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OS Question Bank

1. What is operating system?
a) collection of programs that manages hardware resources
b) system service provider to the application programs
c) link to interface the hardware and application programs
d) all of the mentioned

2. To access the services of operating system, the interface is provided by the
a) **system calls** b) API
c) library d) assembly instructions

3. Which one of the following is not true?
a) kernel is the program that constitutes the central core of the operating system
b) kernel is the first part of operating system to load into memory during booting
c) kernel is made of various modules which can not be loaded in running operating system
d) kernel remains in the memory during the entire computer session

4. The systems which allows only one process execution at a time, are called
a) **uniprogramming systems** b) uniprocessing systems
c) unitasking systems d) none of the mentioned

5. What is the ready state of a process?
a) when process is scheduled to run after some execution
b) when process is unable to run until some task has been completed
c) when process is using the CPU
d) none of the mentioned

6. The number of processes completed per unit time is known as _____.
a) Output b) **Throughput** c) Efficiency d) Capacity

7. The state of a process is defined by :
a) the final activity of the process
b) the activity just executed by the process
c) the activity to next be executed by the process
d) the current activity of the process

8. Which of the following is not the state of a process?
a) New b) **Old** c) Waiting d) Running

9. The Process Control Block is :
a) Process type variable b) **Data Structure**
c) a secondary storage section d) a Block in memory

10. The degree of multi-programming is :
a) the number of processes executed per unit time
b) the number of processes in the ready queue
c) the number of processes in the I/O queue
d) the number of processes in memory

11. The objective of multi-programming is to : (choose two)
a) Have some process running at all times
b) Have multiple programs waiting in a queue ready to run
c) To minimize CPU utilization
d) To maximize CPU utilization

12. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called.
a) **job queue** b) ready queue c) execution queue d) process queue

13. The interval from the time of submission of a process to the time of completion is termed as
a) **waiting time** b) turnaround time c) response time d) throughput

14. Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?
a) **first-come, first-served scheduling** b) shortest job scheduling
c) priority scheduling d) none of the mentioned

15. Time quantum is defined in
a) shortest job scheduling algorithm **b) round robin scheduling algorithm**
c) priority scheduling algorithm d) multilevel queue scheduling algorithm

16. An interrupt breaks the execution of instructions and diverts its execution to
a) **Interrupt service routine** b) Counter word register
c) Execution unit d) control unit

17. How does the processor respond to an occurrence of the interrupt?
a) **By Interrupt Service Routine** b) By Interrupt Status Routine
c) By Interrupt Structure Routine d) By Interrupt System Routine

18. On getting, an interrupt, CPU
a) finishes the current instruction and moves to interrupt service routine
b) immediately moves to interrupt service routine without completing current instruction [
c) releases the control on I/O lines and memory lines
d) makes the peripheral device, which requested the interrupt wait for fixed interval of time

19. Round robin scheduling falls under the category of :
a) Non preemptive scheduling b) **Preemptive scheduling**
c) Preemptive and Non-preemptive d) None of these

20. The portion of the process scheduler in an operating system that dispatches processes is concerned with :
a**) assigning ready processes to CPU** b) assigning ready processes to waiting queue
c) assigning running processes to blocked queue d) All of these

21 The FIFO algorithm :
a) first executes the job that came in last in the queue
b) first executes the job that came in first in the queue
c) first executes the job that needs minimal processor
d) first executes the job that has maximum processor needs

22. Under multiprogramming, turnaround time for short jobs is usually _____ and that for long jobs is slightly _____.
a) Lengthened; Shortened b) **Shortened; Lengthened**
c) Shortened; Shortened d) Shortened; Unchanged

23. The _____ swaps processes in and out of the memory.
a) **memory manager unit** b) CPU c) CPU manager d) user

24. Which one of the following is the address generated by CPU?
a) physical address b) absolute address c**) logical address** d) none of the mentioned

25. Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called
a) fragmentation b) **paging** c) none of the mentioned

26. Operating System maintains the page table for
a) **each process** b) each thread c) each instruction d) each address

27. The main memory accommodates: (Choose any two)
a) **operating system** b) CPU c) **user processes** d) All of these

28. In contiguous memory allocation :
a) each process is contained in a single contiguous section of memory
b) all processes are contained in a single contiguous section of memory
c) the memory space is contiguous
d) None of these

29. When memory is divided into several fixed sized partitions, each partition may contain _____.
a) exactly one process b) atleast one process
c) multiple processes at once d) None of these

30. In fixed sized partition, the degree of multiprogramming is bounded by _____.
a) the number of partitions b) the CPU utilization
c) the memory size d) All of these

31. In internal fragmentation, memory is internal to a partition and :
a) is being used b**) is not being used** c) is always used d) None of these

32. Solution to the problem of external fragmentation problem is to :
a) permit the logical address space of a process to be noncontiguous
b) permit smaller processes to be allocated memory at last
c) permit larger processes to be allocated memory at last
d) All of these

33. External fragmentation exists when :
a) enough total memory exists to satisfy a request but it is not contiguous
b) the total memory is insufficient to satisfy a request
c) a request cannot be satisfied even when the total memory is free
d) None of these
34. When the memory allocated to a process is slightly larger than the process, then :
a**) internal fragmentation occurs** b) external fragmentation occurs
c) both a and b d) neither a nor b

35. Physical memory is broken into fixed-sized blocks called _____.
a) **frames** b) pages c) backing store d) None of these

36. Logical memory is broken into blocks of the same size called _____.
a) frames b) **pages** c) backing store d) None of these

37. The size of a page is typically :
a) varied b) **power of 2** c) power of 4 d) None of these

38. Because of virtual memory, the memory can be shared among
a) **processes** b) threads c) instructions d) none of the mentioned
39. Swap space exists in
a) primary memory **b) secondary memory** **c) CPU** d) none of the mentioned

40. When a program tries to access a page that is mapped in address space but not loaded in physical memory, then

a) segmentation fault occurs
b) fatal error occurs
c) **page fault occurs**
d) no error occurs

41. A program that acts as an interface between process and OS is called
a) Kernel **b) System call** c) Microkernel d) Virtual Machine

42. A PCB is created when a process is
a) Running b) Ready c) **Created** d) None

43. ISR stands for
a) **Interrupt Service Routine**
b) Inter Service Routine
c) Interrupt Set Routine
d) Internal Service Routing

44. The operating system of a computer serves as a software interface between the user and the
a) **Hardware** b) Peripheral c) Memory b) Screen

45. The operating system manages
a) Memory b) Disk c) I/O devices d) **All of the above**

46. CPU Scheduling is the basis of _____ operating system
a) Batch b) Uniprogramming c) Multiprogramming d) Monoprogramming

47. CPU performance is measured through _____.
a) **Throughput** b) MHz c) Flaps d) None of the above

48. A Process Control Block contains:
a) Data b) PID c) Process state d) **All**

49. Process is:
a) Program in high level language kept on disk
b) Contents of main memory
c) **A program in execution**
d) A program in secondary memory

50. Paging _____.
a) **solves the memory fragmentation problem**
b) allows modular programming
c) allows structured programming
d) avoids deadlock

51. Virtual memory is _____.
a) An extremely large main memory
b) **An extremely large secondary memory**
c) An illusion of extremely large main memory
d) A type of memory used in super computers.

52. The two steps of a process execution are : (choose two)
a) **I/O Burst** b) **CPU Burst** c) Memory Burst d) OS Burst

53. An I/O bound process will typically have :
a) a few very short CPU bursts
b) many very short I/O bursts
c) many very short CPU bursts
d) a few very short I/O bursts

54. A process is selected from the _____ queue by the _____ scheduler, to be executed.
a) blocked, short term
b) wait, long term
c) ready, short term
d) ready, long term

55. With round robin scheduling algorithm
a) using very large time slices converts it into First come First served scheduling algorithm
b) using very small time slices converts it into First come First served scheduling algorithm

c) using extremely small time slices increases performance
d) using very small time slices converts it into Shortest Job First algorithm

56. Scheduling is :
a) allowing a job to use the processor
b) making proper use of processor
c) Both a and b
d) None of these

57. Who is called a supervisor of computer activity?
a) Memory **b) Operating System** c) OCI/O Device d) Control Unit

58. The kernel keeps track of the state of each process by using a data structure called
a) Process control block
b) User control block
c)Memory control block
d)None of the above

59. In the multi-programming environment, the main memory consisting of _____ number of process.
a) Greater than 100 b) Only one c) Greater than 50 d) **More than one**

60._____ scheduler selects the jobs from the pool of jobs and loads into the ready queue.
a) **Long term** b) Short term c) Medium term d) None of the above

61. What is Thrashing?
a) **A high paging activity**
b) A high executing activity
c) An extremely long process
d) An extremely long virtual memory

62. Poor response times are caused by
a) Busy processor b) High I/O rate c) High paging rates d) **Any of above**

63.If process is running currently executing, it is in running
a) Mode b) Process c) **State** d) Program

64. Privileged mode of operating system mode is a
a) user mode b) **kernel mode** c) system mode d) both b and c

65. Which of the following memory allocation scheme suffers from External fragmentation?
a) Fixed Memory Partition
b) **Dynamic Memory Partition**
c) Paging
d) None

66. Which of the following is crucial time while accessing data on the disk?
a) **Seek time** b) Rotational time c) Transmission time d) Waiting time

67. Paging _____.
a) **solves the memory fragmentation problem**
b) allows modular programming
c) allows structured programming
d) avoids deadlock

68. A program at the time of executing is called _____.
a) Dynamic program b) Static program c) Binded Program d) **A Process**

69. A process is created and initially put in the
a) ready queue b) **job queue** c) I/O queue d) None

70. PCB =
a) Program Control Block
b) **Process Control Block**
c) Process Communication Block
d) None of the above PCB

71. Round robin scheduling is essentially the preemptive version of _____.
a) **FIFO** b) Shortest job first c) Shortes remaining d) Longest time first

72. FIFO scheduling is _____.
a) Preemptive Scheduling b) **Non Preemptive Scheduling**
c) Deadline Scheduling d) Fair share scheduling

73. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of
a) all process b) **currently running process** c) parent process d) init process

74. Waiting time is :
a) the total time in the blocked and waiting queues
b) **the total time spent in the ready queue**
c) the total time spent in the running queue
d) the total time from the completion till the submission of a process

75. Which module gives control of the CPU to the process selected by the short-term scheduler?
a) scheduler b) none of the mentioned c) **dispatcher** d) interrupt

76. Which one of the following can not be scheduled by the kernel?
a) **user level thread** b) process c) none of the mentioned d) kernel level thread

77. Complex scheduling algorithms :
a) use minimal resources b) **are very appropriate for very large computers**
c) All of these d) use many resources

78. The offset 'd' of the logical address must be
a) between 0 and the segment number b) greater than segment limit
c) greater than the segment number d) **between 0 and segment limit**

79. The address of a page table in memory is pointed by
a) **page table base register** b) stack pointer c) page register d) program counter

80. The page table contains
a) page offset b) **base address of each page in physical memory**
c) page size d) none of the mentioned

81. Scheduling is done so as to :
a) increase the waiting time b) keep the waiting time the same
c) **decrease the waiting time** d) None of these

82. Response time is :
a) the total time taken from the submission time till the completion time
b) **the total time taken from the submission time till the first response is produced**
c) the total time taken from submission time till the response is output
d) None of these

83. The FCFS algorithm is particularly troublesome for _____.
a) time sharing systems b) **multiprogramming systems**
c) multiprocessor systems d) Operating systems

84. The operating system and the other processes are protected from being modified by an already running process because :
a) they have a protection algorithm
b) they are in different logical addresses
c) every address generated by the CPU is being checked against the relocation and limit registers

d) **they are in different memory spaces**

85. CPU scheduling decisions takes place under following conditions:
a) When a process switches from running to ready state
b) When a process switches from running state to waiting state
c) When a process terminates
d) **All of the Above**

86. What is meant by throughput?
a) Number of processes running in the system
b) **Number of process completed per unit time by the system**
c) Number of processes waiting for CPU per unit time
d) None of the above

87. When CPU becomes idle which scheduler is called?
a) **Short term scheduler** b) Medium term scheduler
c) Long term scheduler d) Any

88. _____ is generally faster than _____ and _____.
a) **first fit, best fit, worst fit** b) None of these
c) worst fit, best fit, first fit d) best fit, first fit, worst fit

89. Which scheduler selects which processes should be brought into the ready queue?
a) Real-term b) **Long-term** c) Medium-term d) Short-term

90. Every address generated by the CPU is divided into two parts : (choose two)
a) **page number** b) **page offset** c) frame bit d) frame offset

91. A page fault occurs
a) **when the page is not in the memory** b) when the page is in the memory
c) when the process enters the blocked state d) when the process is in the ready state

92. A CPU bound process will typically have:
a) **many very long CPU bursts** b) many very short I/O bursts
c) many very short CPU bursts d) **a few very short I/O bursts**

93. The chunks of a memory are known as
a) Sector b) Offset c) Page d) **Frame**

94. Which of the page faults?
a) Paging b) **The working set** c) Hit ratio d) Address location resolution

95. The _____ table contains the base address of each page in physical memory.
a) Frame b) Page c) **Process** d) Memory

96. ..... is a large kernel containing virtually the complete operating system, including, scheduling, file system, device drivers and memory management.
a) Multilithic kernel b) **Monolithic kernel** c) Micro kernel d) Macro kernel

97. .10 A ..... architecture assigns only a few essential functions to the kernel, including address spaces, Inter process communication(IPC) and basic scheduling.
a) Monolithic kernel b) **Micro kernel** c) Macro kernel d) Mini kernel

98. With ..... only one process can execute at a time; meanwhile all other process are waiting for the processer. With ..... more than one process can be running simultaneously each on a different processer.

a) Multiprocessing, Multiprogramming
b) Multiprogramming, Uniprocessing
c) **Multiprogramming, Multiprocessing**
d) Uniprogramming, Multiprocessing

99. System call routines of operating system are mostly written in
a) C b) C++ c) java d) **both a and b**

101. Which is not the function of the Operating system?
a) Memory management
b) Disk management
c) Application management
d) **Virus protection**

102. With paging there is no _____ fragmentation.
a) internal b) **external** c) either type of d) None of these

103. The page table registers should be built with _____.
a) None of these
b) very low speed logic
c) a large memory space
d) **very high speed logic**

104. Which one of the following error will be handle by the operating system?
a) lack of paper in printer
b) connection failure in the network
c) **all of the mentioned**
d) power failure

105. The main function of the command interpreter is
a) to handle the files in operating system
b) none of the mentioned
c) to provide the interface between the API and application program
d) **to get and execute the next user-specified command**

106. By operating system, the resource management can be done via
a) space division multiplexing
b) **both (a) and (b)**
c) time division multiplexing
d) time division multiplexing

107. If a process fails, most operating system write the error information to a
a) another running process b) **log file** c) none of the mentioned d) new file

108. Which facility dynamically adds probes to a running system, both in user processes and in the kernel?
a) Dadd b) Dmap c) Dlocate d) **DTrace**

109. Which one of the following is not a real time operating system?
a) VxWorks b) **Palm OS** c) RTLinux d) Windows CE

110. The OS X has
a) monolithic kernel b) microkernel c) monolithic kernel with modules d) **hybrid kernel**

111. In operating system, each process has its own
a) pending alarms, signals and signal handlers
b) address space and global variables
c) **all of the mentioned**
d) open files

112. A process can be terminated due to
a) normal exit b) killed by another process c) fatal error d) **all of the mentioned**

113. The address of the next instruction to be executed by the current process is provided by the
a) CPU registers b) **program counter** c) process stack d) pipe

114. Which of the following is not the state of a process ?
a) New b) Ready c) **Old** d) Terminated e) Waiting

115. The entry of all the PCBs of the current processes is in :
a) Program Counter b) Process Unit c) Process Register d) **Process Table**

116. Process synchronization can be done on
a) software level b) hardware level c) **both (a) and (b)**

117. In a programmed input/output(PIO) :
a) the CPU receives an interrupt when the device is ready for the next byte
b) the CPU runs a user written code and does accordingly
c) **the CPU uses polling to watch the control bit constantly, looping to see if device is ready**
d) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available