



```
iv) {  
    clrscr();  
    int x = 36, y = 5, w, z;  
    w = x/y;  
    z=x%y;  
    printf ("w=%d and z=%d", w,z);  
    getch();  
}
```

The output will be

- a) $w = 7.2$ and $z = 0$ b) $w = 7$ and $z = 1$
c) $w = 0$ and $z = 7.2$ d) $w = 1$ and $z = 7.$

```
v) {  
    clrscr();  
    int a,b,c;  
    b=4;  
    a=2*(b++);  
    c=2*(++b);  
    printf ("a=%d, b=%d, c=%d\n", a,b,c);  
    getch();  
}
```

The output will be

- a) $a=8, b=6, c=12$ b) $a=6, b=8, c=12$
c) $a=12, b=6, c=8$ d) $a=8, b=12, c=6.$



vi) $\overline{\overline{A + CD}}$ equals

- a) $A \cdot \overline{(C + D)}$ b) $\overline{A \cdot (C + D)}$
 c) $A \cdot (C + D)$ d) $\overline{A \cdot (C + D)}$

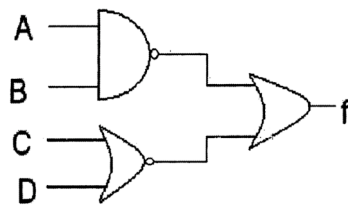
vii) The function getch () is available in

- a) `stdio.h` b) `conio.h`
 c) `alloc.h` d) `dos.h`

viii) In which two-input gate, similar inputs produce zero output and dissimilar inputs produce an output 1 ?

- a) OR b) XOR
 c) NAND d) XNOR.

ix)



f is equal to

- a) $\overline{(A + B) + (CD)}$ b) $\overline{AB + C + D}$
 c) $\overline{((A + B) \cdot (CD))}$ d) $\overline{(AB) \cdot (C + D)}$.



x) An array name is

- a) a keyword
- b) base address of the array
- b) both (a) and (b)
- d) none of these.

xi) {

```
clrscr();
```

```
int*y,x=5;
```

```
y=&x;
```

```
}
```

Here y is

- a) a data
- b) a pointer
- c) an instruction
- d) none of these.

xii) $(25)_6$ is equal to

- a) $(16)_{10}$
- b) $(17)_{10}$
- c) $(18)_{10}$
- d) $(19)_{10}$.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. a) State and prove De Morgan's laws.

Prove that $(A + B)(A + C) = A + BC$
- b) Draw the circuit symbol, switch equivalent circuit and truth table for a NOR Gate. $3 + 2$
3. Draw the circuit symbol, switch equivalent circuit and truth table for a NOR Gate.
4. What is an Algorithm ? Write down the Algorithm to find the maximum among a set of numbers.
5. What is a Flow Chart ? Draw the Flow Chart to find the average of a set of numbers.
6. Write a C program to find the sum of digits of a number.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Write a C program to implement sequential search. 7



- b) Write a C program to check the number is palindrome or not. 8
8. a) Write a C program to create a calculator. 8
- b) What do you mean by two-dimensional arrays ? Give a proper example of it. What do you mean by the address of an array ? 7
9. a) Write a C program to create a login page by using nested condition. 5
- b) Give the circuit diagram of J-K flip-flop. 10
10. a) What is a flip-flop ? 2
- b) What are the uses of flip-flop ? 3
- c) Explain the different types of RAM and ROM. 5
- d) Draw a block diagram of a digital multiplexer and explain its function. 5



11. Write short notes on any *three* of the following : 3 × 5

- a) Ring counter
- b) D-flip-flop
- c) Pointer
- d) Multiplexer
- e) Functions.

