

- Each process is put into a queue and picked up in an ordered manner

**Each process receives a number(may or may not be unique) and the one with the lowest number is served next (Page 102)**

- Each process gets a unique number and the one with the highest

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number is served next

- Each process gets a unique number and the one with the lowest number is served next

144. The BSD sockets are used for communication between related or unrelated processes on the same system or on different systems.

## □□□□ Unrelated processes (Page 50)

- Related processes
- Both (related and unrelated)
- Sibling process

145. While a process executes its critical section, other entering processes loop in a continual function in their entry sections, thus causing .

- Bounded waiting
- Race condition
- Mutual exclusion

## • Busy waiting Page 109

146. A major problem with priority-scheduling algorithm is

- Conclusion
- Aging
- Termination

## • Starvation (Page 83)

147. The manual pages can be read in Linux using \_\_ command.

## □□□□□ Man (Page 24)

- wan
- desc
- help

148. The creating process is called a \_\_ process while the new process are called the \_\_ of the process.

- Children, parent
- Zombie, single
- None of the given

## • Parent, children Page 35

149. UNIX system V Scheduling algorithm in every second, the priority number of all

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those processes that are in the main memory and ready to run is updated by using the following formula:

- Priority # = Threshold priority + nice
- Priority # = (Recent CPU Usage)/2 + nice
- Priority # = (Recent CPU Usage)/2 + Threshold priority
- **Priority #=(Recent CPU Usage)/2+Threshold priority+nice Page 90**

150. An operating system is a /an \_\_\_ that manages the execution of user programs to prevent errors and improper use of a computer

- Disk
- Application program
- **Control program Page 03**
- Physical unit

151. State of process transits from running to ready because of\_\_.

- Fork()
- Scheduler dispatch
- I/O
- **Interrupt Page 79**

152. Taking the CPU from one process and giving the CPU to another process is termed as

**□□□□□ Context Switching (Page 31)**

- Dispatching
- Swapping
- Tracking

153. In priority-scheduling algorithm equal priority processes are scheduled in order.

- **FCFS (First Come First Serve) (Page 83)**
- LIFO (Last in First Out)
- SJF (Shorted Job First)
- SRTF (Shortest Remaining Time First)

154. A/an \_\_\_ is software generated call caused by error, or when a user request for

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an operating system service

- **Trap (Page 7)**
- Interrupt
- Signal
- System call

155. Critical section problem can be solved by using how many ways?

- 4
- **3 Page 97**
- 2
- 1

156. The write() system call may not fail for \_\_\_ reason(s)

- Invalid argument
- File size limit for process or for system would exceed
- Disk is full
- **Valid argument Page 51**

157. If a parent exits terminating its children processes, these children are handed over process.

- **Init Page 37**
- Root
- Daemon
- Sibling

159. The \_\_\_ system call suspends the calling process until one of the immediate children terminate.

**Wait (Page 39)**

- Signal
- Trap
- Interrupt

160. The correct command when pipes are used on the command line to connect the standard input of one process to the standard input of another is.

• Cmd1 % cmd2% ..... %cmdN

**Cmd1 | cmd2 | ..... | cmdN (Page 53)**

- Cmd1 \$ cmd2 \$ ..... \$ cmdN
- Cmd1 & cmd2 & ..... & cmdN

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161. A \_\_\_\_\_ system has well defined, fixed time constraints, and if the system does not produce output for an input within the time constraints, the system fail.

- Operating
- **Real-time** (Page 7)
- Limited
- Andriod

162. In round-robin (RR) scheduling algorithm the CPU scheduler goes around the ready queue, allocating the CPU to each process for time interval of up to \_\_\_ time quantum.

- 4
- 3
- 2

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**1** (Page 85)

163. In hardware multiprocessor environment two instructions are executed \_\_\_\_\_ which are swap and TestAndSet.

**Atomically** (Page 105)

- Automatically
- Manually
- By force

164. We can perform the solution to critical section problem by allowing only one process to enter at a time but another solution hold some instruction use. One of them is TSL, how it is written in program?

**TestAndSet (Boolean &target)** (Page 105)

- Testandset(Bolean &target)
- TSL (Bolean &target)
- TSL ()

165. The segment of code in which the process may change common variables, update tables, write into files is known as \_\_\_\_\_

- Program



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- **Critical section** (Page 102)

- Non-critical section
- Synchronizing

166. When sender never block because it has an infinite length storage area, then it means it is holding a queue of \_\_\_ capacity.

- Zero

- Unbounded** (Page 45)

- Defined
- Bounded

167. \_\_\_\_\_ are lowest prioritized processes for scheduling in Kernel Group.

- User processes** (Page 90)

- Character I/O device control processes
- Block I/O control processes
- File manipulation processes

168. In round-robin (RR) scheduling algorithm, in case the time quantum is very large (infinite), the RR policy remains the same as the \_\_\_ policy.

- LIFO (Last in First Out)

- FCFS (First Come First Served)** (Page 86)

- SJF (Shorted Job First)
- SRTF (Shortest Remaining Time First)

169. Consider a scenario in which one process P1 enters in its critical section, no other process is allowed to execute in its critical section. This is called \_\_\_\_\_

- **Mutual exclusion** (page 98)

- Context switching
- Multithreading
- Progress

170. Multilevel feedback \_\_\_\_\_ scheduling allows a process to move between queues.

- List

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## □ Queue (page 89)

- Array
- Time

171. The link between two processes P and Q to send and receive messages is called

## Communication link (page 43)

- Message-Passing link
- Synchronization link
- All of the mentioned

172. \_\_\_\_\_ command in Linux helps to create a new directory

- ls
- cp
- mv

## • mkdir (page 26)

173. \_\_\_\_\_ is the basis of queuing theory which is branch of mathematics used to analyze systems involving queues and servers.

## • Little's Formula (page 93)

- Deterministic Modeling
- Queuing Theory
- Queuing Analysis

174. TSL based solution can implement mutual exclusion, it abbreviates \_\_\_\_

## □ TestAndSet Instruction (page 106)

- Test Swap Instruction
- Trap Set Solution
- Test Set Instrument

175. You can have a thread wait for another thread within the same process by using the \_\_\_\_\_ system call

## □ Pthread\_join() (page 73)

- Pthread\_exit()
- Pthread\_create()

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- Pthread\_terminate()
176. A signal is an event generated to get attention of
- Hard disk
  - ☐ **Process (page 7)**
  - Trap
  - Interrupts
177. Both in two atomic instructions TestAndSet and swap two critical section requirements are satisfied but not \_\_\_\_\_
- Mutual exclusion
  - Progress
- AL-JUNAID INSTITUTE OF GROUP
- **Bounded waiting (page 106)**
  - Assumptions
178. You can use the rm file 1 command to \_\_\_ file 1.
- Retrieve
  - **Remove (page 27)**
  - Make
  - Modify
179. Shared libraries and kernel modules are stored in \_\_\_ directory.
- /bin
  - /dev
  - /boot
  - ☐ **/lib (page 23)**
180. Use of the semaphore create a problem of busy waiting, this wastes CPU cycle that some other process may be able to use productively. This type of semaphore is also called \_\_\_\_\_
- Semaphore S
  - ☐ **Spinlock (page 109)**
  - Locking Semaphore
  - Mutex

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181. As a result of <Ctrl-C>, a SIGINT signal is sent to a process.

Signal number for SIGINT is \_\_\_\_\_

- 15
- 1
- 9
- 2 (page 66)

182. The section of code after the critical section is called\_.

- Crystal section
- Entry section
- **Remainder section (page 98)**
- Exit section

183. To prevent a process from keeping CPU for too long, control is shifted to another ready

process by invoking a timer .

- When running process finishes its task
- Every time a free space is available in main memory
- **Every time a process finishes its time slice ( page 11)**
- When running process makes a system call

184. ----- View is that operating system is resource manager.

- Top-down
- Single-up
- Down-up
- **bottom-up (page 3)**

185. Co-operating process sharing a piece of code are executed periodically to solve

- Waiting problem
  - Non-concurrency problem
- Aging problem
  - **Critical section problem**

Page 97

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186. Software section to critical section problem can run only in environment \_\_
- Multiprocessor
  - Multithreading
  - **Uniprocessor Page 105**
  - Separate address spacing
187. \_\_\_\_\_ command displays the contents of current working directory.
- **Is Page 25**
  - Cs
  - Mv
  - Cp
188. When processes communicate with each other, they perform communication through \_\_\_\_\_ synchronization and utilizing separate address spaces. This action is termed as \_\_\_\_\_
- Process management
  - Synchronization
  - Direct/indirect Communication
  - **Inter Process Communication Page 43**
189. We can use semaphore to deal with the number of \_\_\_\_\_ process critical section problem. AL-JUNAID INSTITUTE OF GROUP
- 1
  - **n (Page 108)**
  - n-1
  - 2n
190. Which is not considered a role of an operating system?
- Memory allocation and de-allocation of a process
  - **Synchronization of cooperating processes My Point of View**
  - Program execution
  - Protection of a user's file and directories
191. In system call that creates a pipe for IPC. If one of the operation from read/write would fail then what will be returned as result?
- -1+1

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- 1

- -1 **Page 46**

- 0

192. Which of the following is not true for a time-sharing system?

- Multi user
- Iterative
- CPU sit idle when process requires I/O operation
- **Rigid time requirements My Point of View**

193. Which could not be the advantage of thread?

**Separate address space (Page 69)**

- Quick response
- Economical
- Best in multiprocessing environment

194. OS helps manages the following except

- Application software
- Memory
- Virtual memory
- **Bus speed of the system My Point of View**

195. In operating system \_\_\_ command is used to copy files to same location or different location.

- Copy
- Copi
- Cp
- **Both Copy and CP My Point Of View**

196. scheduling algorithm can be preemptive or non-preemptive.

- First Come First Serve
- **Shortest Job First (Page 82)**
- Round Robin
- Priority

197. The main characteristic of real time system is.

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- Efficiency
- Large virtual memory
- Large secondary storage device

**Usability My Point of View**

198. Processes P1,P2,P3,P4 enter the ready queue at time 0,3,3,11 with burst times  
P1=8, P2=2, P3=1, P4=1. With shortest remaining time first, \_\_process is given  
CPU at time=3.

- P1
- P2

**P3 My Point of View**

- P4

199. If size of a process is 376052 bytes and its smallest physical memory  
address is

242785. Its address space cannot exceed beyond \_\_\_\_.

- 376053
- 376051
- 618836

**618837 My Point of View**

200. Which of the following is a correct command line for running in  
background?

- `cat code.c | grep print %`

**`cat code.c | grep print &` (Page 62)**

- `cat code.c | grep print #`
- `cat code.c | grep print @`

201. Which of the following command is used to read data from file named  
academics?

- `con<academics`
- `socket>academics`
- `ran>academics`

**`cat<academics` (Page 55)**

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202. Using hardware solution to synchronization for complex problems, introduce a

new synchronization tool known as \_\_\_.

- Trap
- Semaphore (Page 108)
- SWAP
- TestAndSet

203. In LINUX directory structure, there is \_root directory.

- 1 Page 23

- 2
- 4
- 3

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204. The time interval from submission of a process to the time when its output is generated is termed as.

Turnaround time (Page 80)

- CPU burst
- Responsive time
- Throughput

205. The correct command for compiling C program named program.c in LINUX environment is

- gcc -z FirstProgram program.c
- gcc program.c -m FirstProgram
- gcc -o FirstProgram program.c
- gcc program.c -o First Program (Page 28)

206. The Kernel is \_\_\_ user threads

- Is part of
- Unaware of Page 70
- Aware of
- The creator of

207. \_\_\_\_\_ scheduling algorithm is sometimes called shortest remaining time first scheduling algorithm.

- Priority scheduling
- Non-preemptive SJF

Preemptive Shortest Job First (Page 82)



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- FCFS

208. You can use the bg command to put the current or a suspended process into the background. What is the correct syntax of bg command from the following?

- bg [%id]
- bg [job#]
- bg [id#]

**□□□□□bg [%job\_id] (Page 65)**

209. The region in the memory that a process is allowed to access is known as\_\_\_\_\_.

**□□□□□Address space (Page 10)**

- Instruction
- Operation
- Register

210. In Unix/Linux by default the standard output file is attached to the

- File

**• Screen (Page 52)**

- Printer
- Scanner

211. The procedure “The time at which the process finished working MINUS the

arrival time of the process MINUS CPU burst for that process” will help calculate the

.Non-preemptive Shortest Job First scheduling.

**• Preemptive Shortest Job First scheduling. (Page 82)**

- FCFS
- RR Scheduling

212. Processes P1, P2, P3 having burst time P1=3, P2=4, P3=3 and turnaround times P1=7, P2=10, P3=9 enter the ready queue at Time=0. With RR scheduling waiting time for process P2 is\_\_.

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4

0

3

6 **My Point of View**

213. \_\_\_\_\_ Scheduler takes the process from the ready queue and assigns the CPU with the help of Dispatcher.

- Swapper

**Short term (Page 79)**

- Long term
- Medium term

214. To display all processes \_\_\_ option is used with ps command/

- -l
- -a

**-e (Page 63)**

- -u

215. Clock interrupt handler is an example of kernel level thread that is not executed for serving a request by a user thread. It is named as \_\_\_\_\_.

- EINVAL
- EAGAIN

LWP **(Page 72)**

- POSIX

216. Consider three processes in scheduling. Here are the waiting times for three process  $P_1=4, P_2=2, P_3=6$ . Which one of the following is correct average waiting time.

- 2
- 4
- 3
- 6

**My Point of View**

217. Processes  $P_1, P_2, P_3$  having burst time  $P_1=3, P_2=4, P_3=3$  and turnaround time  $P_1=7, P_2=10, P_3=9$  enter the ready queue at  $T=0$  waiting time for process  $P_2$  is \_\_\_.

- 3

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- 4
- 6 **My Poit of View**
- 0

218. P1,P2,P3,P4,P5 are five processes with tick numbers  
P1=1,P2=2,P3=4,P4=2,P5=4

then considering Lamport's bakery algorithm \_\_\_\_\_ process enters critical section after P1.

P2 **My Point of View**

- P3
- P4
- P5

219. Four processes P1, P2, P3, P4 enter the ready queue at time 0 with burst times P1=3, P2=10, P3=4. Waiting time of P3 would be \_\_\_.

12

13 **My Point of View**

14

17