1. If S is an array of 20 characters, then the value assigned to S through the statement scanf("%s", S) with input 45769 would be

   (a) "45769"

   (b) nothing since 45769 is an integer

   (c) S is an illegal name for string

   (d) %s cannot be used for reading in value of S

2. Minimum number of interchange needed to convert the array 89, 19, 40, 14, 17, 12, 10, 2, 5, 7, 11, 6,9, 70, into a heap with the maximum element at the root is

   (a) 0 (b) 1 (c) 2 (d) 3

3. main()

   dec(); dec(); dec();

   }

   dec()

   {

   static int x; printf("%d", ++x);

   }

   (a) prints 012

   (b) prints 123

   (c) prints 3 consecutive, but unpredictable numbers

4. If following program (prog) is run from the command line as prog Friday Tuesday Sunday then whatwould be the output?

   main (int argc, char*argv)

   {

   printf("%c",**++argv);

   }

   (a) m (b) f

   (c) myprog (d) None of these

5. # define hypotenuse(a, b) sqrt (a * a + b * b) ;The macro-call hypotenuse (a + 2, b + 3) ;

   (a) finds the hypotenuse of a triangle with sides a + 2 and b + 3

   (b) finds the square root of $(a + 2)^2 + (b + 3)^2$

   (c) is invalid

   (d) finds the square root of 3 * a + 4 * b + 5

6. If s and b are integers then purpose of the following program fragment is tob = s + b;

   s = b – s ;

   b = b – s ;

   (a) transfer the contents of s to b

   (b) transfer the content of b to s

   (c) exchange (swap) the contents of s and b

   (d) negate the contents of s and b

7. If abc is the input, then the following program fragment char x, y, z ;

   printf ("% d" , scanf ("%c%c%c" , &x , &y , &z)) ;

   (a) syntax error (b) fatal error

   (c) segmentation error (d) printing of 3

8. An algorithm is made up of 2 modules M1&M2. If order of M1 is f(n) & M2 is g(n) then the order ofalgorithm is?

   (a) max (f(n),g(n)) (b) min (f(n),g(n))

   (c) f(n) + g(n) (d) f(n) X g(n)

9. An array of n numbers is given, where n is an even number. The maximum as well as the minimum of these n numbers needs to be determined. Which of the following is TRUE about the number of comparisons needed?

   (a) At least 2n - c comparisons, for some constant c, are needed.

   (b) at most 1.5n–2 comparisons are needed.

   (c) At least nlog2n comparisons are needed.

   (d) None of the above

10. Which of the following expressions accesses the (i, j)th entry of an (m x n) matrix stored in columnmajor form?

    (a) n x (I –1) + j (b) m x (n–j) + j

    (c) m x (j –1) + I (d) n x (m –i) + j

11. Predict the output for the following program?

    Assuming the address of x is 0xabcdef and the address of y is 0xfedcba#include <stdio.h>

    int main(void)

    {

    unsigned long x = 10; unsigned long *y = &x; unsigned long **z = &y;

    printf("x value : %lu, y value : %lu, *z value : %p\n", x,*y, *z);return 0;

    }

    (a) x value : 10, *y value : 10, *z value : 0xabcdef

    (b) x value : 10, *y value : 10, *z value : 0xfedcba

    (c) Compilation error

    (d) Segmentation fault

12. Predict the output for the following program?

    #include <stdio.h>

    #define sqr(a) a * a;

    int main(void)

    {

    printf("%d\n", sqr(3 * 2));return 0;

    }

    (a) 9 (b) 5

    (c) 6 (d) Compile error

13. Predict the printf function for the following program?

```
#include<stdio.h>
int main(void)
{
char *ptr = "Welcome";void *aptr;
aptr = &ptr;
/* Print "Welcome" using aptr */return 0;
}
```

(a) printf("%s" , *(char **)aptr);
(b) printf("%s" , *(aptr);
(c) Both
(d) Segmentation fault for (a) and (b)

14. Predict the output for the following program?

```
#include<stdio.h>
int main(void)
{
int arr[4] = {23, 11, 56, 29};
int *p, *q; q = arr / 2;p = q * 2;
printf("%d %d", *(p + 1), *(p + 3));
return 0;
}
```

(a) 11 29 (b) 23 56
(c) Compile time error (d) Segmentation fault

15. Predict the output for the following program?

```
#include <stdio.h>
#include <stdbool.h>bool func (void)
{
return -2;
}
int main()
{
if (func() == -2)
{
printf("if");
}
else
{
printf("else");
}
}
```

(a) if (b) else
(c) Prints nothing (d) Compile time error

16. Predict the output for the following program?

```
#include <stdio.h>
union uni1
{
unsigned int a; unsigned int d; unsigned char b;unsigned char c;
} un;
int main()
{
un.a = 498;
un.d = un.d & 0xceba;
printf("un.a : %d, un.c : %d\n",un.a, un.c);
}
```

(a) un.a : 255, un.c : 178 (b) un.a : 498, un.c : 178
(c) un.a : 178, un.c : 178 (d) un.a : 498, un.c : 255

17. Predict the output for the following program?

```
#include <stdio.h>
#define printd(x) printf(#x"\n")int main(void)
{
printd("Hi");return 0;
}
```

(a) Hi (b) "Hi"
(c) Compile time error (d) None of the above

18. Predict the output for the following program?

```
#include <stdio.h>
#include <string.h>int main(void)
{
char *x = "ab:bc:cd:de:ef:f0";unsigned int y[6];
int i = 0, c = 0; memset(y, 0, sizeof(y));
c = sscanf(x, "%02X : %02X : %02X , %02X : %02X : %02X",&y[0], &y[1], &y[2], &y[3],&y[4],
&y[5]);
for (i = 0; i < c; i++)
{
printf("%02X ", y[i]);
}
puts("");return 0;
}
```

(a) AB BC CD 00 00 00 (b) ab:bc:cd:de:ef:f0
(c) AB BC CD DE EF F0 (d) AB BC CD
(e) ab bc cd de ef f0

19. Predict the output for the following program?

```
#include<stdio.h>
int main ()
{
char line [] = "Welcome to the language of C Programming";char string1[5], string2[5], string3[5];
sscanf (line,"%*s %*s %s %*s %*s %s %s",string1, string2, string3); printf ("%s %s %s \n", string1, string2, string3);
return 0;
}
```

(a) Welcome to the language
(b) Compilation Error
(c) the C Programming
(d) Welcome to the language of C Programming

20. Predict the output for the following program?

```
#include<stdio.h>
int main()
{
int x[10] = {3, 0, 8, 1, 12, 8, 9, 2, 13, 10};
int a, b, c;
a = ++x[2];
b = x[2]++;
c = x[a++];
printf("%d %d %d", a, b, c);
return 0;
}
```

(a) 10 9 10 (b) 9 10 9
(c) 9 9 10 (d) None of the above

21. Predict the output for the following?

```
#include<stdio.h>
main()
{
int arr[ ]={3.8,4.4,5,7.7,5};
int j,*ptr=arr,*q=arr;for(j=0;j<5;j++)
{
printf(" %d ",*arr);
++q;
}
for(j=0;j<5;j++)
{
printf(" %d ",*ptr);
++ptr;
}
}
```

(a) 3.8 4.4 5 7.7 5 (b) 3 3 3 3 3 3 4 5 7 5
(c) 3 3 3 3 4 5 7 5 (d) 3 4 5 7 5

22. Predict the output for the following program?

```
#include<stdio.h>
int main()
{
int x =1 , y = 0;
int z = x%2 ? x++ : x-- ? x=0 : ++y ? y = 2 : y++ ;printf("%d",
z);
return 0;
}
```

(a) 1 (b) 2 (c) 3 (d) 0

23. Predict the output for the following program?

```
#include<stdio.h>
main()
{
char *ptr="hai friends",*ptr1;ptr1=ptr;
while(*ptr!='\0') ++*ptr++;printf("%s %s",ptr,ptr1);
}
```

(a) hai friends (b) ibj!gsjfoet
(c) ibjgsfoet (d) Segmentation fault

24. Predict the output for the following program?

```
#include<stdio.h>
int main()
{
int arr=0; for(;arr++;printf("%d",arr)) ;printf("%d",arr);
return 0;
}
```

(a) 1 (b) 2
(c) 0 (d) Complier error

25. Predict the output for the following program.

```
#include<stdio.h>
main()
{
int enums=1;
printf("%d==1 is ""%s", enums,
enums==0?"TRUE":"FALSE");
}
```

(a) 1==1 is TRUE (b) 1==1 is FALSE
(c) compilation error (d) runtime error

26. Predict the output for the following program

```
#include<stdio.h>
main()
{
int i=-1;
-i;
printf("i = %d : -i = %d \n",i,-i);
}
```

(a) i = -1 : -i = 1 (b) i= 1 : i=-1
(c) i= -1 : i=-1 (d) i=1 : i=1

27. Predict the output for the following program

```
#include<stdio.h>
struct abc
{
struct abc *p;int i;
struct abc *n;
};
main()
{
struct abc a,def,ghi,jkl;int x=100; a.i=0;a.p=&jkl; a.n=&def;
def.i=1;def.p=&a;def.n=&ghi; ghi.i=2;ghi.p=&def;
ghi.n=&jkl; jkl.i=3;jkl.p=&ghi;jkl.n=&a; x=a.n->n->p->n->i;
printf("%d",x);
}
```

(a) 2 (b) 1 (c) 3 (d) 100

28. Predict the output for the following program

```
#include<stdio.h>
struct p
{
int a;int b;
};
struct p stu,*ppt;main()
{
ppt=&stu;
printf("stu is (%d,%d)\n",(*ppt).a,(*ppt).b);
printf("stu is (%d,%d)\n",ppt->a,ppt->b);
}
```

(a) stu is (0,0)
stu is (0,0)
(b) stu is (1,1)
stu is (1,1)
(c) garbage value
(d) compile error

29. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>void main()
{
static int a,b,c;a++;
b++;c++;
printf("a = %d b = %d c = %d", a,b,c);
}
```

(a) a = 0; b=0;c=0;
(b) a = 1 b = 1 c = 1
(c) garbage value
(d) compile error

30. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>void main()
{
int a=0; while(+(+a--)!=0)a-=a++;
printf("%d",a);
}
```

(a) 1
(b) -1
(c) 0
(d) compile error

31. Predict the output for the following program

```
#include<stdio.h>
main()
{
signed char i=0;for(;i>=0;i++) ;
printf("%d\n",i);
}
```

(a) 128 (b) -128 (c) 1 (d) -1

32. Predict the output for the following program

```
#include<stdio.h>
int swap(int *a,int *b)
{
*a=*a+*b;*b=*a-*b;*a=*a-*b;
}
main()
{
int x=10,y=20;swap(&x,&y);
printf("x= %d y = %d\n",x,y);
}
```

(a) x = 10 y = 20
(b) x = 20 y = 10
(c) x= 30 y =30
(d) x=10 y=10

33. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>void main()
{
int a=10,b=20;
b = a, b?(a,b)?a:b:b;
printf("%d %d",a,b);
}
```

(a) 20 10
(b) 10 10
(c) 10 20
(d) Compilation error

34. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>main()
{
int a=4,b=7;
b = b || a++ && printf("Hello");printf("%d %d", a, b);
}
```

(a) 4 1 (b) 4 7 (c) 7 4 (d) 4 4

35. Predict the output the following program.

```
#include<stdio.h>
#include<conio.h>main()
{
int a=2,*x,*y;x=y=&a;
*y+=*y+=a+=2.5; printf("\n%d %d %d",a,*x,*y);
}
```

(a) 16 16 16
(b) 2 2 2
(c) 1 1 1
(d) Compilation error

36. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>main()
{
void s();
int x=10,y=8;s(&x,&y);
printf("x=%d y=%d",x,y);
}
void s(int *a, int *b)
{
*a ^= *b, *b ^= *a, *a ^= *b;
}
```

(a) x=8 y=10
(b) x=10 y =8
(c) x=10 y =10
(d) x= 8 y =8

37. Predict the output for the following program

```
#include<stdio.h>
#include<conio.h>#include <stdio.h>main()
{
char * s = "hello";char * p = s;
char l = 127;while (*p++)
l = (*p<l ) ?*p :l;
printf("%d",l);
}
```

(a) 0 (b) 1 (c) 127 (d) hello

38. Predict the output for the following program

```
void main()
{
int a=10, b=2;
int *ab= &a, *ba = &b;int k = *ab/*ba; printf("%d",k);
}
```

(a) 10 (b) 2
(c) Compilation error (d) 12

39. Predict the output for the following program

```
#include<stdio.h>
unsigned long int (*f())[5]{
static unsigned long int a[5] = {2, 3, 5, 7, 11};printf("%d,",
*a);
return &a;
}
int main(){
unsigned long int (*p)[5];p = f();
printf("%d", *(*p + 4));return 0;
}
```

(a) 2, 5 (b) 2, 7
(c) 2, 11 (d) Compilation error

40. Predict the output for the following program

```
#include<stdio.h>
int main(){ int i = 0, j = 0;if(i++ == j++)
printf("%d %d", i--, j--);else
printf("%d %d", i, j);return 0;
}
```

(a) 0 0 (b) 0 1 (c) 1 0 (d) 1 1