GIET UNIVERSITY, GUNUPUR
DEPARTMENT OF BASIC SCIENCE AND HUMANITIES
Batch 2020-22
ASSIGMENT -03
SUBJECT NAME: PROGRAMMIG FO PROBLEM SOLVING (BBSES1050)

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1) Find the output: [CO1/PO2]

```
main()
{  int x=5;
   printf("%d",printf("%d%d",x,x));   }
```

options:
a) 5 5 5
b) 5 5 1
c) 5 x x
d) 5 5 2

2) Find the output: [CO1/PO2]

```
main()
{  printf("%d",sizeof("C Programming"); }
```

options:
a) 5
b) hasini
c) 6
d) 7

3) In C language, which library function checks whether the input value of the argument is an alphabet or not. [CO1/PO2]

Options:
a) alpha()
b) isalpha()
c) alphabet()
d) chkalpha()

4) Which statement allows us to define a symbol for a constant value in a c program:

Options: [CO1/PO2]
a) #define
b) #if
c) #include
d) int

5) The format specifier for long int and float are:

Options: [CO1/PO2]
a) %ld and %f
b) %long and %f
c) %i and %f

d)None of these

6) Find the output for below Given code: [CO1/PO2]

```
 int x=20, y=30,z;
z=(x<y)+10;
printf("%d",z);
```

options:
a) 10
b) 1
c) 11
d) error

7) Given: printf("abhi\bla\b\byash"); [CO1/PO2]
The output is:
Options:
a) abhilayash
b) abhlayash
c) abhyash
d) abhi\bla\b\byash

8) Given: [CO1/PO2]

```
int a,b,c;
a=10, b=10, c=10;
   if(a+b/c)  printf("true");
  else          printf("false");
```

the output is :
options:
a) true
b) 11
c) false
d) 10+10/10

9) Which of the following is not a valid C variable name? [CO1/PO2]
a) int number;
b) float rate;
c) int variable_count;
d) int $main;

10) Find the output [CO1/PO2]

```
 #include<stdio.h>
int main ()
{
   int x = 10;
   float y = 10.0;
   if(x = = y)
      printf("x and y are equal");
   else
      printf("x and y are not equal");
   return 0;
}
```

Options:

a) x and y are equal
b) Compile Error
c) Run Time Error
d) x and y are not equal

11) Find the output [CO1/PO3]

```
#include<stdio.h>
int main()
{
   int a = 100, b = 200, c = 300;
   if(!a >= 500)
      b = 300;
   c = 400;
   printf("%d,%d,%d",a, b, c);
   return 0;
}
```

Options:
a) 100,300,400
b) 100,200,400
c) 500,200,400
d) 100,300,300

12) Find the output from options given, when we execute the below statements:[CO1/PO2]

```
int a,b;
float d;
a=10; b=5;
d=(float)b/a;
printf(" %d, %d, %f",a,b,d);
```

options:
a) 10, 5, 0
b) Error
c) 10, 5, 0.500000
d) None of the above

13) what will be the output from below options? [CO1/PO2]

```
#include<stdio.h>
#define int char
int main()
    {   int i=65;
        printf("size =%d",sizeof(i));
        return 0;
        }
```

Options:
a) size =1
b) size =2
c) size =4
d) Error

14) Find the output from below options when we execute the below statements: [CO1/PO2]

```
int a,b,c,d,e;
a=10; b=20; c=15; d=25;
e=(a>b)? c : d ;
e=(e>a)? 1 : 0;
printf("%d",e);
```

options:
a) 0
b) 1
c) false
d) true

15) Find the output of below statement in the given options: [CO1/PO2]

```
printf("santosh\b\b\bilata\nare you\?");
```

options:
a) Santosh ilata
are you?
b) santilata
are you?
c) Santosh ilata
are you"
d) santilata
are you"

16) What will be the output of the program? [CO1/PO2]

```
#include<stdio.h>
int main()
{
    int y=128;
    const int x=y;
    printf("%d\n", x);
    return 0;
}
```

Options:
a) 128
b) Garbage value
c) Error
d) 0

17) what will be the output? [CO1/PO2]

```
#include <stdio.h>
#define EVEN 0
#define ODD 1
int main()
{
        int i = 3;
```

```
        switch (i & 1)
        {
                case EVEN: printf("Even");
                                break;
                case ODD: printf("Odd");
                                break;
                default: printf("Default");
        }
        return 0;
}
```

Options:
a) Even
b) Odd
c) Default
d) compile-time error

UNIT-II (loop, 1D and 2D array)

1) Repeated execution of a set of statements for a specific number of times is called: [CO2/PO1]
Options:
a) Looping
b) Sequential
c) Branching
d) selection

2) The keyword used to transfer control from a function back to the calling function is: [CO2/PO1]
Options:
a) return
b) exit()
c) break
d) continue

3) A set of consecutive memory locations having homogeneous elements is called: [CO2/PO1]
Options:
a) Structure
b) Array
c) Pointer
d) Function

4) What is the output of this C code? [CO2/PO1]

```
void main()
{
        while(0)
        printf(" In while Loop ");
        printf("After While Loop");
 }
```

Options:

a) In while loop after while loop
b) After while loop
c) Compile time error
d) Infinite loop

5) what will be the output ? [CO2/PO1]

```
main()
{
        while(!(printf("hi")));
}
```

Options:
a) infinite loop
b) hi
c) error
d) none of the above

6) what will be the output ? [CO2/PO1]

```
void main( )
{       printf("%s", "C Marathon"+2);   }
```

Options:
a) C MarathonC Marathon
b) E Marathon
c) Marathon
d) error

7) In C, if you pass an array as an argument to a function, what actually gets passed?
Options: [CO2/PO1]
a) Value of elements in array
b) First element of the array
c) Base address of the array
d) Address of the last element of array

8) Examine the following: [CO2/PO1]

```
double[ ][ ] values =
  { {1.2, 9.0, 3.2},
    {9.2, 0.5, 1.5, -1.2},
    {7.3, 7.9, 4.8} } ;
```

what is in values[2][1] ?
options:
a) 7.3
b) 7.9
c) 9.2
d) There is no such array element

9) Given the following: [CO2/PO1]
double [ ][ ] a ={ {1.2, 9.0},{9.2, 0.5, 0.0},{7.3, 7.9, 1.2, 3.9} } ;
What is the value of a[0][1]?
Options:

a) 2
b) 3
c) 4
d) 9

10) What will happen if in a C program you assign a value to an array element whose subscript exceeds the size of array? [CO2/PO1]
Options:
a) The element will be set to 0.
b) The compiler would report an error.
c) The program may crash if some important data gets overwritten.
d) The array size would appropriately grow.

1) int main()

```
{       int a[5]={0,0,0,0,0};
        for(i=1; i<=5; i++)
        { a[i]=a[i]+i;}
}What are the array elements :----------
```

1 2 3 4 5

2) void main()

```
{       while(0)
        printf(" In while Loop ");
        printf("After While Loop");
 }      The output of the code is ----------
```

After while loop

3) main()

```
{ inti=3;
  do{       printf("%d",i);    }while(--i>0); return 0;
}           Output is ----------
```

3 2 1

2 MARKS SHORT QUESTIONS

UNIT-I (basics, if..else, switch)

1) What is type casting. Write with a suitable example. [CO1/PO2]
2) What is the difference between && and &. [CO1/PO1]
3) What is the use of getchar() and putchar(). [CO1/PO1]
4) State the role of break statement in switch..case control structure. [CO1/PO1]
5) How does bitwise operator XOR works? [CO1/PO2]
6) Identify valid and invalid statements below: [CO1/PO2]

```
int a+b;
char long;
int x,y,z,p,q,w,e,r,t,y,u,i;
float QWE_TY;
```

int a+b

11) Find the output when we execute the below statements: [CO1/PO2]

```
int y,z,a;
y=3; z=4;
```

```
a=y*=z/=2;
printf("%d",a);
```
6

12) Find the output when we execute the below statements: [CO1/PO3]

```
int a,b,c,e;
a=10; b=20; c=30;
e=(a>b)|| (b<c) && (c==50);
printf ("%d",e);
```
1

13) Find the output when we execute the below statements: [CO1/PO3]

```
int a,b,c,d,e;
a=100; b=50; c=30; d=0;
e=(a>=b>=c>=d);
printf("%d",e);
```
1

14) what will be the output and why? [CO1/PO3]

```
#include<stdio.h>
void main()
{   int x,y;  x=10; y=10;
    if(x/x%x) printf("It is summer");
    else  printf("it is rainy");
    }
```
it is summer

15) what will be the output and why? [CO1/PO3]

```
main()
{   int k=-2, j=4;
    switch(k/=j/k)
    {       default: printf("default");
            case 0: printf("zero");
            case 1: printf("one");
            case 2: printf("two");
    }
 }
```
one two

16) what will be the output and why? [CO1/PO2]

```
#include<stdio.h>
void main()
{   float a=9.876;
     switch(a)
    {       case 9: printf("CATHY"); break;
            case 9.8: printf("MADDY"); break;
            case 9.876: printf("NANCY"); break;
            default: printf("SUNNY");
    }
}
```
error-cause switch case onlly acept int,char and enum.

17) [CO1/PO2]

```
#include <stdio.h>
int main()
{
   if (printf("geeks") != 5)
   { }
  else
      printf("geeksforgeeks");
   return 0;
}
```
geeksgeeksforgeeks

UNIT-II(loop controls, arrays)

1) State the difference between break and continue while using in a loop control statements. [CO2/PO2]
2) What is an array ? What are the types of it? How to initialize values to a 1D array during its declaration. [CO2/PO2]
3) Write down the syntax and example of for statement. [CO2/PO2]
4) What is an infinite loop? [CO2/PO2]
5) How to interact with all the elements of a matrix using simple loop control statements? [CO2/PO2]
6) Differentiate between a for loop and a while loop? What are it uses? [CO2/PO2]
7) Why is it necessary to give the size of an array in an array declaration? [CO2/PO1]
8) What is the use of break statement [CO2/PO1]
9) What is continue statement and why we use it ? [CO2/PO2]
10) Give out the syntax of for loop with an example. [CO2/PO2]
11) what will be the output and why? [CO2/PO3]

```
main()
{       int i,j;

        i=0; j=400;
        while(i<j)
                --j;
                ++i;
        printf("%d", i – j );
}
```

1

12) what will be the output and why? [CO2/PO3]

```
main()
{       int K;
        for(K=0; K<printf("HELLO"); K++)
                printf("%d",K);
}
```

HELLO0HELLO1HELLO2HELLO3HELLO4HELLO

13) what will be the output and why? [CO2/PO2]

```
main()
{       printf("%c", "abcdef"[4]);     }
```

e

1) State the difference between break and continue while using in a loop control statements.
2) What is an array ? How to initialize values to an 1D array during its declaration.
3) what will be the output and why?

```
main()
{       inti,j;
        i=0; j=400;
        while(i<j) --j; ++i;
        printf("%d", i – j );
}
```

1

4) what will be the output and why?

```
main()
{       int K;
        for(K=0; K<printf("Hi"); K++)
                printf("%d",K);
}
```

Hi0Hi1Hi

Long Question

1)
   a. Write a program to accept 10 numbers in to an array and sort it using insertion sort in ascending order. [CO2/PO3]
   b. Explain how the Bubble sort works? Write a program to apply this method to sort a string in descending order. [CO2/PO3]

2)
   a. Write a program to input values into two matrices A(3x4), B(4x3). Perform matrix multiplication and display the resultant matrix. [CO2/PO3]
   b. Write a program to apply binary search on an array having elements in sorted order. Explain how it is different from linear search. [CO2/PO3]

3)
   a. Write a program to display the factorial of all the numbers of series: 1,3,5,…21 [CO2/PO3]
   b. Write a program to check how many prime numbers and perfect numbers exist within 1to 100. [CO2/PO3]

4)
   a. What is an array and its types. Explain how to initialize values into an array? Write a program to interact with elements of 1D array and 2D array. [CO2/PO3]

   b. Write down the syntax of while, do..while and for statement. State the difference between while and do..while using suitable example. [CO2/PO3]

5)
   a. Explain how an array can be declared and initialized? Write a suitable program to interact with 1-D array elements. [CO2/PO2]
   b. Briefly explain the syntax of while, do..while and for statements using a suitable example. [CO2/PO2]

6)
   a. Write down the difference between Entry Controlled vs. Exit Control loop with suitable example. Write a program to print Alphabets from ‘A’ to ‘Z’ using while. [CO2/PO2]
   b. Write a program to input a positive integer and its equivalent binary number using loop. [CO2/PO2]

7)
   a. Write a program to input elements into 4 × 4 matrix and find the principal diagonal. [CO2/PO2]
   b. Write a program to accept a number test whether it is palindrome or not. [CO2/PO3]

8)
   a. Write a program to find the greatest common divisor of given two positive integers. [CO2/PO2]
   b. Write a program to input a positive number and test whether it is Armstrong number or not. [CO2/PO3]

9)
   a. Write a program to input a number and check whether it is prime or not. [CO2/PO3]
   b. Write a program to input values into a 4X4 matrix and find the sum of its diagonal elements. [CO2/PO2]

10)

a. Write a program print a series of numbers 1,4,9,16,25……n^2 where n is given as input. [CO2/PO3]

b. Write a program to accept 10 numbers in to an array and sort it in ascending order [CO2/PO3]

11)

a. Write a program to accept a string in to a character array and sort it's alphabets in ascending order. [CO2/PO3]

b. Write a program generate pyramid given below: [CO2/PO3]

```
      1
    1 2 3
  1 2 3 4 5
1 2 3 4 5 6 7
```

12)

a. Write a program generate pyramid given below: [CO2/PO3]

```
      A
    A B C
  A B C D E
A B C D E F G
```

b. Write a program to input values into a 4X4 matrix and display the transpose of it. [CO2/PO2]

13)

a. Write a program to print the pyramid [CO2/PO3]

```
5
5 6
5 6 7
5 6 7 8
5 6 7 8 9
```

b. Write a program to find the factorial of a given +ve number using while. [CO2/PO3]