

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER I- EXAMINATION –SUMMER-2024

Subject Code: 2618603**Date: 28/05/2024****Subject Name: Fundamental of Programming–I****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

Q.1 (a) Write output of the following programs.**07**

- (1) void main()


```
{
    printf(“%c”, ‘A’+32);
}
```
- (2) void main()


```
{
    int i = 5, j = 6;
    printf(“%d”, i++ * --j);
}
```
- (3) void main()


```
{
    printf(“C %c Programming”, ‘\n’);
}
```
- 4) void main()


```
{
    int i = 0;
    if (!(i=1))
        printf(“TRUE”);
    else
        printf(“FALSE”);
}
```
- (5) void main()


```
{
    int i;
    for (i = 1; i < 0; i--)
        printf(“%d\n”, i);
}
```
- (6) void main()


```
{
    int a = 1, b = 2, c = 3, d;
    d = a += b -= c;
    printf(“d = %d\n”, d);
}
```
- (7) void main()


```
{
    int a = 1, b = 2, c = 3, d;
    d = a + b * c;
    printf(“d = %d\n”, d);
}
```

- (b) Define data type. Give two examples of data to store as integer. Explain integer data type with sign and size modifiers. What is the size and range of integer data type? **07**
- Q.2** (a) Answer the following questions. **07**
- (1) What is the size of float data type in bytes?
 - (2) Define constant.
 - (3) Define compiler.
 - (4) What is the use of variable?
 - (5) How many keywords are available in C?
 - (6) What is the range of signed char data type?
 - (7) Which function is a standard input function in C?
- (b) What is program? Explain the structure of a C Program. **07**
- OR**
- (b) What is the difference between compiler and interpreter? What is the use of linker and loader? Explain the process of compiling and executing a C program. **07**
- Q.3** (a) Write a program to print the sum of the following series. **07**
 $1 + 3 + 6 + 10 + \dots + N$ terms.
- (b) Differentiate switch statement Vs if else if ladder. **07**
- OR**
- Q.3** (a) Write a program to print following pattern of numbers to print N lines. For example if N = 5 than output should be : **07**
- ```

1
2 1
3 2 1
4 3 2 1
5 4 3 2 1

```
- (b) Differentiate between Entry controlled loop Vs Exit controlled loop. **07**
- Q.4** (a) What is array? Explain initialization of array and write a code to print elements of array. **07**
- (b) What is string? Explain how the string is stored in memory? Explain strcmp() and strlen() functions. **07**
- OR**
- Q.4** (a) Define storage class. List the storage classes in C and explain any two of them with scope and extent. **07**
- (b) Write a program using User Define Function isOddEven() that will return 1 if the argument number is odd and 0 if a given number is even. Write a main() program to test the program. **07**
- Q.5** (a) Define operator. List types of operators and explain ternary operator with syntax and example. **07**
- (b) Explain implicit and explicit type conversion with example. **07**
- OR**
- Q.5** (a) List and explain logical operators with syntax, truth table and example. **07**
- (b) Explain printf() function with various format specifiers for different data types. What is the use of getch() function? **07**

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