

**DEPARTMENT OF INFORMATION TECHNOLOGY  
UNIVERSITY INSTITUTE OF ENGINEERING AND TECHNOLOGY  
CSJM UNIVERSITY, KANPUR**

**First Mid Semester Examination  
B. Tech (ECE)  
Programming and Computing using C (ISC- S 101)**

**Semester: Even  
Time: 1.5 h**

**Year: 1st Year (2K22)  
Maximum marks: 30**

**Instructions:** All questions are compulsory. The candidates are required to answer only in serial order. If there are many parts of a questions, answer them in continuation.

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**Section A**

**(9 X 1 = 9 Marks)**

**Fill in the blanks:**

1. \_\_\_\_\_ is a graphical representation of a program.
2. Program errors are called \_\_\_\_\_.
3. A set of instructions which describes the steps to be followed to carry out an activity is called \_\_\_\_\_.
4. Algorithm is written in computers language, then such set of instructions is called a \_\_\_\_\_.
5. The process of removing bugs is known as \_\_\_\_\_.
6. A program written in mnemonics is called \_\_\_\_\_ program.
7. Every complete statement in C program must terminate with \_\_\_\_\_.
8. \_\_\_\_\_ is an example of escape sequence.
9. The #include <stdio.h> is a \_\_\_\_\_.

**Section B**

**(3 X 3 = 9 Marks)**

1. Write a program to find whether the entered year is a leap year or not.
2. Write a program to calculate the simple interest.
3. Write a program to check whether the entered number is even or odd.

**Section C**

**(2 X 6 =12 Marks)**

1. Write a program to find the area and circumference of a circle.
2. Write a program to convert temperature from degree Celsius to Fahrenheit.



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**End Semester Examination**  
**B. Tech (ECE)**  
**Programming and Computing using C (ISC- S 101)**

**Maximum marks: 50**

**Time: 3 h**

**Instructions:** All questions are compulsory. The candidates are required to answer only in serial order. If there are many parts of a questions, answer them in continuation.

**Section A**

**(10 X 1 = 10 Marks)**

1. What is variable initialization and why is it important?
2. Differentiate between algorithm and flowchart.
3. What is the difference between the = symbol and == symbol?
4. Differentiate between syntax error and logical error.
5. Can we use "int" data type to store the value 32768? Why?
6. When is the "void" keyword used in a function?
7. What is the advantage of an array over individual variables?
8. How while loop is different from do-while loop in terms of working not syntax?
9. What is the role of scanf( ) in C Programming ?
10. Describe the functions which are present inside <conio.h>

**Section B**

**(5 X 4 = 20 Marks)**

1. (a) Why are compilers and interpreters used? Is there any difference between a compiler and an interpreter?  
(b) What is the difference between division operator and modulus operator?
2. (a) Write a program to enter two points and then calculate the distance between them.  
(b) What is the difference between '&' and '&&' in C Programming?
3. (a) Write a short note on operators available in C language.  
(b) What do you understand by identifiers and keywords?
4. (a) What are decision control statements? Explain in detail.  
(b) Explain the importance of a switch case statement. In which situations is a switch case desirable? Also give its limitations.
5. (a) Write a program to calculate sum of cubes of first n numbers.  
(b) How is an array represented in memory?

**Section C**

**(2 X 10 = 20 Marks)**

1. (a) Write a program to enter a 3 digit number and find whether it is a palindrome number or not.  
(b) Write a program to enter a 3 digit number and then calculate the sum of all its digits.
2. (a) Write a program to find the largest element in an array of 5 elements.  
(b) A company decides to give a bonus to all its employees on Diwali. A 5% bonus on salary is given to the male workers and 10% bonus on salary to the female workers. Write a program to enter the salary and gender of the employee. If the salary of the employee is less than Rs10000/- then the employee gets an extra 2% bonus on salary. Calculate the bonus that has to be given to the employee and display the salary that the employee will get.