I-(CORE-I) MJ—IT-I

UG 1st Semester Examination-2024(Reg)

IT

Paper – Core-I/Major-I-IT-I

Full Marks : 100

Time : 3 hours

Answer **all** questions

The figures in the right-hand margin indicate marks

PART– I

1. Fill in the blanks : 1×10

(*a*) _____ is regarded as the father of C language.

(*b*) _____operator is used to get the address of a variable.

(*c*) The size of character variable in C is _____ byte(s).

(*d*) The library function used to free the dynamically allocated memory is _____.

(*e*) _____ terminates a loop immediately when it is encountered inside a loop.

(*f*) The variable that holds the memory addresses as its value is called _____.

(*g*) If a variable is declared as register then it will be created inside _____.

(*h*) _____ function in C is used to change the file pointer to the desired location of the file.

(*i*) The function that copies one string to another is _____.

(*j*) In C EOF stands for _____.

(*Continued*)

PART– II

2. Answer *all* questions within *50* words : 2 × 9

(*a*) Explain the meaning of **#include <stdio.h>**.

(*b*) What is unary operator ? Give two examples.

(*c*) What is the difference between **signed int** and **unsigned int** ?

(*d*) What is the difference between while loop and do-while loop ?

(*e*) What is generic pointer ?

(*f*) Give examples of four string handling functions.

(*g*) Explain command line arguments.

(*h*) What is union ?

(*Turn Over*)

(*i*) What are different modes of opening a file ?

PART– III

3. Answer any *eight* questions within *250* words : 5 × 8

(*a*) What are the primitive data types available in C ? Mention the size of primitive data types in terms of byte.

(*b*) Write a program to perform all arithmetic operations using switch case statement.

(*c*) Write a program to find the sum of individual digits of an input integer.

(*d*) Write a program to find the sum of all elements of an array of 10 integer values.

(*e*) What is a pointer ? How to declare an integer pointer ? What arithmetic operations can be performed on pointers ? Explain with example.

(*f*) What is union ? How union is different from structure ? Give an example of union.

(*g*) What are the difference between malloc() and calloc() functions ? When realloc() function is used ?

(*h*) Write a program to write first 20 positive integers into a file named **data.txt**.

(*i*) How a file can be opened in C ? Explain different modes of opening a file.

(*j*) Write a program to swap two numbers using function.

PART– IV

4. Answer any *four* questions within *800* words : 8 × 4

(*a*) Discuss about loops in C with suitable examples.

(*b*) Write a program to find the sum of all digits of a given integer.

(*c*) Write the syntax of function in C. Create a function to find the factorial of a given integer using recursion.

(*d*) Write a program to create a structure Student. Create two structure variable of Student s1 and s2 with initial values. Check the equality of s1 and s2.

(*e*) Explain various storage class in C.