No. of Printed Pages—2

1130 (PDCPC)

[24-HKPD1SN-24J (M2)]

M.Sc.IT 1st Semester (NEP) Exam. 2024 (S2)

(Computer Programming Using C)

[PGCA, S1-02]

Full Marks : 50

Time : 3 hours

The figures in the right-hand margin indicate marks.

1. Answer any *three* from the following questions (each in around 400 words) : $10 \times 3 = 30$

   (*a*) Explain the concept of arrays in C. How are single-dimentional and multi-dimentional arrays declared and accessed ? Give examples.

   (*b*) What is recursive function ? Write a C program to calculate the factorial of a given number which is entered through the keyboard.

   (*c*) What are structures in C ? How do they differ from unions ? Write a program in C to demonstrate the use of unions. 2+3+5 = 10

   (*d*) What are preprocessor directives in C ? Disuss different types of preprocessor directives with examples. 3+7 = 10

   (*e*) What is a pointer ? How are pointer variables declared ? Describe the concept of dynamic memory allocation in C.

2. Answer any *four* from the following questions (each in around 200 words) : $5 \times 4 = 20$

   (*a*) Describe the functions for opening and closing a file in C. Write the different modes of fopen() function.

   (*b*) What are logical operators in C ? Describe briefly.

(*c*) Give the difference between printf() and scanf() functions. Provide examples to illustrate their usage.

(*d*) Give the difference between 'while' and 'do-while' loop. Also give the difference between 'break' and 'continue' statements in C.

(*e*) Define algorithm. Draw a flow chart to represent the process of finding the largest number among three given numbers.

(*f*) Describe any four string handling funcitons with their appropriate syntax.
