**SUB: PROGRAMMING FOR PROBLEM SOLVING USING C**

|  |  |
| --- | --- |
|  | **GROUP-A Only Short Answer Type Questions**  **Answer any 10 questions (2 marks each)** |
| Q.1 (a) | What is pointer in C. |
| (b) | What are the rules to define an identifier? |
| (c) | Convert the binary number (11010010)2 to equivalent Octal and Decimal number. |
| (d) | What is enumerated data type? Show enumeration with example. |
| (e) | What is a self-referential structure? Explain with an example. |
| (f) | How sizeof() operator is used? |
| (g) | Define an array. |
| (h) | Differentiate between formal and actual argument. |
| (i) | How is a file pointer declared? |
| (j)  (k)  (l) | Differentiate between binary file and text file.  What is difference between while and do-while loops?  Write a ‘C’ program to find the largest among two numbers using Conditional Operator. |
|  | **GROUP-B Only Focused-Short Answer Type Questions**  **Answer any 8 questions (6 marks each)** |
| Q2. (a) | Write a program to find given string is palindrome or not. |
| (b) | Write a program to swap two numbers using pointer concept. |
| (c) | What is a variable? What are different categories of variable? How a global variable can be accessed using scope resolution operator? |
| (d) | Explain any three different string handling functions available in C language |
| (e) | What is Recursive Function? What are the constraints for defining a Recursive function? Explain with an example. |
| (f) | What is type casting? Explain each category with example? |
| (g) | Briefly explain about increment and decrement operator with suitable example. |
| (h)  (i)  (j) | Differentiate between Structure and Union with suitable example.  Differentiate between call by value and call by reference with example.  Write a program to find the greatest among 3 numbers using function. |
|  | **GROUP-C Only Long Answer Type Questions**  **Answer any 2 questions (16 marks each)** |
| 3. | Explain about different file operations that can be performed on files. How to read from and write to a file? Explain with examples. |
| 4. | Explain about the storage classes with suitable example. |
| 5.  6. | Briefly explain about the components used in computer system and their working principle.  (a) WAP to sort elements of an array in ascending order using bubble sort mechanism.  (b) WAP to sort elements of an array in descending order using selection sort mechanism. |
| 7. | (a) Differentiate between Continue and Break statement. Write a C program to calculate the grade of a student by considering the following range of marks using switch-case statement. O, 90 ≤ Marks ≤100 E, 80 ≤Marks < 90 A, 70 ≤Marks < 80 B, 60 ≤Marks < 70 C, 50 ≤Marks < 60 D, 40 ≤Marks < 50 F, Otherwise  (b) Describe about different dynamic memory allocation and deallocation functions with suitable example. |