1. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;　　*(3)*;　　　}
Section S2: { …;　　*(4);*　　　　}
Section S3: { …;　　*(5)*;　　　　　　　　　　　　　}
Section S4: { wait(a);　(6); …;　　(7);　　　}
Section S5: { wait(c); …;　　*(8)*;　　　　}
Section S6: { *wait(d)*;　　*wait(e)*;　　…;　　}

Which is suitable for blank (8)?

单选题 (4 分)　　4分

 A. signal(e)

 B. signal(d)

 C. wait(d)

 D. wait(e)

2. Which of the following scheduling algorithms is based on time-sharing (分时) system?

单选题 (4 分)　　4分

 A. Shortest-job-first scheduling

 B. First-come-first-served scheduling

 C. Priority scheduling

 D. Round-Robin scheduling

3. In order to implementmutual exclusion on a critical resource for competing processes, only oneprogram at a time should be allowed＿＿＿＿ .

单选题 (4 分)　　4分

 A. To perform message passing

 B. In the critical section of the program

 C. None of the above

 D. To Exhibit cooperation

4. 若系统S1采用死锁避免方法，S2 采用死锁检测方法，下列叙述中正确的是＿＿ 。
　　I．S1会限制用户申请资源的顺序
　　II．S1需要进行所需资源总量信息，而S2不需要
　　III．S1不会给可能导致死锁的进程分配资源，S2 会

单选题 (4 分)　　0分

 A. 仅 I II

B. I II III

C. 仅 I III

D. 仅 II III

5. 下列关于银行家算法的叙述中，正确的是_____。

单选题 (4 分)　　4分

　A. 当系统处于不安全状态时，系统中一定会出现死锁进程

　B. 银行家算法可以预防死锁

　C. 当系统处于安全状态时，系统中一定无死锁进程

　D. 银行家算法破坏了死锁必要条件中的"请求和保持"条件

6. 若某单处理器多进程系统中有多个就绪态进程，则下列关于处理机调度的叙述中错误的是___。

单选题 (4 分)　　4分

　A. 在进程结束时能进行处理机调度

　B. 创建新进程后能进行处理机调度

　C. 在系统调用完成并返回用户态时能进行处理机调度

　D. 在进程处于临界区时不能进行处理机调度

7. 下列选项中，降低进程优先级的合理时机是

单选题 (4 分)　　4分

　A. 进程长期处于就绪队列中

　B. 进程从就绪态转为运行态

　C. 进程的时间片用完

　D. 进程刚完成I/0，进入就绪队列

8. 有两个并发执行的进程P1和P2，共享初值为1的变量x。P1对x加1，P2对x减1。加1和减1操作的指令序列分别如下所示。

//加操作　　　　　　　　　　　　　　// 减1操作

load R1，x // 取x到寄存器R1中　　　load R2，x

inc R1　　　　　　　　　　　　　　decR2

store x，R1 // 将R1的内容存入x　　　store x，R2

　　两个操作完成后，x的值

单选题 (4 分)　　4分

　A. 可能为-1或3

　B. 只能为1

　C. 可能为0、1或2

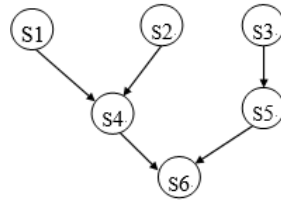　D. 可能为-1、0、1或2

答题卡   共 25 题

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

☐ 答对   ☐ 答错

9. For the following questions, consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;   *(3)*;   }

Section S2: { …;   *(4)*;   }

Section S3: { …;   *(5)*;   }

Section S4: { wait(a); (6); …;   *(7)*;   }

Section S5: { wait(c); …;   *(8)*;   }

Section S6: { *wait(d)*;   *wait(e)*;   …;   }

Which is suitable for blank (2)?

单选题 (4 分)   4分

A. 1

B. 0

C. 6

D. 3

10. 有一个计数信号量S，若干个进程对S进行了28次P操作和18次V操作后，信号量S的值为0，然后又对信号量S进行了3次V操作。请问此时有多少个进程等待在信号量S的队列中?

单选题 (4 分)   0分

A. 0

B. 3

C. 7

D. 2

11. 某计算机系统中有8台打印机，由K个进程竞争使用，每个进程最多需要3台打印机。该系统可能发生死锁的K的最小值是
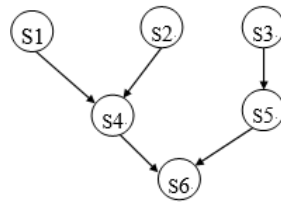
单选题 (4 分)   4分

A. 5

B. 4

C. 2

D. 3

答题卡　　　　　　　　共 25 题

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

☐ 答对　☐ 答错

12. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;　*(3)*;　　}

Section S2: { …;　*(4)*;　　　}

Section S3: { …;　*(5)*;　　　　　　　　　　}

Section S4: { wait(a);　(6);　…;　　*(7)*;　　}
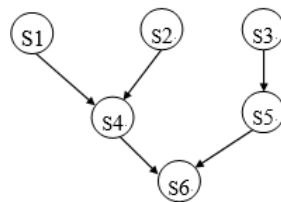
Section S5: { wait(c); …;　　*(8)*;　　}

Section S6: { *wait(d)*;　　*wait(e)*;　　…;　　}

Which is suitable for blank (3)?

单选题 (4 分)　　0分

A. signal(c)

B. wait(a)

C. wait(c)

D. signal(a)

13. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;　*(3)*;　　}

Section S2: { …;　*(4)*;　　}

Section S3: { …;　*(5)*;　　　　　　　　}

Section S4: { wait(a);　(6); …;　　(7);　　}

Section S5: { wait(c); …;　　*(8)*;　　}

Section S6: { *wait(d)*;　　*wait(e)*;　　…;　　}

Which is suitable for blank (7)?

单选题 (4 分)　　4分

A. wait(d)

B. wait(e)

C. signal(d)

D. signal(a)

14. Suppose a shared printer is printing my job currently.While the printer is in use, you seek to print your job. Under any of the modern OS's which of the following events are likely to happen :

单选题 (4 分)　　0分

A. your job will be queued based on its priority

B. my job will be aborted because you are my boss

C. your job will be spooled for printing in the order it arrived

D. you will be notified that the printer is busy, print later

15. 假设 5 个进程 P0、P1、P2、P3、P4 共享三类资源 R1、R2、R3，这些资源总数分别为 18、6、22。T0 时刻的资源分配情况如下表所示，此时存在的一个安全序列是＿＿＿。

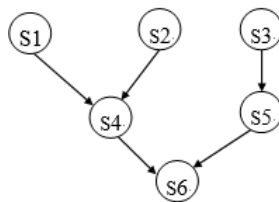| 进程	以分配资源			资源最大需求		
	R1	R2	R3	R1	R2	R3
P0	3	2	3	5	5	10
P1	4	0	3	5	3	6
P2	4	0	5	4	0	11
P3	2	0	4	4	2	5
P4	3	1	4	4	2	4

单选题 (4 分)　　4分

A. P1, P0, P3, P4, P2

B. P0, P2, P4, P1, P3

C. P3, P4, P2, P1, P0

D. P2,P1,P0,P3,P4

16. 下列内核的数据结构或程序中，分时系统实现时间片轮转调度需要使用的是（ ）。
　　Ⅰ．进程控制块　　　　Ⅱ．时钟中断处理程序
　　Ⅲ．进程就绪队列　　　Ⅳ．进程阻塞队列

单选题 (4 分)　　4分

A. 仅Ⅰ、Ⅱ、Ⅳ

B. 仅Ⅰ、Ⅱ、Ⅲ

C. 仅　Ⅰ、Ⅳ

D. 仅Ⅱ、Ⅲ

17. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:
Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;
Section S1: { ...;　　*(3);*　　　}
Section S2: { ...;　　*(4);*　　　　}
Section S3: { ...;　　*(5);*　　　　　　　　　　　}
Section S4: { wait(a);　*(6);* ...;　　*(7);*　　　}
Section S5: { wait(c); ...;　　*(8);*　　　　}
Section S6: { *wait(d);*　　*wait(e)*;　...;　　}
Which is suitable for blank (4)?

单选题 (4 分)　　4分
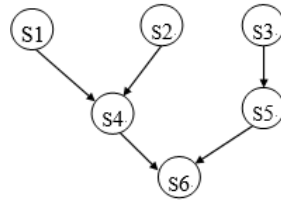
A. wait(b)

B. wait(e)

C. signal(e)

D. signal(b)

18. For the following questions, consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;　　*(3)*;　　}

Section S2: { …;　　*(4)*;　　　　}

Section S3: { …;　　*(5)*;　　　　　　　　　　　　}

Section S4: { wait(a);　(6);　…;　　*(7)*;　　}

Section S5: { wait(c);　…;　　*(8)*;　　　}

Section S6: { *wait(d)*;　　*wait(e)*;　…;　　}

Which is suitable for blank (5)?

单选题 (4 分)　　4分

A. signal(c)

B. wait(c)

C. wait(a)

D. signal(a)

19. The mutual exclusion semaphore of two concurrent processes has the value 0 (zero) at this moment. It indicates that_____.

单选题 (4 分)　　4分

A. two processes have entered the critical-section

B. a process has entered the critical-section, another process is waiting to enter the critical-section

C. no process has entered the critical-section

D. a process has entered the critical-section, and no process is being blocked

20. 下列调度算法中，不可能导致饥饿现象的是 _____ 。

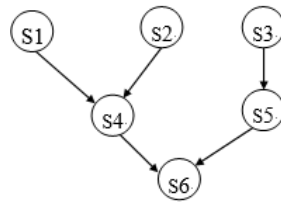单选题 (4 分)　　4分

A. 抢占式短作业优先

B. 非抢占式短作业优先

C. 时间片轮转

D. 静态优先数调度

21. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;   *(3)*;   }

Section S2: { …;   *(4)*;   }

Section S3: { …;   *(5)*;   }

Section S4: { wait(a); (6); …;   *(7)*;   }

Section S5: { wait(c); …;   *(8)*;   }

Section S6: { *wait(d)*;   *wait(e)*;   …;   }

Which is suitable for blank (6)?

单选题 (4 分)   4分

A. signal(e)

B. wait(b)

C. wait(e)

D. signal(b)

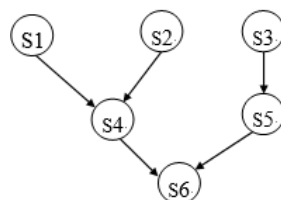22. While a process is blocked on a semaphore'squeue, it is engaged in busy waiting.

判断题 (4 分)   4分

A. TURE

B. FALSE

23. An atomic operation is a machine instruction or a sequence of instructions that must be executed to completionwithout interruption

判断题 (4 分)   4分

A. FALSE

B. TURE

24. Forthe following questions,consider a set of code sections (S1-S6) executing concurrently.

Here is the incomplete solution for solving this synchronization problem:

Semaphore a = *(1)*, b = *(2)*, c = 0, d = 0, e = 0;

Section S1: { …;   *(3)*;   }

Section S2: { …;   *(4)*;   }

Section S3: { …;   *(5)*;   }

Section S4: { wait(a); (6); …;   *(7)*;   }

Section S5: { wait(c); …;   *(8)*;   }

Section S6: { *wait(d)*;   *wait(e)*;   …;   }

Which is suitable for blank (1)?

单选题 (4 分)　　4分

A. 0

B. 1

C. 3

D. 6

25. 在下列同步机制中，可以实现让权等待的是（　）。

单选题 (4 分)　　4分

A. Peterson 方法

B. swap 指令

C. 信号量方法

D. TestAndSet指令