**Internal Assessment (Assignment)**

**Course Code:** OMC103 **Last Date of Submission:** 26-Dec-2023

**Course Title:** Programming and Problem-Solving **Assignment Marks**: 30

**Assignment No.: 2**

**Note:**

1. The assignment has two parts: **A** and **B**.
2. Part A has ten MCQs carrying one mark each. Answer **ALL** ten MCQs.
3. Part B has eight descriptive questions carrying four marks each. Attempt **any** **FIVE** questions out of eight.

**Part A** **(10 1 = 10 Marks)**

Answer **all questions** **MCQ 1** to **MCQ 10**

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| --- | --- | --- | --- |
| **MCQ No.** | **Question** | | **Course Outcome** |
| **1** | The size of a structure is--------- | | CO-1 |
| Answer Choices: | 1. 1 byte 2. Total bytes of all structure members 3. 4 bytes 4. 2 bytes | |  |
| **2** | Structure in C Programming is----- | | CO-1 |
| Answer Choices: | 1. Collection of elements of the same data type 2. Collection of elements of the different data types 3. Set of values 4. Built-in data type | |  |
| **3** | The maximum number of dimensions in an array is---- | | CO-1 |
| Answer Choices: | 1. 1 2. 2 3. 3 4. No limit | |  |
| **4** | When an array is passed to a function, it is interpreted as ---- | | CO-1 |
| Answer Choices: | 1. Address of an array 2. Address of First Element 3. Values of First Element 4. Number of elements in an array | |  |
| **5** | What is the value of the x in the following statement?  X = strcmp(string1, string2); | | CO-1 |
| Answer Choices: | 1. 1 2. False 3. 0 4. String1 | |  |
| **6** | | int a[5] = {1,2,3,4,5}, what is the value of a[7]? | CO-1 |
| Answer Keys: | | 1. 0 2. Garbage Value 3. 5 4. 1 |  |
| **7** | | The format specifier used for printing a string is ----- | CO-2 |
| Answer Keys: | | 1. %c 2. %d 3. %s 4. %f |  |
| **8** | | If a file opening is failed, then fopen will return---- | CO-1 |
| Answer Keys: | | 1. null 2. eof() 3. Depends on Compiler 4. zero |  |
| **9** | | The fastest loop in C programming is ------------------. | CO-1 |
| Answer Keys: | | 1. while 2. do-while 3. for 4. All the options |  |
| **10** | | What will be the output of the following program?  #include <stdio.h>  int main(){  FILE \*fp;  char \*str;  fp=fopen("demo.txt","r");// demo.txt //:First Semester MCA  while(fgets(str,6,fp)!=NULL)  puts(str);  fclose(fp);  return 0;  } | CO-1 |
| Answer Key | | 1. First Semester MCA 2. First S 3. First Semester 4. First Se |  |

**Part B (5 4 = 20 Marks)**

Attempt **ANY FIVE** questions from Q 1 to Q 8.

|  |  |  |
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| **Q No.** | **Question** | **Course Outcome** |
| **1** | Explain the purpose of structures and compare structures with unions. | CO-1 |
| **2** | Illustrate different file-handling modes using a suitable C program. | CO-1 |
| **3** | Design and develop a C program to read a text and count the number of alphabets, spaces, and digits. | CO-1 |
| **4** | Write a C program to add two complex numbers using structures. Use a concept of structures for multiple records of complex numbers. | CO-1 |
| **5** | What is an array? Explain the declaration and initialization of single- and two-dimension arrays. | CO-1 |
| **6** | Write the advantages and drawbacks of recursion. Write a c-program using the recursive function for Binary to Decimal Conversion. | CO-1 |
| **7** | Write a c-program using structures to read, write, compute average -  marks and display the students scoring above and below the average  marks for a class of N students | CO-1 |
| **8** | Explain the following file function with example: i) fopen( ) (ii) fclose( ) (iii) feof( ) (iv) fseek( ) | CO-1 |

**Course Outcomes:**

1. Describe the fundamental concepts of computational thinking and problem-solving strategies. [L-1]
2. Demonstrate the use of arrays, strings, structures, and unions in the ‘C’ programming language. [L-3]
3. Demonstrate the use of re-useable code using functions in ‘C’. [L-3]
4. Describe and implement file handling mechanism in ‘C’ programs. [L-3]