The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc./ B. Ed Degree Programme

Department	**: Computer Science**
Level	**: 03**
Name of the Examination	**: Continuous Assessment Test (CAT)**
Course Title and- Code	**: CSU 3200 (Introduction to Computer Programming**
Academic Year	**: 2024/2025**
Date	**: 31.08.2024**
Time	**: 9.00 am -10.00 am**
Duration	**: One hour only**

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **(02)** questions on **(04)** pages.
3. Answer all questions.
4. The answer for each question should commence from a **new page.**
5. Involvement in any activity that is considered as an exam offense will lead to punishment
7. Use **blue or black ink** to answer the questions.
8. Clearly state your **Register Number** for B.Sc /B.Ed Degree Programme in your answer script

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Question No. 1 (50 Marks)

1. Explain briefly the differences between the machine and high-level languages. (5 marks)
2. What is the correct **format modifier** (conversion character) to output the value of myNum in the following program segment?

```
float myNum = 17.6;
printf("……", myNum);
```
(2 Marks)

3. What are the five fundamental (basic) data types of C Language and mention the size of each data type in Bytes. (5 Marks)
4. What will be the output of the following code snippet?

```
int i =4, z =12;
    if( i = 5 || z < 50)
            printf("\n Easy to understand the or operator in C Language");
    else
            printf("\n Difficult to understand the or operator in C Language");
```
(3 Marks)

5. Mention whether the following variable names are correct or wrong. If wrong write down the reason.
    1. My-name
    2. 2ndnumber

3. Value one
4. _price
5. num1 (5 Marks)

6. Write down the syntax for the declaration of a floating type of variable.
(2 Marks)

7. What will be the output of the following program?

```
#include <stdio.h>
int main()
{
   int a = 10, b = 100;

   printf("++a = %d \n", ++a);
   printf("a++ = %d \n", a++);
   printf("Now the value of a = %d \n\n", a);
   printf("--b = %d \n", --b);
   printf("b-- = %d \n", b--);
   printf("Now the value of b = %d \n\n", b);

   return 0;
}
```

(6 Marks)

8. Re-write the following program using a switch-case statement.

```
#include <stdio.h>
int main()
{
   int num;

   printf("Input any number = ");
   scanf("%d", &num);

   if (num == 1)
      printf("January\n");
   else if (num == 2)
      printf("February\n");
   else if (num == 3)
      printf("March\n");
   else if (num == 4)
      printf("April\n");
   else if (num == 5)
      printf("May\n");
   else if (num == 6)
      printf("June\n");
   else if (num == 7)
      printf("July\n");
   else if (num == 8)
```

```
    printf("August\n");
  else if (num == 9)
    printf("September\n");
  else if (num == 10)
    printf("October\n");
  else if (num == 11)
    printf("November\n");
  else if (num == 12)
    printf("December\n");
  else
    printf("Wrong input\n");

  if (num>0 && num <=12)
    printf("It is the name of the month %d ", num);
  else
    printf("%d is not a month number", num);

  return 0;

}
```

(15 Marks)

9. State the difference between scanf() function and getchar() function.

(4 Marks)

10. There are two types of comments in C Language. State them.

(3 Marks)

Question No. 2 (50 Marks)

1. State the difference between a variable and a constant. In C language, there are four types of constants. Mention three of them. (5 Marks)

2. Write the outputs of programs below. (10 Marks)

a.
```
#include <stdio.h>
int main()
{
  int x=10, y=1;

  do
  {
    printf("%d\t", x++);
    x -= y;
    printf("%d\n", --x);
    x = x+5;
  } while(x<20);

  return 0;
}
```

b.
```
#include<stdio.h>
 int main()
 {
   int x = 10 , y = 20, z;
   z = x + y;
   printf("z = %d\n", z);
   z /= 5;
   goto label1;
   printf("z = %d\n",z);
   z += x;
   label1:
   printf("z = %d\n", z);

   return 0;
}
```

3. Define an array named 'stu_marks' to input the marks of 10 students. Input the marks using a for loop and print them. Then calculate the average of marks and print them. (15 Marks)

4. Re-write the following program by correcting five syntax errors.

```
#include <stdio.h>

int main()    /* program which introduces keyboard input
{
        int  number;

        printf("Type in a number : ")
        scan("%d", &number);
        printf(The number you entered was d \n", number);

        return 0;
 }
```

(10 Marks)

5. What will be the output of the following program.

```
#include <stdio.h>
#include <string.h>
#define M1 "How are you"

int main()
{
  char M2[40] = "Beat the clock";
  char words[80];
  int length

  printf(M1);
  puts(M1);
  puts(M2);
  puts(M2+1);
  strcpy(words,M2);
  strcat(words, "Win a toy");
  puts(words);
   length = strlen(words);
  printf("No. of characters in the string words = %d", length);

  return 0;
}
```

(10 Marks)

End.