Q1. What is the output of the following C program?

```c
#include<stdio.h>
main()
{
    int a, b=0;
    static int c[10]={1,2,3,4,5,6,7,8,9,0};
    for (a=0; a<10; ++a)
    if ((c[a] % 2) ==  0) b += c[a];
    printf ("%d", b);
}
```

(A) 20   (B) 25

(C) 45   (D) 90

Q2. What will be output of following c code?

```c
#include<stdio.h>
int fun(int arr[])
{
   arr = arr+1;
   printf("%d ", arr[0]);
}
int main(void) {
   int arr[2] = {10, 20};
   fun(arr);
   printf("%d", arr[0]);
   return 0;
}
```

(A) Compiler Error   (B) 20 10

(C) 20 20   (D) 10 10

Q3. What would be the output of the following program?

```
main()
{
    int a[5] = {2,3};
    printf("\n %d %d %d", a[2], a[3], a[4]);
}
```

(A) garbage values   (B) 2 3 3

(C) 3 2 2   (D) 0 0 0

Q4. The output of the following program is   **ISRO**

```
main()
{
    static int x[] = {1, 2, 3, 4, 5, 6, 7, 8};
    int i;
    for(i=2; i<6; i++)
        x[x[i]] = x[i];
    for(i=0; i<8; i++)
        printf("%d ", x[i]);
}
```

(A) 1 2 3 3 5 5 7 8   (B) 1 2 3 4 5 6 7 8

(C) 8 7 6 5 4 3 2 1   (D) 1 2 3 5 4 6 7 8

Q5. What will be the output of following C-code?

```c
int main()
{
    int a[3] = {67, 43, 23};
    int *p = a;
    printf("%d ", ++*p);
    printf("%d ", *++p);
    printf("%d ", *p++);
    return 0;
}
```

(A) 68 43 43   (B) 37 43 43

(C) 67 43 23   (D) 68 43 23

Q6. What is the output of given program

```c
#include<stdio.h>
main()
{
    static int a[] = {0,1,2,3,4};
    int  *p[] = {a,a+1,a+2,a+3,a+4};
    int  **ptr =  p;
    ptr++;
    printf("%d  %d  %d ", ptr-p, *ptr-a, **ptr);
    *++ptr;
    printf("%d  %d  %d ", ptr-p, *ptr-a, **ptr);
    ++*ptr;
    printf("%d  %d  %d ", ptr-p, *ptr-a, **ptr);
    *ptr++;
    printf("%d  %d  %d ", ptr-p, *ptr-a, **ptr);
}
```

(A) 1 1 1 2 2 2 3 3 3 3 4 4   (B) 1 1 1 1 2 2 1 2 3 3 3 3

(C) 1 1 1 2 2 2 2 3 3 3 3 3   (D) None of these

Q7. What is the output of the following C code?

```
int main()
{
    int a[] = {1, 2, 3, 4, 5, 6};
    int *ptr = (int*)(&a+1);
    printf("%d ", *(ptr-1));
    return 0;
}
```

(A) 2

(B) 5

(C) 6

(D) Error

Q8. What is the output of the following C code? [Assume char takes 1 byte, int takes 2 bytes, pointer takes 4 bytes]

```
#include<stdio.h>
int main()
{
    int arr[] = {10, 20, 30, 40, 50, 60};
    int *ptr1 = arr;
    int *ptr2 = arr + 5;
    printf ("%d ", ptr2 - ptr1);
    printf ("%d", (char*)ptr2 - (char*)ptr1);
    return 0;
}
```

(A) 5 10

(B) 5 20

(C) 10 20

(D) None of these

Q9. What is the output of the following C code?

```c
#include<stdio.h>
int main()
{
    int a[][3] = {{-1,2,3}, {-4,5,6}};
    printf("%d", *(*( a+1)-1)+2);
    return 0;
}
```

(A) 6   (B) 5

(C) 3   (D) None of these

Q10. What would be the output of the following program assuming that the array begins at location 1002?

```c
main()
{
    int a[2][3][4] ={
                      {
                        1,2,3,4,
                        5,6,7,8,
                        9,1,1,2
                      },
                      {
                        2,1,4,7,
                        6,7,8,9,
                        0,0,0,0
                      }
                     };
    printf('\n %u %u %u %d", a, *a, **a, ***a);
}
```

(A) 1000 1000 1000 1   (B) 1002 1002 1002 1

(C) 1002 1 1 1   (D) None of these

Q11. What would be the output of the following program, if base address of array a is 2000 and int takes 2 bytes & pointer takes 4 bytes?

```c
main()
{
    int a[] [4] = {
                    5,7,5,9,
                    4,6,3,1,
                    2,9,0,6
                  };
    int *p;
    int (*q) [4];
    p = (int *)a;
    q = a;
    printf("\n %u %u", p, q);
    p++;
    q++;
    printf("\n %u %u", p, q);
}
```

(A) 2000 2000 2024 2024   (B) 2000 2000 2002 2024

(C) 2000 2000 2002 2002   (D) 2000 2000 2002 2008

Q12. Whether the C code will compile, if yes then output of the given code is _____.

```c
#include<stdio.h>
int main()
{
    static int a[] = {10, 20, 30, 40, 50};
    static int *p[] = {a, a+3, a+4, a+1, a+2};
    int **ptr = p;
    ptr++;
    printf("%d%d", ptr-p, **ptr);
}
```

Q13. What would be the output of the following program?

```c
int main()
{
    int a[3][3][2] = {
                        {      {1, 2},
                               {3, 4},
                               {5, 6}
                        },
                        {      {7, 8},
                               {9, 10},
                               {11, 12}
                        },
                        {      {13, 14},
                               {15, 16},
                               {17, 18}
                        }
                     };
    printf("%d %d %d", *(*(a[0] + 2) + 1),
            *(*(*(a + 2) + 1) + 1), *(a[1][2] + 1));
}
```

(A) 6 12 16   (B) 6 16 12

(C) Error   (D) None of these

Q14. If x is one dimensional array, then pick up the correct answer

(A) *(x + i) is same as &x[i]   (B) *&x[i] is same as x + i

(C) *(x + i) is same as x[i] + 1   (D) *(x + i) is same as *x[i]

Q15. What is the output of the following program?

```c
#include<stdio.h>
int main(void)
{
    char a[5] = { 1, 2, 3, 4, 5 };
    char *ptr = (char*)(&a + 1);
    printf("%d %d\n", *(a + 1), *(ptr - 1));
    return 0;
}
```

(A) Compile Error

(B) 2 1

(C) 2 5

(D) None of the above

Q16. What does the following program print?   **GATE-2010**

```c
#include<stdio.h>
void f(int *p, int *q)
{
    p=q;
    *p=2;
}
int i=0, j=1;
int main()
{
    f(&i, &j);
    printf("%d %d\n", i,j);
    return 0;
}
```

(A) 2 2

(B) 2 1

(C) 0 1

(D) 0 2

```
#include<stdio.h>
void main()
{
    int k=5;
    int *p=&k;
    int **m=&p;
    printf("%d %d %d",k,*p,**m);
}
```

(A) 5 5 5   (B) 5 5 junk

(C) 5 junk junk   (D) compile time error

Q18. The output of the following C program is _____ **GATE-2015**

```
void f1( int a, int b)
{
        int c;
        c = a; a = b;
        b = c;
}
void f2( int *a, int *b)
{
        int c;
        c = *a; *a = *b; *b = c;
}
int main()
{
        int a = 4, b = 5, c = 6;
        f1( a, b);
        f2(&b, &c);
        printf("%d", c - a - b);
}
```

```c
#include<stdio.h>
int a1[] = {6, 7, 8, 18, 34, 67};
int a2[] = {23, 56, 28, 29};
int a3[] = {-12, 27, -31};
int *x[] = {a1, a2, a3};
void print(int *a[])
{
    printf("%d, ", a[0][2]);
    printf("%d, ", *a[2]);
    printf("%d, ", *++a[0]);
    printf("%d, ", *(++a)[0]);
    printf("%d", a[-1][+1]);
}
main()
{
    print(x);
}
```

(A) 8, -12, 7, 23, 8

(B) 8, 8, 7, 23, 7

(C) -12, -12, 27, -31, 23

(D) -12, -12, 27, -31, 56

```
#include<stdio.h>
void mystery (int *ptra, int *ptrb)
{
     int *temp;
     temp = ptrb;
     ptrb =ptra;
     ptra = temp;
}
int main()
{
     int a = 4, b=0, c= 2016, d = 42;
     mystery(&a, &b);
     if (a < c)
            mystery(&c, &a);
     mystery(&a, &d);
     printf("%d\n", a);
}
```

The output of the program is _____