

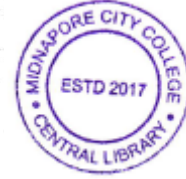
2025

1st Semester Examination (CCFUP : NEP)

COMPUTER SCIENCE

Paper : MJ 1-T (Single Core Major)

(Programming in C)



Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

**Group - A**

Answer any **five** questions :  $2 \times 5 = 10$

1. Define actual parameter and formal parameter. ◦
2. What is the difference between an array and a pointer? ◦
3. What is the role of the continue and break statement in a C loops? ◦
4. Write down the syntax of initializing a local and a global variable. ◦
5. Find the value of C :

$$C = (x++) + (++x) + (--x) + (--y) + (++x) * y, \quad \text{where}$$

$x = 4$  and  $y = 6$  ◦

P.T.O.

( 2 )

6. What is a NULL pointer? Explain its significance in C.
7. List the functions used for dynamic memory allocation in C. •
8. Write the syntax of the conditional operator in C. How does it work? •

1+1

**Group - B**

Answer any *four* questions :

5×4=20

9. What is the function of fgets() and gets() function? What is need of recursion? 3+2
10. Define a multidimensional array in C. What are the advantages and limitations of using array? 2+3
11. Explain the concept of "call by value" and "call by reference" in C with examples. •
12. Differentiate between a while loop and a for loop with suitable examples. •
13. What are the different operations that can be carried out on a file? "In the context of a File management application in C must make use of the fread() and fwrite() functions." — Why? 2+3
14. What are the differences between structures and unions in C in terms of memory allocation, storage, and use cases? What is enumeration? • 4+1



( 3 )

**Group - C**

Answer any *one* question :

10×1=10

15. (a) How a function declaration and a function definition is explained in C? What is bit field?
- (b) Write a recursive function to explain factorial of a number?
- (c) Give the output of the following code :
- ```
main()
{
    int a[]={10,30,40,50,60}, j;
    for(j=0; j<5;j++)
        {printf("%d", *a);
          a++;}
}
```
- (2+3)+3+2
16. (a) Explain the purpose of typedef keyword in C?
- (b) How do you pass a pointer through a function and return from a function in C using an example?
- (c) Explain the concept "pointer to an array". 3+4+3

