**Code No.ES203CS**

**METHODIST COLLEGE OF ENGINEERING & TECHNOLOGY**

**(An Autonomous Institution)**

**B.E. (ECE) II-Semester (Regular) Examination, SEPTEMBER-2023**

**Subject: PROGRAMMING FOR PROBLEM SOLVING**

**Time: 3 hours Max.Marks:60**

**Note: Missing data, if any, maybe suitably assumed.**

**PART-A**

**Answer All the questions.(10X2M=20M)**

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| **Q.No.** | **Questions** | **Marks** | **CO** | **BTL** |
| **1. a** | Appraise the need for problem solving. | **2M** | **1** | **V** |
| **b** | List the characteristics of an algorithm. | **2M** | **1** | **I** |
| **c** | Compose a C program to print all numbers divisible by 4 in the range 1 to 100. | **2M** | **2** | **VI** |
| **d** | Develop a C program to find whether a given character is a vowel or consonant. | **2M** | **2** | **VI** |
| **e** | Illustrate the general syntax of a user defined function | **2M** | **3** | **III****II** |
| **f** | Construct a C program to find sum of array using function. | **2M** | **3** | **III** |
| **g** | Explain about incrementing a pointer with sample C code. | **2M** | **4** | **II** |
| **h** | Distinguish between union and structure | **2M** | **4** | **IV** |
| **i** | Demonstrate the syntax and usage of fprintf(). | **2M** | **3** | **II** |
| **j** | Describe about fseek(). | **2M** | **3** | **II** |

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**PART-B**

**Answer Any Five questions**.**(5X8M=40M)**

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| **Q.No.** |  | **Questions** | **Marks** | **CO** | **BTL** |
| **2.** |  | Construct a flowchart and the code for printing Factorial and Fibonacci series of a give number. | **8M** | **1** | **III** |
| **3.** |  | Explain about nested for loops and use the concept to print prime numbers from 2 to 100. | **8M** | **2** | **II** |
| **4.** |  | Discuss about functions using call by value and call by reference. | **8M** | **3** | **VI** |
| **5.** |  | Demonstrate about constant pointer and pointer to array with suitable examples. | **8M** | **4** | **II** |
| **6.** |  | Build a program to copy content from one file to another | **8M** | **3** | **III** |
| **7.** | **a** | Compose an algorithm to find greatest of 3 numbers. | **4M** | **1** | **VI** |
| **b** | Compose a while loop in C to print reverse of a given number. | **4M** | **2** | **VI** |
| **8.** | **a** | Develop a C program to sort a pre-defined array in descending order. | **4M** | **3** | **III** |
| **b** | How to access elements in a structure array? Explain with C code.  | **4M** | **4** | **I** |
| **9.** | **a** | Discuss about pre-defined macros in C and show the usage of any one pre-defined macro. | **4M** | **3** | **VI** |
| **b** | Outline the various methods for obtaining input in a character array. | **4M** | **2** | **II** |

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