# CS604- OPERATING SYSTEM
## (SOLVED MCQs)
## FROM MIDTERM PAPERS
## LECTURE (1-22)

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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
- 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

11. The section of code before the critical section is called____.
    - **Entry section (Page 97)**
    - Remainder section
    - Exit section
    - Crystal section AL-JUNAID INSTITUTE OF GROUP
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)**

- 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** **My Point of View**
    - ISO
    - ACM

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 AL-JUNAID INSTITUTE OF GROUP
    - **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
- 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
- Layered
- **Micro kernels Page**

28. The_____approach include the ease of extending the OS.

- Macro Kernels AL-JUNAID INSTITUTE OF GROUP
- 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

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- Shortest Job First
- 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

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 My point of View**
- 3
- 4

40. ___Scheduler salects 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
- 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
- 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 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 concurancy.

- One-to-Many
- Many-to-Many

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- One-to-One pg#71
- 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

- 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)

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- Circular Queue pg#85

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.
    - 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
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 Page 64
    - Cd
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

- 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 P1=5,P2=10,P3=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.
- 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.5th column shows
- Group of the owner
- File size in bytes page 26
- Time last upated
- Owner of the file

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

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- Mouse
- 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 Page 36
    - Never be a duplicate of the parent process
    - Cannot have another program loaded into it
    - Never have another program loaded into it

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

- Related and Unrelated
- Parent-child
- 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

_____.

- 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)

- 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

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- System Call

- **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() AL-JUNAID INSTITUTE OF GROUP

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

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- Nice value
- 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**

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- Dispatching scheduling
- FCFS scheduling

118. 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

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
   - Dijikstra'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
- **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)
- 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 Page 52
- 4

138. _____directory includes essential system boot files including the kernel image
- /bin
- /boot Page 23

- /dev
- /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 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
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)

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

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- Cmd1 & cmd2 & ……. & cmdN

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
- 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
- **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()
- 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
- **Bounded waiting (page 106)**
- Assumptions

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178. You can use the rm file 1 command to__file 1.
- Retrieve
- **Remove (page 27)**
- Make
- Modify

179. Shared libreries 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

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- Mutex

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

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- **Critical section problem** **Page 97**

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
- 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

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- Priority

197. The main characteristic of real time system is.

- 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

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

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 AL-JUNAID INSTITUTE OF GROUP
- 3

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 creater of

207. _____scheduling algorithm is sometimes called shortest remaining time first scheduling algorithm.
- Priority scheduling

- Non-preemptive SJF

**□□□□ Preemptive Shortest Job First (Page 82)**

- 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__.

- 4 AL-JUNAID INSTITUTE OF GROUP
- 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 P1=4,P2=2,P3=6.Which one of the following is correct average waiting time.

- 2
- 4 My Point of View
- 3
- 6

217. Processes P1,P2,P3 having burst time P1=3,P2=4,P3=3 and turnaround time

P1=7,P2=10,P3=9 enter the ready queue at T=0 waiting time for process P2 is__.

- 3
- 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

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