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End Term Examination Sample Paper, Session 2022-23
B.Tech. (CS), 1st year, I - Semester
BCSG 0002 – Computer Programming

Time: 3 Hours **Maximum Marks: 80**

Instruction for students:
1. Read questions Carefully.
2. Answer the Question in the Question paper
3. In the fill the blanks, ';' means end of the statement.
4. Write only the dedicated space for each.
5. Attempt all questions.

Section – A (30 Marks)

1. Complete the code Type **(5 marks)**
2. Match the following: **(5 marks)**
3. Complete the code Type **(3 marks)**
4. Find the Error in the Code type **(5 marks)**
5. Find the Output of Code Snippet **(5 marks)**
6. MCQ type **(7 marks)**

Section – B (50 Marks)

7. Short Answer based Questions **(5 marks)**
8. Complete the code type **(5 marks)**
9. Find the Error in the Code type **(5 marks)**
10. Complete the code type **(5 marks)**
11. MCQ type: **(10 marks)**
12. Match the following type **(5 marks)**
13. Complete the code Type **(3 marks)**
14. Complete the code Type **(5 marks)**
15. Short Answer Based Type **(4 marks)**
16. Short Answer Based Type **(4 marks)**

I. Find the Error in the Code to get the Appropriate Output(Error Detection Type):

A.

```
int b = 0;
while (b < 5)
   printf("%d ", b--);
```

Expected Output: 01234

Answer:_____

II. Find the Output of the following Code Snippet:

A.

```
int x = 10;
printf("%d", x>>3 * 10);
```

Output:

B.

```
#include <stdio.h>
void main()
{
        int i,n = 5,j ;
        printf("Enter the number of lines: ");
        scanf("%d",&n);
        for(i=1;i<n;++i){
                for(j=n;j>=i;--j) {
                        printf(" ");
                }
                for(j=1;j<=i;++j)
                {
                        if(i==1||j==1)
                        {
                                printf("*");
                        }
                        else{
                                printf(" ");
                        }
                }
                for(j=1;j<i;++j)
                {
                        if(i==1||j==i-1)
                        {
                                printf("*");
                        }
                        else
                        {
                                printf(" ");
```

Output:

Rough work Student's Signature: .

```
                }
            }
            printf("\n");
        }
        for(i=n;i>=1;--i)
        {
            for(j=n;j>=i;--j)
            {
                printf(" ");
            }
            for(j=1;j<=i;++j)
            {
                if(i==1||j==1)
                {
                    printf("*");
                }
                else{
                    printf(" ");
                }
            }
            for(j=1;j<i;++j)
            {
                if(i==1||j==i-1) {
                    printf("*");
                }
                else
                {
                    printf(" ");
                }
            }
            printf("\n");
        }
    }
```

III. Choose the Correct Option for the following questions:

A.

```
int x = 10;
printf("%d", x / 3);
```

What is the output of the code?

a. 3
b. 3.33
c. 3.0
d. 3 (Typecast to int)

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B.

```
int i, j;
for (i = 1; i <= 3; i++) {
   for (j = 1; j <= i; j++) {
      printf("%d ", j);
   }
   printf("\n");
}
```

What will be printed by the code?

a. 1 2 3
b. 1
   1 2
   1 2 3
c. 1 2 3
   1 2 3
d. 1 2 3 4 5

C.

```
char x = 'A';
printf("%d", x / 2 + x % 2);
```

What is the output of the code?

a. 33
b. 34
c. Compilation Error
d. Run Time Error

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IV. Study the code below and answer the questions that follow:

```
1  #include<stdio.h>
2
3  int f1(int n)
4  {
5      int i,f =1;
6      for(i=2;i<=n;++i)
7      {
8          f*=i;
9      }
10     return f1;
11 }
12
13 void main()
14 {
15     int n;
16
17     scanf("%d",&n);
18     printf("%d",f1(n));
19 }
```

a) What will be printed if the input to the program is 5?
   Answer: _____

b) How many function calls are required for case (a)?
   Answer: _____

c) Give a precise one-line description of what the program is doing?
   Answer: _____

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V. Complete the code of function 'search()' in the following code to get 'To search the key':

```
#include<stdio.h>

int search(int a[], int key)

{

    int isfound = 0;     //assuming key is not found

    for(i=0;i<n;++i)

    {

            if(_____________)

            {

                    _____________________;

                    _____________________;

            }

 }


    return isfound;

}

void main()

{

    int a[1000],i,n,isfound;

    printf("Enter the number of terms: ");

    scanf("%d",&n);

    printf("Enter the %d elements of the array: ",n);

    for(i=0;i<n;++i)

    {
```

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```
        scanf("%d",&a[i]);
    }
    int key;
    printf("\n Enter the element to be searched: ");
    scanf("%d",&key);
    int flag = search(a,key);
    if(flag == 1)
    {
        printf("\nKey Found!!");
    }
    else if(flag == 0)
    {
        printf("\nKey not Found!!");
    }
}
```

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VI. Match the following:

Column A		Column B	
A	**int i = 2, j = 3;** **printf("%d", i + ++j);**	1	Prints numbers in descending order
B	**int k = 5;** **while (k > 0) {** ** printf("%d ", k--);** **}**	2	2 4 6 8 10
C	**int x = 1;** **while (x <= 10) {** ** if (x % 2 == 0) {** ** printf("%d ", x);** ** }** ** x++;** **}**	3	1 2 3 4 5
D	**int i = 0;** **while (i < 5) {** ** printf("%d ", ++i);** **}**	4	5 4 3 2 1
E	**int a = 5;** **do** **{** ** printf("%d ", a--);** **} while (a > 1);**	5	6

A - _____
B - _____
C - _____
D - _____
E - _____

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