**Code No.ES203CS**

**METHODIST COLLEGE OF ENGINEERING & TECHNOLOGY**

**(An Autonomous Institution)**

**B.E. (ECE) II-Semester (Supplementary) Examination, FEB-2024**

**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)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q.No.** | **Questions** | **Marks** | **CO** | **BTL** |
| **1. a** | “C called as a middle level language”. Justify the statement. | **2M** | **1** | **V** |
| **b** | List the steps in problem solving? | **2M** | **1** | **I** |
| **c** | Compose a C program to print all odd numbers from 1 to N. | **2M** | **2** | **VI** |
| **d** | Develop a C program to find minimum of 3 numbers using ternary operators. | **2M** | **2** | **VI** |
| **e** | Build a C program to calculate factorial using recursive function. | **2M** | **3** | **III** |
| **f** | Construct a C program to find square of any number using user defined function. | **2M** | **3** | **III** |
| **g** | Explain NULL pointer with sample C code. | **2M** | **4** | **II** |
| **h** | Distinguish between array of structure and array of integer. | **2M** | **4** | **IV** |
| **i** | List specific functions for file handling in C. | **2M** | **3** | **I** |
| **j** | Demonstrate the syntax and usage of fscanf(). | **2M** | **3** | **II** |

**P.T.O**

**Code No.ES203CS**

**PART-B**

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Q.No.** |  | **Questions** | **Marks** | **CO** | **BTL** |
| **2.** |  | Construct a flowchart and the code for calculating sum of the digits and reversing the digits of a 5 digit number. | **8M** | **1** | **III** |
| **3.** |  | Explain switch case statement along with break statement with a suitable example. | **8M** | **2** | **II** |
| **4.** |  | Discuss in detail about string functions. | **8M** | **3** | **VI** |
| **5.** |  | Demonstrate accessing members of union? Explain with a C program. | **8M** | **4** | **II** |
| **6.** |  | Explain any two modes of file handling operations in C along with suitable examples | **8M** | **3** | **II** |
| **7.** | **a** | Design a flowchart for calculating roots of a quadratic equation. | **4M** | **1** | **VI** |
| **b** | Discuss the need for operator precedence in C with some examples. | **4M** | **2** | **VI** |
| **8.** | **a** | Develop a C program to sort a pre-defined array in ascending order. | **4M** | **3** | **III** |
| **b** | Explain about array of structures. | **4M** | **4** | **II** |
| **9.** | **a** | Discuss about pre-processor macros. | **4M** | **3** | **VI** |
| **b** | Explain the advantages and limitations of arrays. | **4M** | **2** | **II** |

**\*\*\*\*\*\***