

臺灣綜合大學系統 107 學年度學士班轉學生聯合招生考試試題

科目名稱	計算機概論	類組代碼	A06
		科目碼	A0602

※本項考試依簡章規定各考科均「不可以」使用計算機

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一、單選題(100%)，每題五分

- Which of the following programming techniques and structures are "bad" for a demand-paged environment?
 - Indirection
 - Stack
 - Pure code
 - Vector operations
 - Sequential search

- What is the average time to read or write a 512 Byte sector for a typical disk rotating at 3000 rpm? The advertised average seek time is 20ms, the transfer rate is 2MB/S, and the controller overhead is 2ms. Assume that the disk is idle so that there is no waiting time.
 - 31.25 ms
 - 32.25 ms
 - 40 ms
 - 32 ms
 - 30 ms

- Which of the following processors has a CISC instruction set architecture?
 - ARM
 - AMD Operation
 - Alpha21164
 - IBM PowerPC
 - MIPS

- Which of the following instructions is NOT privileged?
 - Set Value of timer
 - Turn off interrupts
 - Clear monitor memory
 - Read the clock
 - Switch from user to monitor mode

- There are three scheduling protocols: FIFO, SJF (non-preemptive), and Round Robin. Which one is more appropriate for a time-shared system? Which one provides the shortest waiting time?
 - SJF, FIFO
 - FIFO, SJF

背面有題，請繼續作答。

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- (C) FIFO, Round Robin
 (D) SJF, SJF
 (E) Round Robin, SJF
6. In a dual-mode system, which of the following components is NOT necessary?
 (A) A bit field in the hardware to indicate the current mode
 (B) Some user programs in the system mode
 (C) Operating system running in the system mode
 (D) Privileged instructions
 (E) None of the above
7. If your computer has the IP address 128.96.10.123, and the subnet mask is set to 255.255.0.0, your computer will connect directly to all computers whose IP address starts with?
 (A) 128
 (B) 128.96.10
 (C) 128.96
 (D) 128.96.10.123
 (E) None of the above
8. What Internet connection speed is the fastest?
 (A) 1024bps
 (B) 1Kbps
 (C) 500Kbps
 (D) 1.6Mbps
 (E) 1,024,768bps
9. Which of the following is NOT an internet protocol?
 (A) SMTP
 (B) FTP
 (C) HTTP
 (D) HTML
 (E) None of the above
10. How many bits are a kilobyte?
 (A) 8192
 (B) 1024
 (C) 2048

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- (D) 4096
(E) None of the above
11. Sort the following elements of the memory hierarchy in order of increasing access time. (Start from the fastest)
(a) L1 cache (b) L2 Cache (c) Network (d) Main memory (e) CPU Registers (f) Hard disk
(A) ebadfc
(B) eabdcf
(C) eabdfc
(D) ebadcf
(E) None of the above
12. Regarding RAID levels 1,3,4,5 and 6, which one has the highest check disk overhead? and which one has worst throughput for small writes?
(A) RAID 2, RAID 5
(B) RAID 2, RAID 3
(C) RAID 1, RAID 4
(D) RAID 1, RAID 3
(E) RAID 3, RAID 6
13. Which one of these is not an input device?
(A) speakers
(B) scanner
(C) mouse
(D) keyboard
(E) None of the above
14. Which is the IEEE standard that sets the standards for wireless (Wi-Fi) networking?
(A) 802.11
(B) 802.1
(C) 802.3
(D) 802.15
(E) 802.16

背面有題，請繼續作答。

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15. What is a computer network?

- (A) A computer that can be used by different users simultaneously
- (B) Two or more computers connected together that can share data and programs
- (C) A group of computers that share the same power supply
- (D) Any sets of computers manufactured by the same company
- (E) None of the above

16. How many units are there in Von Neumann Architecture?

- (A) 2
- (B) 3
- (C) 4
- (D) 6
- (E) 5

17. Which port number is SMTP?

- (A) 25
- (B) 23
- (C) 21
- (D) 80
- (E) 443

18. What is the output of the following C++ program?

```
#include<stdio.h>
#include<stdlib.h>
int main() {
    char s[] = "1224367";
    char *p = s;
    printf("%c", *p++);
    printf("%c", *(p++));
    printf("%c", (*p)++);
    printf("%c", *++p);
    printf("%c", *(++p));
    printf("%c", ++*p);
    printf("%c", ++(*p));
    printf(s);
    system("PAUSE");
    return 0;
}
```

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- }
 (A) 01132340123456
 (B) 12243451234567
 (C) 01132341224367
 (D) 01132341234567
 (E) 12243450123456

19. What is the output of the following C++ program?

```
#include <iostream>
using namespace std;

class Father {
public:
    Father() {
        cout << "a" << endl;
    }
    ~Father() {
        cout << "b" << endl;
    }
};
```

```
class Son : public Father {
public:
    Son() {
        cout << "c" << endl;
    }
    ~Son() {
        cout << "d" << endl;
    }
};
```

```
int main() {
    Son son;
    system("pause");
    return 0;
}
```

- (A) abcd

背面有題，請繼續作答。

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- (B) cd
- (C) ac
- (D) ab
- (E) bd

20. What is the output of the following C++ program?

```
#include <iostream>
using std::cout;
using std::endl;

int Q(int K)
{
    static int conut = 2;
    int SUM = conut;
    conut += K;
    return SUM;
}

int P(int K)
{
    int conut = 2;
    int SUM = conut;
    conut += K;
    return SUM;
}

int main()
{
    for (int i = 1; i <= 8; i <<= 1) {
        cout << Q(i);
    }
    for (int i = 1; i <= 8; i <<= 1) {
        cout << P(i);
    }
    system("pause");
    return 0;
}
```

- (A) 12481111 (B) 24593333 (C) 23592222 (D) 23593333 (E) 12482222