Operating System

Revision 5 - General

1. A process in the memory does not include _____

   Stack section   text section   data section   <u>program counter</u>

2. In _____ scheduling, when a process switches from waiting to ready state, the CPU scheduler may take a decision.

   Preemptive   <u>non-preemptive</u>   FCFS   active

3. The _____ scheduling algorithm is non-preemptive and may suffer from the convoy effect.

   <u>FCFS</u>   round robin   priority   SJF

4. _____ is the interval from the time of submission of a process to the time of completion.

   Execution time   full-time   waiting time   <u>turnaround time</u>

5. The _____ gives control of the CPU to the process selected by the CPU scheduler.

   <u>Dispatcher</u>   interrupt   loader   controller

6. The model in which one kernel thread is mapped to many user-level threads is called _____

   <u>Many-to-One mode</u>   One-to-Many model   Many-to-Many model   One-to-One model

7. In _____ model, only one user thread can access the kernel at time.

   Many-to-One mode   One-to-Many model   Many-to-Many model   <u>One-to-One</u> model

8. The primary distinction between the short term scheduler and the long term scheduler is _____

   a) The length of processes they schedule
   b) The type of processes they schedule
   c) The frequency of their execution
   d) The length of their queues

9. A multi-threaded process can perform more than one task at a time.

   <u>True</u>   false

10. Context switch time is overhead.

    <u>True</u>   false

11. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called _____

    Process queue   <u>ready queue</u>   job queue   execution queue

12. When one thread immediately terminate the target thread it is called _____

    Sudden termination   systematic cancelation   <u>Asynchronous cancelation</u>   deferred cancelation

13. What is Response time?

    <u>The total time taken from the submission time till the first response is produced.</u>

    The total time taken from the submission time till the completed time.

    The total time taken from the submission time till the response is output.

    The total time spent in the ready queue.

14. A _____ is identified by an IP address concatenated with a port number.

    <u>Socket</u>   mailbox   network controller   network process

15. Instead of starting a new thread for every task to execute concurrently, the task can be passed to a

    _____

    <u>Thread pool</u>   thread queue   process   dispatcher

16. In multi-threaded programming, data parallelism involves the distribution of tasks across multiple cores.

    True   <u>false</u>

17. A process in terminated state is waiting for I/O.

    <u>True</u>   false

18. In a process, the _____ contains the dymanically allocaed variables.

    Stack section   code section   data section   <u>heap section</u>

19. Each process is represented in the operating system by a PCB.

    <u>True</u>   false

20. The PCB stores a list of ready processes.

    True   <u>False</u>

21. In a process, the _____ contains the global variables.

    Stack section   code section   <u>data section</u>   heap section

22. A process is said to be in _____ state if it is waiting for some event to occur.

    Ready   <u>waiting</u>   new   running

23. A process in running state is performing I/O.

    True   <u>False</u>

24. In _____ addressing, both sender and receiver processes must name each other.

    Cluster   <u>Symmetric</u>   Asymmetric   Multicore

25. Kernel threads are supported and managed directly by the operating system.

    <u>True</u>   False

26. Mailbox _____ is a process that can send messages to a mailbox.

    Owner   Sender   <u>User</u>   Receiver

27. _____ is a synchronous version of the thread pool.

    <u>Implicit fork-join</u>   Blocking send   Blocking receive   Explicit fork-join

28. A scheduling queue is a program in execution.

    True   <u>False</u>

29. _____ means that if a process terminates, all of its children must be terminated as well.

    Root termination   Child termination   <u>Cascading termination</u>

          Priority termination

30. It is a sequence of instruction, stored in hard disk.

    Thread   Process   <u>Program</u>   Stack

31. A process control block contains information about a specific process.

    <u>True</u>   False

32. In a process, the _____ contains the temporary variables.

    <u>Stack section</u>   code section   data section   heap section

33. A process is said to be in _____ state if it is being created.

    Ready   waiting   <u>new</u>   running

34. An I/O bound process spend more of its time doing computation.

    True   <u>False</u>

35. A process in ready state is waiting for the CPU.

    <u>True</u>   False

36. Context switch saves the current context of the current process into its _____

    <u>PCB</u>   RPC   IPC   DMA

37. A PCB is a data strucutre that store information about a process.

    <u>True</u>   False

38. In a process, the _____ contains the local variables.

    <u>Stack section</u>   code section   data section   heap section

39. A process is said to be in _____ state if its instructions are being executed.

    Ready   waiting   new   <u>running</u>

40. The OS use a PCB to store all data needed to start(or restart) a process along with accounting information.

    <u>True</u>   False

41. A process is said to be in _____ state if it is waiting to be assigned to a processor.

    <u>Ready</u>   waiting   new   running

42. CPU bound process spend more of its time doing computation.

    <u>True</u>   False

43. In a process, the _____ contains the executable code.

    Stack section   <u>code section</u>   data section   heap section

44. A process is said to be in _____ state if it has finished execution.

    Ready   waiting   <u>terminated</u>   running

45. In _____, the entire process will block if a thread makes a blocking system call.

    Many-to-One mode   One-to-Many model   Many-to-Many model   <u>One-to-One model</u>

46. In a preemptive priority scheduling algorithm, the running process/thread always has the highest priority among all ready processes/threads [T]

47. _____ algorithm must be non-preemptive only

    <u>a)FCFS</u>   b)SJF

    d) None of the mentioned

48. _____ algorithm must be preemptive only

    a) FCFS   b) SJF

    c) <u>RR</u>   d) None of the mentioned

49. RR scheduling behave Identically to FCFS when quantum (q) is

    <u>q is large</u>

    q is small

q is zero

50. _____ scheduling algorithm works best when the incoming processes are short with no specific order

   a) FCFS   b) RR

   c) SJF d) priority

51. _____ scheduling algorithm works best when the incoming processes are mix of long and short with time requirement

   a) FCFS   b) RR

   c) SJF d) priority

52. A _____ is the basic unit of CPU utilization.

   DMA   dispatcher   thread   PCB

53. _____ contains processes waiting to execute on the CPU.

   Device queue   Ready queue   Job queue   wait queue

54. Kernel mode is privilege mode.

   True   False

55. _____ involves the distribution of tasks across multiple cores.

   Data parallelism   Task parallelism   Data distribution   Task distribution

56. Threads in the same process share code section and data section.

   True   False

57. There can be multiple processes of a single program.

   True   False

58. In the many-to-one model, thread management is done by _____

   The operating system   Thread library   RPC mechanism   IPC mechanism

59. _____ involves the distribution of data across multiple cores.

   Data parallelism   Task parallelism   Data distribution   Task distribution

60. A _____ thread pool can adjust the number of threads in the pool.

   Global   dynamic   state   static

61. The number of processes currently in memory is known as the degree of multiprogramming. T

62. An I/O bound process is one that spends more of its time doing I/0 than it spends doing computations. T

63. Each CPU core can run one process at a time.   T

64. If there are more ready processes than cores, excess processes will have to wait until a core is free and can be rescheduled. T

65. As processes enter the system, they are put into a ready queue waiting to execute on a CPU. T

66. Parent process be placed in a wait queue while it awaits the child's termination. T

67. When the CPU switches to another process, the operating system performs a context switch.   T

68. The context of a process is represented in its PCB. T

69. Context switch is to save the current context of the current process in its PCB and load the saved context of the other process that is scheduled to run. T

70. Child process may either share a subset of parent's resources or share all resources.   T

71. The parent process can't continues to execute concurrently with its child process.   F

72. The child process may has a duplicate address space of the parent process. T

73. When process terminates, it asks the operating system to delete it by using the exit system call. T

74. A child process may output data to its parent using the _____system call. **(wait)**

75. Once a process is terminated, all of its resources are de-allocated by the operating system. T

76. A parent process may terminate a child process using the _____ system call. **(abort)**

77. In symmetric addressing, only the sender process names the receiver process. F

78. A direct communication link is associated with exactly two processes.   T

79. In A direct communication link, there exists exactly one link between each pair of processes.   T

80. In a direct communication, changing the identifier of a process requires examining all other process definitions.   T

81. In direct communication, the messages are sent to and received from mailboxes.   F

82. A mailbox is an object into which messages can be placed by processes and from which messages can be removed.   T

83. In indirect communication, a link is established by creating and sharing a mailbox.   T

84. In indirect communication, a link may be associated with more than two processes. T

85. _____method gives the lowest average waiting time for a specific set of processes.
    a) RR   b) SJF   c) Priority   d) FCFS

86. _____ is appropriate for the jobs running in batch, where run times are known in advance.
    a) RR   b) SJF   c) Priority   d) FCFS

87. In _____, Job completion time must be known earlier, but it is hard to predict.
    a) RR   b) SJF   c) Priority   d) FCFS

88. Threads are cheaper to create than processes   T