



# **[i] SANMACS**

I N D I A

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Rewarding Career

Test Code: CTNC - III

Questions: 25

Max. Time: 1 Hr.

1. How many total characters are coded in ASCII?

- (a) 64 (b) 68  
(c) 96 (d) 94

2. If any 8-bit computer has 64 codes and a maximum addressable memory of 2-MB (2 Mega Bytes), how many bits operation would be required for three-address instructions?

- (a) 27 (b) 37  
(c) 64 (d) 69

3. Which of the following does not use magnetic surface recording?

- (a) Floppy disk (b) Hard disk  
(c) CD ROM (d) Tapes

4. How many input combinations will give output 1 in 10 input NAND gate?

- (a) 1024 (b) 10  
(c) 1 (d) 1023

5. A 5-cm radius disk has 5 plates, 256 bytes per sectors, 128 sectors per track and 1000 tracks per surface, its capacity is

- (a) 3.27 GB (b) 327.68 MB  
(c) 3768 KB (d) none of these

6. Consider base 32 number system. 32 different symbols used are:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. What will be the equivalent of A1.UV in base 8 systems?

- (a) 400.7 (b) 377.75  
(c) 501.7574 (d) 311.75

7. What are the sizes of MAR and MDR of 2 MB memory with word size of 1 byte?

- (a) 6, 1 (b) 6, 8  
(c) 21, 1 (d) 21, 8

8. Floating point no. in a computer are represented using a 12 bit mantissa (including sign bit) and a 4 bit exponent (including sign bit). What is the approximate value of the minimum number, which can be represented?

- (a)  $2^{-7}$  (b)  $2^{-8}$   
(c)  $2^{-15}$  (d)  $2^{-16}$

9. A computer has a hard disk having 5000 cylinders, 100 sectors. The disk has a speed of 10000 rotations per minute. The average seek time specification of the disk is 10 milliseconds. What is the average access time for the hard disk?

- (a) 13 milliseconds (b) 16 milliseconds  
(c) 25 milliseconds (d) 35 milliseconds

10. If  $x = 0.111001101 \text{ E } 01101001$   
 $y = 0.110000000 \text{ E } 01010110$

Then  $x.y$  is

- (a)  $0.101011001 \text{ E } 01111111$   
(b)  $0.101011000 \text{ E } 01010111$   
(c) Overflow  
(d) No overflow but answer not in choices

11. A machine uses 4 bits to store integers. A particular register contains the bits 1110. What is the decimal equivalent of this content if the register is assumed to store unsigned and 2's complement signed integer respectively?

- (a) 14 and -2 (b) 14 and -6  
(c) 6 and -2 (d) 6 and -6

12. Which of the following is false about multiprogramming?

- (a) In Multiprogramming more than one program are executed at the same time.  
(b) Main memory of computer should be large enough to accommodate all programs.

(c) Memory allocation and protection feature is a software feature.

(d) Supervisor is a part of operating system.

**13.** How much frame buffer memory will be required for a display device of a computer for displaying 1024 rows and 1280 columns of pixels each capable of representing one of 16 million different colors?

(a) 512 KB

(b) 2 MB

(c) 4 MB

(d) 8 MB

**14.** Which of the following is not true?

(a) Cache memory is smaller than main memory

(b) More than 1 cache memories are possible

(c) Cache memory is a buffer between main memory and I/O units.

(d) Cache memory is faster than main memory.

**15.** Which of the following is the fastest data transfer?

(a) Program controlled transfer.

(b) Program controlled interrupts data transfer.

(c) DMA

(d) none of these

**16.** Which is the correct arrangement of various memories in ascending order of speed?

(a) Floppy disk, hard disk, CD-ROM, MOS memory, Cache, Registers

(b) Floppy disk, hard disk, CD-ROM, MOS memory, Registers.

(c) Registers, Cache, MOS memory, CD-ROM, Hard disk, Floppy disk

(d) CD-ROM, Floppy disk, Hard disk, MOS memory, Cache, Registers

**17.** Which of the following is not a non-procedural language?

(a) LISP

(b) Perl

(c) ML

(d) PROLOG

**18.** Which of the following is false?

(a) Cache memory is a part of microprocessor.

(b) Operating system is software

(c) Assembly language is a machine dependent.

(d) none of these

**19.** What is the output of the following program?

```
main ( )
{
    int i = 1;
    for (; i <= 5 ;)
    {
        printf("%d\t", i);
        i = i + 1;
    }
}
```

(a) Print 1 to 5 in different lines.

(b) Print 1 to 5 in same lines with fixed gain between them.

(c) It will give a syntax error.

(d) It will be an infinite loop.

**20.** Which is odd one out?

(a)  $i = i + 1;$

(b)  $i += 1;$

(c)  $i++;$

(d)  $i = +1;$

**21.** for (i = 1, j = 1; i <= 5, j <= 5; i++, j++) It is a

(a) Valid statement

(b) Invalid statement

(c) Invalid statement but can be made valid by removing any 1 of the incrementation expression

(d) none of these

**22.** In the following program

```
main ( )
{
    float a = 1.5;
    switch (a)
    {
        case 1.0; printf("\nHello Friends");
        case 1.5; printf("\nHow are you");
        case 2.0; printf("\nHow is life");
    }
}
```

Now the output of this program will be;

(a) How are you

(b) How are you

How is life

(c) Syntax error

(d) none of these

**23.** main ( )

```
{
    int i;
    i = 30000;
    if (i <= 50000) i = i + 5000;
    else i = i - 5000;
    printf ("%d", i);
}
```

Now the final value of i is:-

(a) 3500

(b) 25000

(c) -30536

(d) none of these

**24.** In a microprocessor-based computer system, the microprocessor has 24 address lines. If it is decided to use memory chips having 64 kilobytes capacity and 8 bit data bus, how memory chips will be required for installing maximum addressable memory in this computer?

(a) 128

(b) 256

(c) 512

(d) 1024

**25.** Consider a machine with 8 bits for storing floating point numbers. It uses normalized floating-point representation with 4 bits for mantissa and 4 bits for exponent. 1 bit in both mantissa and exponent is used as sign bit. If  $a = 12.5$ , what would be the result of  $a+b$ .

(a) 15

(b) 15.25

(c) 14

(d) 14.25

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