NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: I - THEORY EXAMINATION (2024- 2025)
Subject: Fundamentals of Computer Science

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　**Max. Marks: 100**

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*

*1. This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A　　　　　　　　　　　　　　　　　　　　　　　　　　20

1. Attempt all parts:-

1-a.　　If both numerator and denominator of a division operation in C language are　　1
　　　　integers, then we get. (CO1, K2)

　　(a)　Expected algebraic real value

　　(b)　Unexpected integer value

　　(c)　Compiler error.

　　(d)　None of the above

1-b.　　What is the priority of operators *, / and % in C language.? (CO1, K1)　　1

　　(a)　* > / > %

　　(b)　% > * > /

　　(c)　Both % = / , * are same

　　(d)　All three operators *, / and % are same.

1-c.　　What is the work of break keyword? (CO2, K1)　　1

　　(a)　Halt execution of program

　　(b)　Restart execution of program

　　(c)　Exit from loop or switch statement

　　(d)　None of the avobe

1-d.　　Which of the following is not an iterative statement? (CO2, K1)　　1

　　(a)　while

　　(b)　do while

(c)   switch

(d)   for

1-e.   Choose correct statement about Functions in C Language. (CO3, K2)   1

(a)   A Function is a group of c statements which can be reused any number of times

(b)   Every Function has a return type

(c)   Every Function may no may not return a value

(d)   All of the above.

1-f.   The default parameter passing mechanism is (CO3, K1)   1

(a)   Call by value

(b)   call by reference

(c)   call by value result

(d)   None of the above

1-g.   How do you initialize an array in C. (CO4, K1)   1

(a)   int arr[3] = (1,2,3);

(b)   int arr(3) = {1,2,3};

(c)   int arr[3] = {1,2,3};

(d)   int arr(3) = (1,2,3);

1-h.   What is the dimension of the below C Array.? (CO4, K2)   1
        int ary[]={1,3,5,7};

(a)   1

(b)   2

(c)   3

(d)   5

1-i.   For binary files, a ___ must be appended to the mode string. (CO5, K1)   1

(a)   nothing

(b)   "b"

(c)   "binary"

(d)   "01"

1-j.   stdout, stdin and stderr are _____(CO5, K1)   1

(a)   File ponters

(b)   File descripters

(c)   streams

(d)   Structure

2. Attempt all parts:-

2.a.   Difference between operator and operand with example. (CO1, K2)   2

2.b.   Differentiate between goto and return. (CO2, K2)   2

2.c.   Difference between local and global variable. (CO3, K2)   2

2.d.   State the use of & and * operator with respect to pointer . (CO4, K1)   2

2.e.	Discuss the term random access and how it is useful. (CO5, K2)	2

SECTION-B 30

3. Answer any <u>five</u> of the following:-

3-a.	Write a short note on operator. List and explain various types of operators. (CO1, K2)	6
3-b.	Write a short note on type conversion. Explain the need for type conversion with the help of example. (CO1, K2)	6
3-c.	Write a program to generate a following numbers structure: (CO2, K3) 12345 1234 123 12 1	6
3-d.	Write C Program to check whether a given number is even or odd, (CO2, K3)	6
3.e.	Explain how to pass array elements to function with example (CO3, K3)	6
3.f.	Explain the declaration of pointers and pointer to pointer with examples. (CO4, K2)	6
3.g.	Write a program to read numbers from a file name numbers.txt . Write even numbers in a file name even.txt. and odd numbers in a file name odd.txt. (CO5, K3)	6

SECTION-C 50

4. Answer any <u>one</u> of the following:-

4-a.	Write an algorithm and draw the flow chart to find factorial of N natural number. (CO1, K3)	10
4-b.	Explain all the logical operators used in C programming each with a suitable example. Write a program in C to find greatest among three numbers. (CO1, K3)	10

5. Answer any <u>one</u> of the following:-

5-a.	Write a calculator program in C language to do simple commercial calculator operation like addition, subtraction, multiplication and division using switch statement. (CO2, K3)	10
5-b.	Explain different types of loops available in C programming language. (CO2, K2)	10

6. Answer any <u>one</u> of the following:-

6-a.	Write a program to find the given number is prime number or not using functions. (CO3, K3)	10
6-b.	What is the difference between call-by-reference and call-by-value? Write a program in C to swap two numbers using call-by-references (CO3, K3)	10

7. Answer any <u>one</u> of the following:-

7-a.	Write a program to find a maximum and minimum element in an array. (CO4, K3)	10
7-b.	How do you declare, initialize and access a structure containing arrays? Explain with examples. (CO4, K2)	10

8. Answer any <u>one</u> of the following:-

8-a.   Explain are user define function and also write difference between the user-   10
         defined and the library function in C each with suitable example. (CO5, K2)

8-b.   What are different operations that can be performed on a file? Write a program to   10
         create a data file and copy the content of one file into another file. (CO5, K3)