

Tribhuvan University
Institute of Science and Technology
2065

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 figures in the margin indicate full marks.

Attempt all questions:

1. Draw the flow chart for finding largest of three numbers and write an algorithm and explain it.
2. Find the value of “a” in each of the following statements:

int i=3 , j=4 ,k=8
float a=4.5 ,b=6.5,c=3.5
(a) $a = b - i/k + c/k$
(b) $a = (b-k)/j + (j + c)/k$
(c) $a = c - ((i + j)/(k + i)) * b$
(d) $a = c - i + j / k + i * b$
(e) $a = c + j \% 2 + b$
(f) $a = (b + 1) \% (c + 1)$.

3. Write a program for the interest charged in installments for following case. A cassette player costs Rs. 2000. A shopkeeper sells it for Rs. 100 down payment and Rs. 100 for 21 more months. What is the monthly interest charged?
4. Write a program that uses a “for” loop to compute and prints the sum of a given numbers of squares.
5. Write a program to obtain the product of the following matrices and explain it:

$$A = \begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 4 \\ 4 & 5 & 2 \end{bmatrix}, \quad B = \begin{bmatrix} 7 & 6 \\ 6 & -5 \\ 4 & 3 \end{bmatrix}$$

6. Write a function to add, subtract, multiply, and divide two complex numbers (x +iy) and (c + id).
7. Write a program which will read a line and delete from it all occurrences of the word “that”.
8. What is a pointer and explain its applications? Write a program that uses pointers to copy an array of double.

OR

Define a pointer. Write a function that is passed an array of n pointers to the maximum of the floats.

9. Define a structure of employee having data members name, address, age, and salary.
Take data for employee in an array dynamically and find the average salary.
10. Given a text file, create another text file deleting the following words “three”, “bad”, and “time”.

OR

Why do you require graphical function? Explain the basic graphical function with suitable program.