



- 309 & 313 PRATAP CHAMBERS, GURUDWARA ROAD, KAROL BAGH, DELHI - 110005 PH.: 25817911, 25817630, 30917966
- ➤ SAI SANMACS PLAZA, PLOT NO. 6A, COMMUNITY CENTER, DDA, SECTOR - 8, ROHINI, DELHI - 110085 PH.: 39458354, 39522575

e-mail: info@sanmacs.com

website: www.sanmacs.com

## Rewarding Career

## **HINTS AND SOLUTIONS**

CTNC - I

- 1. (d)  $(69)_{16} \div (50)_{16} = (?)_2$ =  $(01101001)_2 \div (01010000)_2 = (1.0101)_2$
- 2. (a) D' Morgans Law.
- 3. (b)
- **4.** (a) Given diagram is

Y= (A.B). 
$$(C + \overline{D})$$
s

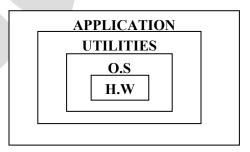
$$= (1.1) (1 + \overline{D}) \qquad = \qquad \overline{1.1} = \overline{1} = 0$$

- 5. (c)
- (I) is correct from O4.
- (II) is incorrect because  $(C + \overline{D})$  gives 1 therefore Y=1
- (III) is correct because  $(C + \overline{D}) = 1$ .

**6.** (a) 
$$Y = \overline{(\overline{AB} + 1)} \cdot \overline{(\overline{A + B} \cdot 0)} = \overline{1} \cdot \overline{0} = 0.1 = 0$$

- 7. (d) 11+103 MOD 7 MOD 3-1= 11+5 MOD 3-1 = 11+2-1=12
- 8. (c) 9. (b) 10. (a)
- 11. (b) 12. (c)
- **13.** (c)  $(222)_3 = (?)_2 = (222)_3 = (26)_{10} = (11010)_2$
- 14. (c) A=10, B=2, C=-5 A B C D 10 2 -5 12 9 44 23
- **15.** (d) 4+6/3\*2-6/2=4+2\*2-3=4+4-3=5.

- n%d mod remain 16. (d) d n 6720 4 0 1680 5 0 336 0 56 7 0 8 8 0 d = 9.
- 17. (d)
- 18. (c)



- **19.** (a) Multiprogramming More than one program are to be executed at the same time.
- **20.** (d) Three types of I/O.
- (I) Programmed I/O (a)
- (II) Interrupt Driven I/O(b)
- (III) DMA (c).
- 21. (d)

Speed in ascending order Hard disks, RAM, Cache, and Register.

**22.** (a)  $D_1$   $D_2$ 

Disk interleaving. To access a word, Half can be stored in D1 and half in D2. They can be accessed faster. We can use no. of disks.

23. (c) 
$$Z = \overline{A} \overline{B} C + \overline{A}BC + A\overline{B}C + ABC + ABC$$
  
= BC + AB + BC = C + AB

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24. (c) 25. (c) NAND or NOR.

