Q.31 Consider the following C functions.

```
int  tob (int  b, int* arr)
 {
                    int i;
                    for  (i = 0; b > 0; i++)
```

```
        {
            if (b%2)  arr [i]=1;
            else arr [i]=0;
            b=b/2;
        }
    return (i);
}
int pp (int a, int b)
 {
        int arr [20];
        int i, tot =1, ex, len;
        ex =a;
        len = tob (b, arr);
        for (i=0;i<len;i++)
            {
                if (arr [i]==1)
                tot = tot *ex;
                ex =ex *ex;
            }
         return (tot);
}
```

The value returned by pp(3,4) is _____ .

Q.32 Which one of the choices given below would be printed when the following program is executed?

```
#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\n",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

Q.33 Consider the following C program segment.

```
#include <stdio.h>
int main ( )
{
char s1 [7] = "1234", *p;
p = s1 + 2;
*p = '0';
printf ("% s", s1);
}
```

What will be printed by the program?

(A) 12 (B) 120400 (C) 12041 (D) 1034

Q.34 What is the output printed by the following C code ?

```
# include <stdio.h>
int  main ( )
  {
    char a [ 6 ] = "world"  ;
    int i,  j ,  ;
    for ( i = 0, j = 5; i < j ; a [ i ++ ] = a [ j- - ] );
    printf ( " % s\n", a );
  }
```

(A) dlrow (B) Null string (C) dlrld (D) worow

Q.35 Consider the following C program segment:

```
char p [20] ;
char * s = "string'';
int length = strlen (s) ;
for (i=0;i<length;i++)
    p[i] = s[length – i];
printf("%s",p);
```

The output of the program is

(A) gnirts (B) string

(C) gnirt (D) no output is printed

Q.36 Consider the following C program.

```
#include <stdio.h>
#include <string.h>
int main ( )
 {
    char* c = "GATECSIT2017";
    char* p = c;
   printf("%d", (int) strlen ( c + 2[p] – 6 [p] – 1));
   return 0;
 }
```

The output of the program is _____.

Q.37 Consider the following C program.

```
#include <stdio.h>
#include <string.h>
void printlength (char *s, char *t)
  {
    unsigned int c =0;
    int len = ((strlen (s) – strlen (t)) >  c)? strlen (s):strlen(t));
    printf("%d\n", len);
  }
void main ( )
  {
     char *x = "abc";
      char *y = "defgh";
      printlength (x, y);
   }
```

Recall that strlen is defined in string.h as returning a value of type size_t, which is an unsigned int. The output of the program is _____.

Q.38 Consider the following function written in the C programming language.

```
void foo (char *a)
{
  if (*a && *a ! = ' ')
    {
       foo (a + 1);
       putchar (*a);
    }
}
```

The output of the above function on input "ABCDEFGH" is

(A) ABCD EFGH (B) ABCD (C) HGFE DCBA (D) DCBA

Q.39 Consider the following C program.

```
#include<stdio.h>
struct Ournode
 {
     char x,y,z;
  };
int main ( )
 {
    struct Ournode  p = {'1','0','a'+2};
    struct Ournode *q = &p;
    printf("%c, %c", *((char *)q + 1),
           *((char *)q + 2));
     return 0;
  }
```

The output of this program is :

(A) 0, c (B) 0, $a+2$ (C) '0','$a+2$' (D) '0','c'

Q.40 Which one of the choices given below would be printed when the following program is executed ?

```
#include <stdio.h>
struct test
{
     int i;
    char *c;
}st[] = {5, "become", 4, "better", 6, "jungle", 8, "ancestor", 7, "brother"};
main ()
{
    struct test *p = st;
     p += 1;
    ++p -> c;
    printf("%s,", p++ -> c);
    printf("%c,", *++p -> c);
    printf("%d,", p[0].i);
    printf("%s n", p -> c);
}
```

(A) jungle, n, 8, nclastor (B) etter, u, 6, ungle

(C) cetter, k, 6, jungle (D) etter, u, 8, ncestor

Q.41 Consider the following C program:

```
#include<stdio.h>
typedef struct
```

```
{
    char*a;
    char*b;
 } t;
void f1 (t s);
void f2 (t * p);
main ()
{
   static t s = {“A”,”B”};
   printf (“%s %s\n”, s.a, s.b);
   f1(s);
   printf(“%s %s\n”, s.a, s.b)
   return;
}
void f2 (t*p)
{
  s.a = “U”;
  s.b = “V”
  printf(“%s%s\n”, s.a, s.b);
  return;
 }
void f2 (t*p)
{
    p → a = "V";
    p → b = "W";
    printf(“%s%s\n”, p → a , p → b );
   return;
}
```

What is the output generated by the program?

(A)
AB
UV
VW
VW

(B)
AB
UV
AB
VW

(C)
AB
UV
UV
VW

(D)
AB
UV
VW
UV

(31) ⇒

```
int tob(int b, int *arr)
{
    int t;
    for( i=0; b>0; i++)
    {   if(b%2) arr[i] = 1;
        else arr[i] = 0;
        b = b/2;
    }
    return (i);
}

int pp(int a, int b)
{
    int arr[20];
    int i, tot=1; ex, len;
    ex = a;
    len = tob(b, arr);
    for(i=0; i<len; i++)
    {
        if(arr[i]==1)
            tot = tot * ex;
        ex = ex*ex;
    }
    return(ex);
}
```

pp(3,9) = 81

(32) 8

```
#include <stdio.h>
int a1[] = {6, 7, 8, 18, 39, 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\n", a[-1][+1]);
}

main()
{
    print(x);
}
```

Output — 8, -12, 8, 27, 8 ; Ans

33 ⇒

```
#include<stdio.h>
int main()
{ char s1[7] = "1234", *p;
  p = s1 + 2;
  *p = '0';
  printf("%s", s1);
}
```

Output - 1209 Ans

34 ⇒ what is the output -

```
#Include <stdio.h>
int main()
{
  char a[6] = "ward";
  int i, j;
  for(i=0, j=5; i<j; a[i++] = a[j--]);
    printf("%s", a);
}
```

Output - NULL Ans

35 ⇒

```
char P[20];
char *s = "string";
int length = strlen(s);
for(i=0; i<length; i++)
    P[i] = s[length-i];
printf("%s", P);
```

Output :— No o/p

36 ⇒

```
#include <stdio.h>
#include <string.h>
int main()
{
    char *c = "GATECSIT2017";
    char *p = c;
    printf("%d", (int)strlen(c+2[p]-6[p]-1));
    return 0;
}
```

Output : 2

37)

```
#include<stdio.h>
#include<string.h>
void printlength(char *s, char *t);
{
    unsigned int c=0;
    int len = ((strlen(s)-strlen(t)) >c) ? strlen(s)
                                        : strlen(t));
    printf("%d", len);
}

void main()
{
    char *x = "abc";
    char *y = "defgh";
    printlength(x, y);
}
```

→ Output :— 3

38)

```
void foo(char *a)
{ if(*a && *a != '')
  { foo(a+1);
    putchar(*a);
  }
}
```

I/P = ABCDEFGH

→ Output :— DCBA

(39)

```
#include <stdio.h>
struct ourNode
{ char x, y, z; };

int main()
{ struct ourNode p = {'1', '0', 'a', +2};
  struct ourNode *q = &p;
  printf("%c, %c", *((char *)q+1), *((char *)q+2));
  return 0;
}
```

Output :- 0, c

Ans

(40)

```
#include <stdio.h>
struct test
{ int i; char *c; };
s[] = {5, "become", 4, "better", 6, "jungle", 8, "ancestor",
       7, "brother"};
main()
{ struct test *p = s;
  p += 1;  ++p->c;
  printf("%s", p++->c);
  printf("%c", *++p->c);
  printf("%d", p[0].i);
  printf("%s\n", p->c);
}
```

Output : etter, u, 6, ugle

Ans

41)

```
#include<stdio.h>
typedef struct
{
    char *a; char *b;
} t;
void f1(t s);
void f2(t *p);
main()
{ static ts = {"A", "B"};
    printf("%s %s\n", s.a, s.b);
    f1(s);
    printf("%s %s\n", s.a, s.b);
    return;
}

void f1(t s)
{
    s.a = "U"; s.b = "V";
    printf("%s %s\n", s.a, s.b);
    return;
}

void f2(t *p)
{ p->a = "V"; p->b = "W";
    printf("%s %s\n", p->a, p->b);
    return;
}
```

→ AB, UV, AB, VW Ans