1-2章：

1.In multiprogramming system, operating system allocates resources in

|  |  |  |
| --- | --- | --- |
|  | A. | process |
|  | B. | thread |
|  | C. | program |
|  | D. | instruction |

2.The operating system is \_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | A. | Hardware |
|  | B. | Application software |
|  | C. | A user program |
|  | D. | System software |

3.The main objective of time sharing system is

|  |  |  |
| --- | --- | --- |
|  | A. | high throughout |
|  | B. | quick response（此选项应为正确选项，毕博上选D） |
|  | C. | reduce system cost |
|  | D | full use of memory |

4.The purpose of multiprogramming is

|  |  |  |
| --- | --- | --- |
|  | A. | enlarge memory capacity |
|  | B. | full utilization of CPU |
|  | C. | improve the applicability of the system |
|  | D. | enhance the friendliness of the system |

5.Which environment considers memory, process, and device and file management from a global viewpoint?

|  |  |  |
| --- | --- | --- |
|  | A. | Distributed Operating System |
|  | B. | Network Operating System |
|  | C. | Multiprogramming Operating System |
|  | D. | None of the above |

6.In user program, operating system services are requested by

|  |  |  |
| --- | --- | --- |
|  | A. | primitive |
|  | B. | terminal command |
|  | C. | job control language |
|  | D. | system call |

7.In operating system, which function does not need hardware support

|  |  |  |
| --- | --- | --- |
|  | A. | process scheduling |
|  | B. | address mapping |
|  | C. | clock management |
|  | D. | interrupt |

8.The purpose of real-time operating system is

|  |  |  |
| --- | --- | --- |
|  | A. | increase speed of software |
|  | B. | reliability of the computer system |
|  | C. | interactivity of the computer system |
|  | D. | utilization ratio of the computer system |

9.Which is not one of the major differences between user-level threads and kernel-level threads?

|  |  |  |
| --- | --- | --- |
|  | A. | One user-level thread can be only mapped be one kernel thread. |
|  | B. | User threads are scheduled by the thread library and the kernel schedules kernel threads. |
|  | C. | Kernel threads need not be associated with a process whereas every user thread belongs to a process. |
|  | D. | User-level threads are unknown by the kernel, whereas the kernel is aware of kernel threads. |

10.What state is a process in when it can not run because it needs a resource to become available？

|  |  |  |
| --- | --- | --- |
|  | A. | Interrupt |
|  | B. | Ready |
|  | C. | Blocked |
|  | D. | Running |

11.Which one of the followings is not a method for communication between processes.

|  |  |  |
| --- | --- | --- |
|  | A. | semaphore operations wait and signal |
|  | B. | pipe |
|  | C. | message buffer |
|  | D. | sharing memory |

12.If there are five processes in the system, how many processes at most may be under the waiting state at the same time.

|  |  |  |
| --- | --- | --- |
|  | A. | 1 |
|  | B. | 5 |
|  | C. | 0 |
|  | D. | 4 |

13.When a process changes state, which of the following conversion will not occur？

|  |  |  |
| --- | --- | --- |
|  | A. | Running->Ready |
|  | B. | Waiting->Running这才是正确答案，毕博上选择A |
|  | C. | Running->Waiting |
|  | D. | Ready->Running |

14.In operating system, which sturcture is used for controlling and managing the process execution

|  |  |  |
| --- | --- | --- |
|  | A. | system kernel |
|  | B. | semaphore |
|  | C. | process control block |
|  | D. | interrupt |

15.Which function is used for starting a process?

|  |  |  |
| --- | --- | --- |
|  | A. | fork() |
|  | B. | wait() |
|  | C. | exec() |
|  | D. | exit() |

16.Which is set in program state word (PSW) to avoid the user program executing special instructions

|  |  |  |
| --- | --- | --- |
|  | A. | condition bit |
|  | B. | protection bit |
|  | C. | CPU state bit |
|  | D. | mask bit |

17.In banch system, job scheduling program chooses multiple jobs from the job queue and put them into

|  |  |  |
| --- | --- | --- |
|  | A. | memory |
|  | B. | pool |
|  | C. | external storage |
|  | D. | cache |

18.In multiprogramming system, in order to achieve the full utilization of resources, the running program should

|  |  |  |
| --- | --- | --- |
|  | A. | be with massive I/O |
|  | B. | be with massive computation |
|  | C. | have a sound balance between computing and I/O |
|  | D. | be suitable to memory allocation |

19.Which of the following statement is not true regarding system calls?

|  |  |  |
| --- | --- | --- |
|  | A. | System calls are functions defined as part of the operating systems. |
|  | B | System calls are functions that run in user mode in a dual mode system. |
|  | C. | System calls are implemented using a trap instruction which generates an interrupt. |
|  | D. | System calls are functions that run in system mode in a dual mode system. |

20.Which kind of operating systems has well-defined, fixed time constraints?

|  |  |  |
| --- | --- | --- |
|  | A. | batch system |
|  | B. | network system |
|  | C. | time-sharing |
|  | D. | real-time |

21.On designing batch system, we should first consider

|  |  |  |
| --- | --- | --- |
|  | A. | flexibility |
|  | B. | response time |
|  | C. | the balance of resouce utilization |
|  | D. | Interactivity（排除） |

22.In computer system, the technology that allows multiple programs enter the memory and execute at the same time is called

|  |  |  |
| --- | --- | --- |
|  | A. | Spooling |
|  | B. | caching |
|  | C. | virtual memory |
|  | D. | multi-programming |

23.The computer system consists of (from down to up)

|  |  |  |
| --- | --- | --- |
|  | A. | support software, operating system, compile system, application software |
|  | B. | application software, compile system, support software, operating system |
|  | C. | compile system, operating system, support software, application software |
|  | D. | operating system, compile system, support software, application software |

24.Which one is wrong with operating system?

|  |  |  |
| --- | --- | --- |
|  | A. | operating system manages all kinds of resources in the system |
|  | B. | operating system is an application software in computer system |
|  | C. | operating system is the resource manager and arbitrator |
|  | D. | operating system provides a friendly interface for users |

25.Which information is not included in PCB

|  |  |  |
| --- | --- | --- |
|  | A. | page size |
|  | B. | priority |
|  | C. | process ID |
|  | D. | memory address |

26.In operating system, when a process turns to ready from running, it indicates

|  |  |  |
| --- | --- | --- |
|  | A. | the process is chosen by scheduler |
|  | B. | the waiting event happens |
|  | C. | wait for some event |
|  | D. | time-slice is used out |

27.Which one of the following is not a feature of process

|  |  |  |
| --- | --- | --- |
|  | A. | concurrency |
|  | B. | sharability |
|  | C. | static |
|  | D. | interactivity |

28.With indirect communication, the messages are sent to and received from\_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | A. | supply |
|  | B. | pipe |
|  | C. | mailbox |
|  | D. | chanel |

29.If a process is waiting for printer to continue executing, it is under which sate?

|  |  |  |
| --- | --- | --- |
|  | A. | running |
|  | B. | ready |
|  | C. | stopped |
|  | D. | waiting |

30.Which of the following performs interrupt response

|  |  |  |
| --- | --- | --- |
|  | A. | interrupt hardware |
|  | B. | interrupt handler |
|  | C. | system kernel |
|  | D. | user program |

31.Which element is not part of a microkernel?

|  |  |  |
| --- | --- | --- |
|  | A. | memory management |
|  | B. | a file system |
|  | C. | IPC mechanisms |
|  | D. | basic I/O |

32.Which one can identify the existence and state of a process

|  |  |  |
| --- | --- | --- |
|  | A. | CCW |
|  | B. | CAW |
|  | C. | PSW |
|  | D. | PCB |

33.A process may be in one of the following states, except \_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | A. | waiting |
|  | B. | interrupted |
|  | C. | running |
|  | D. | new |

34.One process may include many threads. Which one of the followings is not occupied by only thread?

|  |  |  |
| --- | --- | --- |
|  | A. | CPU |
|  | B. | stack |
|  | C. | thread control block |
|  | D. | memory space |

35.What is not the major activity of an operating system?

|  |  |  |
| --- | --- | --- |
|  | A. | User management |
|  | B. | I/O system management |
|  | C. | Main memory management |
|  | D. | File management |

2章之后：

1、A page fault means that we referenced a page \_\_\_\_\_\_\_\_\_\_.  
答案that was not in main memory

2、In virtual paging memory management, which of the following is true?  
答案the length of page is fixed, and it is in accordance with the hardware feature页表大小固定且与硬件匹配

3、Which is the basic reason for invovling work set model?(应该是involving)  
答案locality principle of program execution程序执行的局部性原理

4、In virtual paging memory management, which part is in charge of bringing pages into memory?  
答案page fault handling

5、In virtual paping memory management, if we make twice as great as current page size, the number of page fault will  
答案reduce页错误会随页增大而减少

6、In virtual paging memory management, which page will be selected to swap out by FIFO algorithm?  
答案the page which has be staying in memory with the longest time先入先出

7、In virtual paging memory management, which page will be selected to swap out by LRU algorithm?  
答案the page whose last access time is the farest from current time距现在最远的

8、The basic function of the file system is accessing files by names. The function can be realized by .  
答案directory-managing

9、The essence of creating a file in file system is  
答案creating the file control block创建文件的本质是创建文件控制块

10、FCB contains many pieces of information associated with a specific process, except \_.  
答案file name (包含文件权限、拥有者、大小、数据块位置等)

11、In order to increase the speed of searching directory, the file system need to build for searching file based on relative path.  
答案current directory

12、An allocation method refers to how disk blocks are allocated for files, which of the following is not a disk allocation method:  
答案free allocation 磁盘分配包括连续分配、链式分配、索引分配。

13、If there is a sequential file with 3550 blocks, then how many times are needed to access disk for get the content in No.1917 block?  
答案1

14、In paging, how many times is requried to access memory for get given data or instruction?  
答案2

在分页和分段系统中，首先需要访问页表或段表，然后才能访问实际数据，因此需要至少访问内存2次。在段页式存储管理中，首先要访问段表，最后访问相关段的页表，最后才能访问实际数据，因此一共需访问内存至少3次。如果采用的是多级页表，则访问次数还将增加。如果使用快表，且在快表中命中，则只需要访问内存1次。

15、In paging memory management, which one translates a logical address into a physical address?  
答案hardware and operating system硬件和操作系统把逻辑地址转为物理地址

16、In paging, the system needs a pair of regiesters, they are(应该是registers)  
答案page table base register and page table length register页表基址寄存器、页表长度寄存器

17、Which of the following strategies not need base register and length register?  
答案fixed-sized partitions memory-management固定大小的分区内存管理不需要基址和长度寄存器

18、In paging memory management, what is needed for address translation?  
答案page table地址转换需要页表

19、Memory address space is often called  
答案physical address space内存地址空间叫做物理地址空间

20、Which of the following methods is used to increase the number of processes sharing the CPU？  
答案Swapping交换可以让更多的进程共享CPU

21、What refers to the page replacement algorithm which replaces the page that has not been used for the longest period of time?  
答案LRU

22、Which of the following algoritms may cause Belady's Anomaly? (应该是algorithms)  
答案FIFO(Belady异常：页错误率随着所分配的帧数的增加而增加)

23、In segmentation management, if the segment number is larger than the length of segmenation table, the system will (题中应该是segmentation)  
答案trap into addressing error段号大于段表长度会陷入寻址错误

24、In fixed partition management, the sizes of each partition  
答案may be different as previously arranged

25、Which is wrong about compaction?(紧凑技术)

A. it is necessary to reduce the amout of information that will be moved in compaction

B. the movement may put the free space together

C. the movement would increase CPU cost

D. any program in memory can be moved by compaction  
答案D

26、In memory management, the operation that translates logical addresses in object program to physical addresses in main memory is called  
答案address relocation地址重定位将逻辑地址转为物理地址

27、Which structure of the followings can not be affected by the file length?  
答案sequential structure顺序结构

28、The function of the system call "file open" is  
答案bring information such as file attributes into memory

29、Sequential access can be only applied to  
答案linked file

30、Which is wrong about current directory?  
答案seach file based on full path应该使用相对路径

31、A static partitioned memory management system has a total of six partitions. If one is allocated to the operating system, this will allow a total of  
答案five user jobs有六个分区1个给OS，剩下5个给用户作业

32、In variable partition management, free frames are better to be organized in which order for best-fit allocation?  
答案ascending capacity

33、In memory management, the method which is able to expand memory capacity is  
答案virtual memory虚拟内存可以扩展内存容量

34、In virtual paging management, the increasement of page number will the number of page fault in FIFO.  
答案increase or reduce增加页码可能提高也可能减少页错误

35、In memory management, the procedure that brings the unnecessary part out of memroy for bringing other processes into memory is called  
答案swap把无用部分移出内存，把其他进程带入内存叫做交换

36、Which of the following information bits used by the various page replacement policies indicates if the page has been called lately?  
答案Referenced bit参考位表示页最近被调用过

37、Sequential access can be only applied to  
答案linked file顺序访问只能应用于链接文件

38、In dynamic address mapping, the high speed memory with parallel searching is  
答案TLB动态地址映射中并行搜索的高速存储器叫做快表(页表缓冲)

39、In virtual memory, which one is used to decide if it is necessary to save the page back to external storage?  
答案modified bit

40、In file system, the system call "seek" is used for  
答案moving the file pointer to a given position系统调用中的seek用于移动指针到指定位置

41、The FCB is created in which system call?  
答案create文件控制块由系统调用create创建

42、Which of the following free-space management strategies is not supported by an operating system?  
答案Hash空闲空间管理策略里哈希不受操作系统支持

进程管理:

43、If a process is waiting for printer to continue executing, it is under which sate?  
答案waiting

44、What state is a process in when it can not run because it needs a resource to become available？  
答案Blocked等待资源是被阻塞状态

45、In operating system, which sturcture is used for controlling and managing the process execution  
答案process control block进程控制块

46、Which information is not included in PCB  
答案page size进程控制块中不含页大小

47、Which one can identify the existence and state of a process  
答案PCB进程控制块可以识别进程的存在和状态

48、With indirect communication, the messages are sent to and received from\_\_\_\_\_\_\_\_\_\_.  
答案mailbox使用间接通信，邮件将发送到邮箱并从邮箱接收

49、In banch system, job scheduling program chooses multiple jobs from the job queue and put them into(应该是branch?)  
答案memory

50、In operating system, when a process turns to ready from running, it indicates  
答案time-slice is used out由运行变成就绪表示时间片用完了

51、When a process changes state, which of the following conversion will not occur？  
答案Running->Ready

52、Which of the following CPU scheduling algorithms give minimum average waiting time for a given set of processes？  
答案SJF最短时间优先的平均等待时间最小

53、Which one is not a necessary condition of deadlock  
答案unbounded waiting死锁必要条件是互斥mutual exclusion、占有并等待hold and wait、非抢占no preemption、循环等待circular wait

54、Which is true about safe state?  
答案if the system is under an unsafe state, deadlock might happen不安全状态可能导致死锁

55、Which one of the followings is true about resource allocation graph?  
答案resource allocation graph is a directed graph, which is used to present the state between system resources and processes at some time资源分配图是有向图，用于在某些时间呈现系统资源和进程之间的状态

56、Preemption allocation strategies can be applied to .  
答案CPU management抢占分配策略可用于CPU管理

57、Which one of the followings belongs to deadlock avoidance死锁避免  
答案banker algorithm

网上的分析：银行家算法为死锁避免算法，死锁检测算法和资源分配图化简法为死锁检测，根据排除法可以得出资源有序分配算法为死锁预防策略

58、The simplest way to break a deadlock is to  
答案kill one of the processes解决死锁最简单的方法是结束一个进程

59、Process cooperation in a Readers-and-Writers problem requires that the  
答案Readers always call two procedures读写者问题中处理合作需要读者总是调用两个程序

60、Primitive is原语的执行必须是连续的，在执行过程中不允许被中断。  
答案composed by multiple machine instructions, which can not be interrupted

61、Which of the following statements is not true regarding a monitor where no condition variable is defined?  
答案Processes can be blocked inside the monitor.没有定义条件变量不会被阻塞

62、The wait operation defined on semaphores means  
答案allocate a resource信号量上的等待操作表示分配资源

63、One process may include many threads. Which one of the followings is not occupied by only thread?  
答案memory space内存空间不仅仅被线程占用

64、Which function is used for starting a process?  
答案exec()表示执行进程

65、Which is set in program state word (PSW) to avoid the user program executing special instructions  
答案CPU state bit CPU状态标志位可以避免用户程序执行特殊指令

66、Which one of the following is not a feature of process  
答案static

67、process may be in one of the following states, except \_\_\_\_\_\_\_\_.  
答案interrupted进程不会处于中断状态(中断会使进程由运行变成就绪)

68、Which one of the followings is not a method for communication between processes.  
答案semaphore operations wait and signal进程间通信

69、Which of the followings is not a condition for deadlock？  
答案Starvation死锁条件没有饥饿

70、Suppose there are three threads and each of them need two resource of the same type, in order to avoid deadlock appearing, how many resources does the system need at least?  
答案4，至少有一个线程拥有2个资源，所以总共至少要有4个。

71、Ordered resource allocation can achieve which of the following objective?  
答案deadlock prevention有序资源分配可以实现死锁预防

72、There are many algorithms that are able to apply to schedule processes. If we choose an algorithm not such proper, what problem would happen?  
答案long-term waiting

73、For N processes associated to the same critical section, the initial value of mutex semaphore should be set to  
答案1互斥信号量初始应该为1

74、Multiple concurrent processes use a mutex semaphore "m". That "m=0" means  
答案There is one process in critical section

75、In computer system, if the initial value of semaphore S is 3, current value -2 indicates that there are processes are waiting for S.  
答案2

76、Which one of the following may cause deadlock  
答案multiple processes are waiting each other for resources occupied by others互相等待

77、Which of the following CPU scheduling algorithms give minimum average waiting time for a given set of processes？  
答案SJF

78、The following algorithm is proposed to solve the critical section problem between two processes P1 and P2, where lock is a shared variable.Which of the following statements is true regarding the proposed algorithm?  
P1：  
do {  
while (lock) { NULL;}  
lock = TRUE;  
critical section;  
lock=FALSE;  
reminder section;  
} while(TRUE);  
P2：  
do {  
while(lock) { NULL;}  
lock = TRUE;  
critical section;  
lock=FALSE;  
reminder section;  
} while(TRUE);  
答案Both processes can be in their critical section at the same time.

79、Process cooperation in a Readers-and-Writers problem requires that the  
答案Readers always call two procedures

80、Which is not one of the major differences between user-level threads and kernel-level threads?  
答案One user-level thread can be only mapped be one kernel thread. 一个用户级线程只能映射成一个内核线程。

81、Disk is shareable device, how many processes can exchange information at the same time?

round-robin scheduling algorithm, if the CPU burst of the currently running process is longer than 1 time quantum, which statement is wrong?  
答案The process itself will release the CPU voluntarily.

82、If there are five processes in the system, how many processes at most may be under the waiting state at the same time.  
答案5

83、\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If a 64TB (where TB=terabyte) address space is desired, then addresses must be at least:  
A.   
40 bits  
B.   
32 bits  
C.   
46 bits  
D.   
64 bits

答案C

84、If addresses are 27 bits, the size of the space that can be addressed is:

A.

128MB

B.

256MB

C.

4GB

D.

64KB  
答案A

85、Suppose there is a matrix A[128][128], and each row is stored in one page. If the fisrt page has been already brought into memory, and how many page faults will occur until the complishment of the following statements

for i=0 to 127

for j=0 to 127

A[i][j]=0 ;

A.

128

B.

127

C.

1282-1

D.

1282

答案B

86、Given memory partitions of 100K, 500K, 200K, 300K and 600K (in order) and processes of 212K, 417K, 112K, and 426K (in order), using the best-fit algorithm in which partition would the process requiring 426K be placed?

A. 300K

B. 600K

C. 200K

D. 500K

答案B

87、Which is wrong about contiguous allocation?

A.

variable partition management needs hardware support for dynamic relocation, i.e. upper limit register and lower limit register

B.

fixed partition management adopts static relocation for putting the job into partition

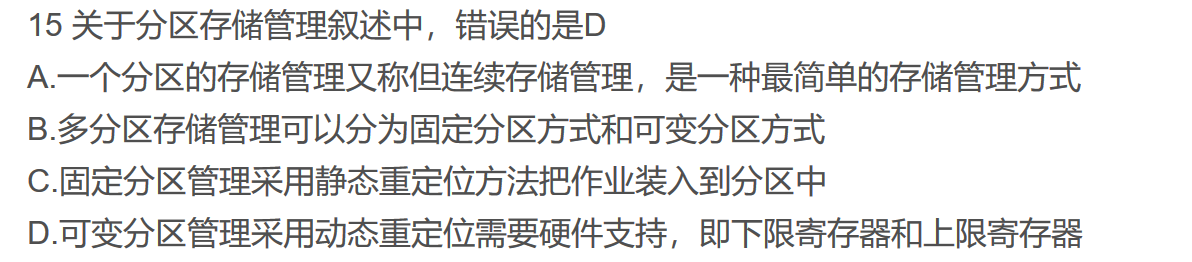
C.

single partition management is the most simple way to manage memory

D.

multiple partition management can be devided into fixed partition management and variable partition management

答案A



88、There are three jobs J1, J2 and J3 which are running under a single program mode. If they arrive at the same time, and each job only need one hour, the average turnaround time is  
   
  A. 6 hours  
   
  B. 1 hour  
   
  C. 3 hours  
   
 D. 2 hours

答案D

89、In paging, if there are M bits of address, where N bits are used for address inside the page, then how many pages are allowed for a program at most?

A. 2N

B. 2M-N

C. 2N-1

D. 2M

答案B

90、Given memory partitions of 500K, 200K, 300K and 600K (in order) and processes of 212K, 417K, 112K, and 426K (in order), using the first-fit algorithm in which partition would the process requiring 112K be placed?

A. 600K

B. 500K

C. 200K

D. 300K

答案B

91、Preemption allocation strategies can be applied to             .  
   
A.  
File management  
   
B.  
CPU management  
   
C.  
I/O system management  
   
D.  
Tape drives management

B

92.Disk is shareable device, how many processes can exchange information at the same time?

A.

two processes

B.

at least one process

C.

at most one process

D.

any number of processes

93.

Which of the following disk scheduling algorithm only considers fairness?

A.

first come first serve

B.

shortest seek time first

C.

first come first serve and SCAN

D.

all of above

94.Bit map is used for

A.

realizing file protection and encryption

B.

sharing memory space

C.

searching file directory

D.

disk space management