Total No. of sheet used : 01   Total No. of Questions: 09
Subject : Computer Programming using C
Class : M.Sc. IT Semester 1st
Paper : MS-112
Title of Paper : Computer Programming using C
Time Allowed : 3 Hours
Maximum Marks: 70

Note: Candidates are required to attempt five questions in all selecting at least two questions each from sections A and B. Section C is compulsory.

SECTION A

Q1. What is an expression? What are various types of expressions supported by C language? Discuss the rules for evaluating arithmetic expressions.   10.5

Q2. Explain various iterative control constructs available in C language with the help of examples.   10.5

Q3. What are various formatted and unformatted input and output functions available in C? Explain giving examples.   10.5

Q4. Write a program to print the sum of both the diagonals of a square matrix.   10.5

SECTION B

Q5. What do you mean by recursion? How it is different from function? Write a recursive function to calculate the factorial of a function.   10.5

Q6. What are various ways to read and write a single character in C? Discuss in detail giving suitable examples.   10.5

Q7. What is a union and what are its uses? How to declare a union and how to initialize a union? How are data elements of a union accessed and processed?   10.5

Q8. What is the difference between text and binary files? What are the I/O functions available in C for binary files?   10.5

SECTION C

Q9. a) List various data types and memory requirement of each data type.   03
     b) What do you mean by type casting?   03
     c) What are nested loops?   03
     d) Illustrate the use of continue statement.   03
     e) What is the purpose of comma operator?   03
     f) Differentiate between formal and actual arguments.   03
     g) What are the merits and demerits of pointers?   03
     h) What is function prototype?   03
     i) How array of structures in declared and initialized?   02
     j) What are unformatted files?   02