

## PROGRAMMING LANGUAGE 'C'

1. `main()`  
`{`  
    `int a=4,b=2;`  
`a=b<<a + b>>2;`  
    `printf("%d", a);`  
`}`  
a) 32                      b) 2                      c) 4                      d) none
2. `main()`  
`{`  
`int *ptr=(int*)malloc(sizeof(int));`  
`*ptr=4;`  
`printf("%d",(*ptr)+++*ptr++);`  
`}`  
a) 7                      b) 9                      c) Runtime error                      d) none
3. `#define MAX 3`  
`main()`  
`{`  
`printf("MAX = %d \n",MAX );`  
`#undef MAX`  
`#ifdef MAX`  
`printf("Vector Institute");`  
`#endif`  
`}`  
a) MAX=3, Vector Institute                      b) MAX=3  
c) Vector Institute                      d) Compile time error
4. `int array[]={1,2,3,4,5,6,7,8};`  
`#define SIZE (sizeof(array)/sizeof(int))`  
`main()`  
`{`  
`if(-1<=SIZE) printf("1");`  
`else printf("2");`  
`}`  
a) 1                      b) 8                      c) 2                      d) 4
5. `main()`  
`{`  
`int ptr[] = {1,2,23,6,5,6};`  
`printf("%d",&ptr[3]-&ptr[0]);`  
`}`  
a) 1                      b) 2                      c) 4                      d) none
6. `main()`  
`{`  
`char input[] = "SSSWILTECH1\1\1";`

```

int i, c;
for ( i=2; (c=input[i])!='\0'; i++) {
switch(c) {
case 'a': putchar ('i'); continue;
case '1': break;
case 1: while (( c = input[++i]) != '\1' && c!= '\0');
case 'E': case 'L': continue;
default: putchar(c);continue;
}
putchar(' ');
}
putchar('\n');
}

```

- a) SWITCH                      b) SSWILI                      c) SIEH1                      d) compile time error

```

7. main()
{
int a[3][4] = {1,2,3,4,5,6,7,8,9,10,11,12};
int i, j, k=99;
for(i=0; i<3; i++)
for(j=0; j<4; j++)
if(a[i][j] < k) k = a[i][j];
printf("%d", k);
}

```

- a) 7                                      b) 9                                      c) 3                                      d) 1

```

8. main()
{
char p[] = "hello world!";
p = "vector";
printf("%s", p);
}

```

- a) vector                              b) hello world!                      c) hello world! vector                      d) none

```

9. main()
{
enum _tag{ left=10, right, front=100, back};
printf("%d, %d, %d, %d", left, right, front, back);
}

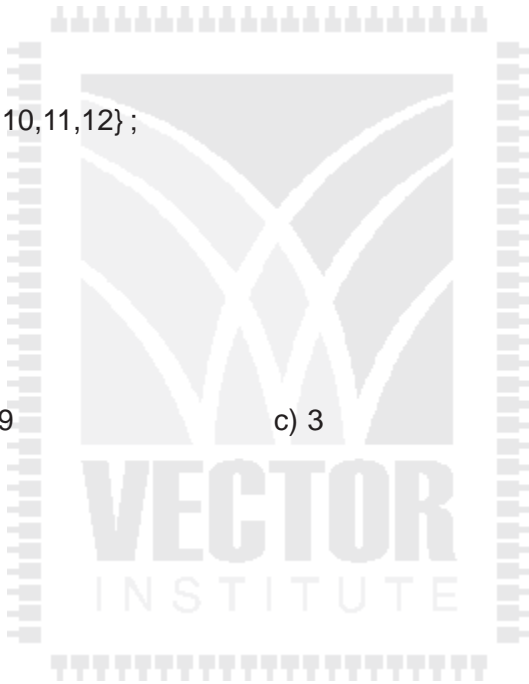
```

- a) 10,0,1,2                              b) 10,11,100,102                      c) 0,1,2,3                              d) none

```

10. main()
{
char as[] = "\0\0";
int i = 0;
do{
switch( as[i++]) {case '\0' : printf("A");
break;
case 0 : printf("B");
}
}

```



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```

break;
default : printf("C");
break;
}
}while(i<3);
}

```

- a) ACB                      b) ACBC                      c) BCA                      d) CBAC

```

11. main()
{
FILE *fs;
char c[10];
fs = fopen("source.txt", "r"); /* source.txt exists and contains "Vector Institute" */
fseek(fs,0,SEEK_END);
fseek(fs,-3L,SEEK_CUR);
fgets(c,5,fs);
puts(c);
}

```

- a) ute                      b) itute                      c) tute                      d) none

```

12. main()
{
int a=10,b;
b=a>=5?100:200;
printf("%d\n",b);
}

```

- a) 10                      b) 5                      c) 100                      d) 200

```

13. main()
{
extern int i;
i =20;
printf("%d\n",sizeof(i));
}

```

- a) 2                      b) 4                      c) 1                      d) none

```

14. main()
{
int i = 10;
printf(" %d %d %d \n", ++i, i++, ++i);
}

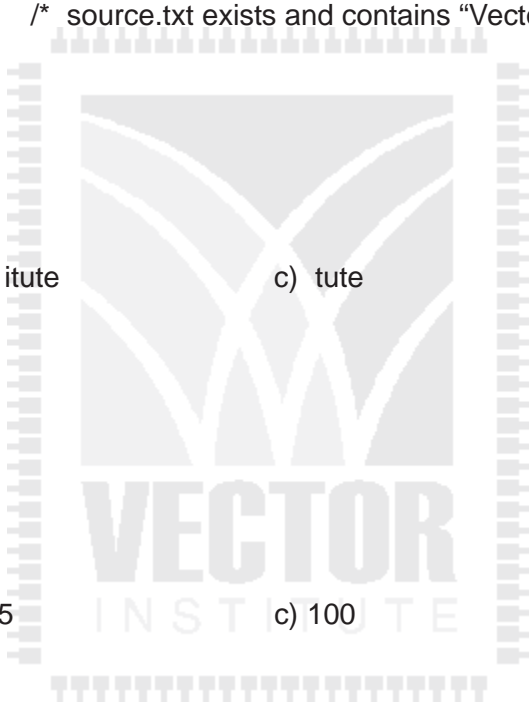
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- a) 11 11 13                      b) 13 11 11                      c) 11 12 13                      d) 13 12 11

```

15. main()
{
unsigned int k = 987 , i = 0;

```



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```

char trans[10];
do {
trans[i++] =(char) (k%16 > 9 ? k%16 - 10 + 'a' : '\0' );
} while(k /= 16);
printf("%s\n", trans);
}

```

- a) bd                      b) cf                      c) eg                      d) none

```

16. main()
{
struct test
{
char c;
int i;
char m;
} t1;
printf("%d %d\n", sizeof(t1), sizeof(t1.c));
}

```

- a) 4 1                      b) 6 2                      c) 4 2                      d) none

```

17. main()
{
printf("%x",-1<<4);
}

```

- a) FF00                      b) FFFF                      c) FFF0                      d) Compile time error

```

18. main()
{
int var1=12, var2=35;
printf("%d",max(var1,var2));
}
int max(int x, int y)
{
x>y? return x: return y;
}

```

- a) 12                      b) 35                      c) compile time error                      d) run time error

```

19. main()
{
int x, arr[8]={11,22,33,44,55,66,77,88};
x=(arr+2)[3];
printf("%d",x);
}

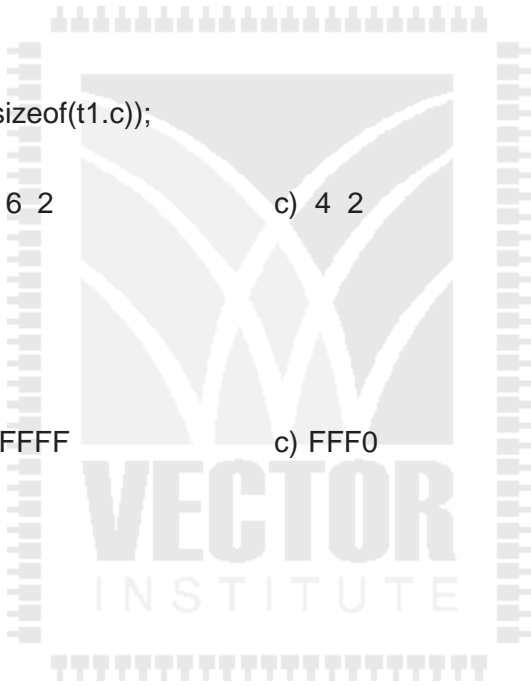
```

- a) 33                      b) 66                      c) 44                      d) 77

```

20. struct tag{
auto int x;
static int y;
}

```



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```

};
main()
{
struct tag s;
s.x=4;
s.y=5;
printf(“%d”,s.x);
}

```

- a) 4                                      b) 5                                      c) 9                                      d) none

## DIGITAL

21. A Bipolar transistor has a total of  
a) Two similarly doped regions                                      b) Three alternatively doped regions  
c) Two alternatively doped regions                                      d) Three similarly doped regions
22. Which transistor current formula is correct  
a)  $I_C = I_B + I_E$                                       b)  $I_B = I_C + I_E$                                       c)  $I_E = I_B - I_C$                                       d)  $I_B = I_E - I_C$
23. BJT is a \_\_\_\_\_  
a) Voltage controlled device                                      b) rectifier  
c) current controlled device                                      d) inverter
24. The sum of binary formats 10101010 and 01111 is \_\_\_\_  
a) 128                                      b) 271                                      c) 200                                      d) 252
25. Which type of error was eliminated through the use of gray code  
a) timing                                      b) decoding                                      c) encoding                                      d) conversion
26. If a parity bit is added to a four bit word, how many output lines will be required after multiplexing ?  
a) 5                                      b) 1                                      c) 7                                      d) 9
27. In a 100KHz four-stage frequency divider, if the CLEAR input to stage two is LOW, what will be the fourth stage output frequency ?  
a) 50 KHz                                      b) 12.5 KHz                                      c) 0.0KHz                                      d) 25 KHz
28. How many clock pulses required to load 4-bit SIPO register and transfer the data to a output register.  
a) 16                                      b) 8                                      c) 5                                      d) 4
29. Which type of device may be used to interface a parallel data format with an external equipments serial format ?  
a) Key matrix                                      b) Memory chip                                      c) UART                                      d) SIPO
30. If 00000111 in a register is shifted to read 00111000, the arithmetic operation is  
a) X2                                      b) X4                                      c) X16                                      d) X8

**Micro Processor (8085/8086): ( Select either [ ] 8085 / [ ] 8086 )**

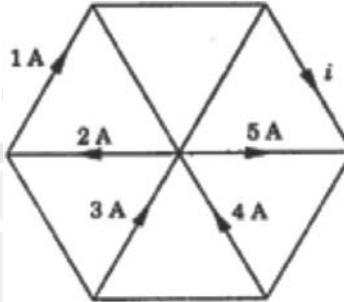
**8085:**

31. The 8085 microprocessor is an \_\_\_\_ bit microprocessor. It is a \_\_\_\_\_ pin IC.  
a) 8 , 20                      b) 16 , 40                      c) 16 , 20                      d) 8 , 40
32. The following are true about 8085 except that, \_\_\_\_\_.  
a) It is manufactured by using NMOS technology  
b) It is having on-chip clock generation facility  
c) It has 8 address lines  
d) Lower order address bus is multiplexed with data bus
33. The status register or flag register of 8085 include \_\_\_\_\_ flags.  
a) 3                      b) 5                      c) 7                      d) 9
34. The data conditions, after execution of an arithmetic or logical operations are indicated by setting or resetting the \_\_\_\_\_ called flags.  
a) Flip-flops                      b) latches                      c) registers                      d) gates
35. Address Latch Enable(ALE) signal is used to de-multiplex \_\_\_\_\_ and \_\_\_\_\_ buses.  
a) Address , data                      b) Address, control                      c) Data,control                      d) None of the above
36. SID and SOD signals are used \_\_\_\_\_.  
a) For Serial communication                      b) For DMA operation  
c) By slow operating peripherals                      d) None of the above
37. In the 8085, the machine cycle may consists of \_\_\_\_\_ to \_\_\_\_\_ T-states.  
a) 2, 4                      b) 3,6                      c) 2,8                      d) 3,8
38. The 8085 instruction cycle consists of one to five machine cycles. The first machine cycle of each instruction cycle is always \_\_\_\_\_ machine cycle.  
a) I/O read                      b) I/O write                      c) Memory read                      d) None of the above
39. The \_\_\_\_\_ instruction is Machine control instruction.  
a) HLT                      b) PUSH                      c) IN                      d) LDA
40. The number of ways in which the operand information is specified in the instruction code are \_\_\_\_\_.  
a) 4                      b) 5                      c) 12                      d) 24
41. The data bus of any microprocessor is always  
a) Unidirectional                      b) Bi-directional  
c) Either unidirectional or bi-directional                      d) None of the above
42. In a microprocessor based system, the stack is always in  
a) Microprocessor                      b) RAM                      c) ROM                      d) EPROM
43. In 8085 microprocessor ,the I/O devices can be used in  
a) Memory mapped I/O only                      b) I/O mapped I/O only  
c) Memory mapped I/O or I/O mapped I/O                      d) None of the above

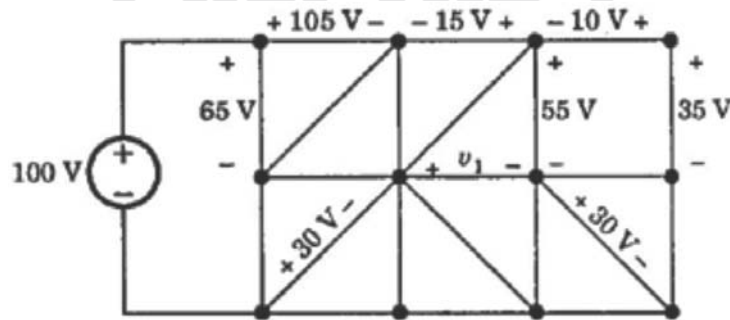
44. In 8085 microprocessor, in response to RST 7.5 interrupt the execution is transferred to memory location.  
 a) 0000H                      b) 002CH                      c) 0034h                      d) 003CH
45. Which of the data transfer is not possible in 8085 microprocessor ?  
 a) Memory to accumulator                      b) Accumulator to memory  
 c) Memory to memory                      d) I/O device to accumulator
46. \_\_\_\_\_ type of ADC is the fastest type of ADC.  
 a) Flash                      b) Counter                      c) Dual slope                      d) Successive approximation
47. The number of comparators in a 4-bit flash type ADC is \_\_\_\_\_.  
 a) 4                      b) 5                      c) 15                      d) 16
48. An ADC is usually considered as an \_\_\_\_\_.  
 a) Encoder                      b) Decoder                      c) Tri-State Logic                      d) None of the mentioned
49. The resolution of a 4 bit counting ADC is 0.5 volts. For an analog input of 6.6 volts, the digital output of the ADC will be \_\_\_\_\_.  
 a) 1011                      b) 1101                      c) 1100                      d) 1110
50. There are \_\_\_\_\_ types of DAC's available.  
 a) 2                      b) 3                      c) 4                      d) 5
- 8086:**
31. What is the maximum clock frequency in 8086?  
 a) 4MHz                      b) 5MHz                      c) 6MHz                      d) 7MHz
32. Size of the IP reg in 8086 is-----  
 a) 8 bits                      b) 16 bits                      c) 20 bits                      d) 24 bits
33. -----register can be changed directly using POP instruction  
 a) ss                      b) es                      c) ds                      d) cs
34. SIM is-----  
 a) serial interrupt mask.                      b) set interrupt monitor  
 c) set interrupt mask                      d) serial interrupt monitor
35. What is the size of the instruction queue?  
 a) 4 bytes                      b) 6 bytes                      c) 8 bytes                      d) 2 bytes
36. What is the size of each segment in 8086?  
 a) 12kb                      b) 32kb                      c) 64kb                      d) 128kb
37. Which micro processor accepts the program written for 8086 with out any changes  
 a) 8085                      b) 8087                      c) 8088                      d) 80286
38. Which are the basic parts of 8086?  
 a) BIU                      b) EU                      c) pipelining                      d) a and b



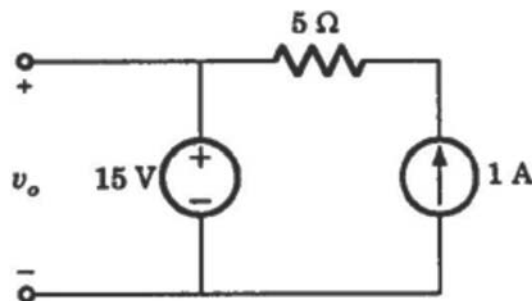
53. If 120 C of charge passes through an electric conductor in 60 sec, the current in the conductor is  
 a) 0.5 A                      b) 2 A                      c) 3.33 mA                      d) 0.3 mA
54. The energy required to move 120 coulomb through 3 V is  
 a) 25 mJ                      b) 360 J                      c) 40 J                      d) 2.78 mJ
55. For the figure given below,  $i = ?$



- a) 1 A                      b) 2 A                      c) 3 A                      d) 4 A
56. Each branch of circuit graph of figure given below represent a circuit element. The value of the voltage  $v_1$  is

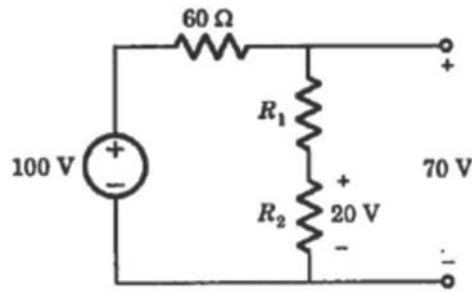


- a) -30 V                      b) 25 V                      c) -20 V                      d) 15 V
57. For the figure given below,  $v_o = ?$



- a) 10 V                      b) 15 V                      c) 20 V                      d) None

58. For the figure given below,  $R_1 = ?$

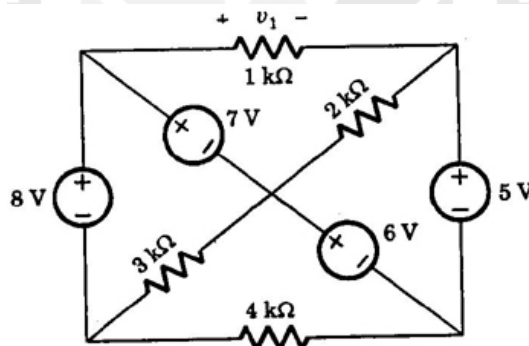


- a) 25 Ω                      b) 50 Ω                      c) 100 Ω                      d) 2000 Ω

59. Twelve  $6 \Omega$  resistor are used as edge to form a cube. The resistance between two diagonally opposite corner of the cube is

- a)  $(5/6) \Omega$                       b)  $(6/5) \Omega$                       c)  $5 \Omega$                       d)  $6 \Omega$

60. For the figure given below,  $v_1 = ?$



- a)  $-11 \text{ V}$                       b)  $5 \text{ V}$                       c)  $8 \text{ V}$                       d)  $18 \text{ V}$

**APTITUDE**

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61. The sum of a number and the number preceding it is 33. By how much is two less than six times the number?  
a) 196                      b) 94                      c) 90                      d) 100
62. If the length and breadth of a room are increased by  $y$  feet each, the perimeter increases by 16 feet. Find  $y$   
a) 8                      b) 2                      c) 6                      d) 4
63. One-fourth of a number is greater than one-fifth of the number succeeding it by 1. Find the number.  
a) 24                      b) 42                      c) 36                      d) 48
64. An oil cylinder was  $3/4$ th full. When two bottles of oil is poured into it, it is  $4/5$ th full. How many bottles of oil can the full cylinder hold?  
a) 20                      b) 15                      c) 40                      d) 30

65. The ratio of present age of A and B is 4:3. A will be 26yrs old in 6yrs from now. How old is B now?  
 a) 15yrs                                      b) 20yrs                                      c) 25yrs                                      d) 10yrs
66. A profit of Rs. 500 is divided between X and Y in the ratio of  $\frac{1}{2} : \frac{1}{3}$ . What is the difference between their profit shares ?  
 a) Rs. 200                                      b) Rs. 100                                      c) Rs. 300                                      d) Rs. 50
67. The sum of the present ages of A, B, C is 45 yrs. Three years ago their ages were in the ratio 1:2:3. What is the present age of A  
 a) 10yrs                                      b) 6yrs                                      c) 8yrs                                      d) 9yrs
68. If the denominator of a fraction is increased by 4, then the fraction becomes  $\frac{5}{8}$ . If the numerator is 11 less than the denominator, find the numerator.  
 a) 25                                      b) 20                                      c) 30                                      d) 35
69. 15-mangoes and 7-apples cost as much as 10-mangoes and 9-apples. What is the ratio of cost of one mango to cost of one apple?  
 a) 2:5                                      b) 5:2                                      c) 3:4                                      d) Cannot be determined
70. A person sold his watch for 96 \$ and got some percentage of profit which was numerically equal to the cost price. What is the cost price of the watch  
 a) 50 \$                                      b) 54 \$                                      c) 60 \$                                      d) 80 \$
71. Tap A can fill an empty tank in 6-hours and Tap B can empty the full tank in 8-hours. If the tank is empty when tap A is opened at 9:00 am and tap B is opened at 11:00 am, then at what time is the tank filled?  
 a) 6:00pm                                      b) 3:00 am                                      c) 3:00pm                                      d) 6:00am
72. 20 men can plant 50 saplings in 8-hours. In how many hours can 15men plant 80 saplings?  
 a)  $17\frac{1}{25}$                                       b)  $12\frac{7}{11}$                                       c) 20                                      d) None of these
73. A man can row at 6 km/h in still water and at 4 km/h upstream. How long will the man take to go to a place 1 km downstream and return?  
 a) 36 min                                      b) 24 min                                      c) 12 min                                      d) 18min
74. Some telegraph poles are placed 20 m apart. How many poles will a train pass in 3-hours at 60km/h ?  
 a) 1200                                      b) 2500                                      c) 4000                                      d) 9000
75. A hollow rectangular metal box of outer dimensions 30cmx24cmx18cm and of thickness 3cm is melted to form a solid cube. What is the measure of side of the cube (in cm)?  
 a)  $36\sqrt{36}$                                       b) 6                                      c)  $18\sqrt[3]{36}$                                       d)  $6\sqrt[3]{36}$