

Tribhuvan University  
Institute of Science and Technology  
2073  
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Bachelor Level / First Year/ First Semester/ Science  
**Computer Science and Information Technology (CSc. 102)**  
(Fundamental of Computer Programming)

Full Marks: 60  
Pass Marks: 24  
Time: 3 hours.

*Candidates are required to give their answers in their own words as far as practicable.*  
The questions are of equal value

**Attempt all questions.**

- ✓ 1. Draw a flow chart and write an algorithm to find out whether a given number is zero, +ve or -ve.
- ✓ 2. What are the different types of operators available in C? Explain.
- ✓ 3. Describe the four basic data types with example.
- ✓ 4. Differentiate between while and do while loop with example.
- ✓ 5. Write a program to check whether the diagonal elements of a  $(4 \times 4)$  matrix are all zero.
- ✓ 6. What is the function of a pointer variable? Explain the declaring and initializing pointers with example.
- ✓ 7. Write a program using pointers to read in an array of integers and print its elements in reverse order.
- ✓ 8. Differentiate between call by value and call by reference with example.
- ✓ 9. What is structure? How is it different from array and union? Discuss.
- ✓ 10. Define the graphics function. Write a program to draw a circle using graphics function.

$a_{00}$   $a_{01}$   $a_{02}$   $a_{03}$   $a_{04}$   
 1 2 3 4 5  
 $a_{10}$   $a_{11}$   $a_{12}$   $a_{13}$   $a_{14}$   
 6 7 8 9 10  
 $a_{20}$   $a_{21}$   $a_{22}$   $a_{23}$   $a_{24}$   
 11 12 13 14 15  
 $a_{30}$   $a_{31}$   $a_{32}$   $a_{33}$   $a_{34}$   
 16 17 18 19 20