Tribhuvan University
Institute of Science and Technology
2070
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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 for as practicable.
The figures in the margin indicate full marks.

Attempt all questions.

1. What is logical error? Write flowchart and program for checking whether the number entered by the user is exactly divisible by 5 but not by 11. (1+5)

OR

What is an algorithm? Write an algorithm to check given number is prime or composite. (1+5)

2. What is operator? List any six operators used in C-programming language. Write a program to find least number between any two number using ternary operator. (1+2+3)

3. Define printf( ) function, header file and main( ) function. Find the value of following expressions. Use the value initially assigned to the variables for each expressions. (4.5+1.5)

    int   a = 8, b = 5;

    float x = 0.005, y = -0.01;

i) 2 * ((a/5) + (4 * (b – 3)) % (a + b – 2);

ii) (x > y) && (a > 0) 11 (b < 5);

iii) (a > b) ? a : b;

4. Differentiate between if and switch statement. Write a program to read the marks of four subjects then find total, percentage and division according to given condition. (1+5)

Percentage	Division
$P \geq 80$	Distinction
$80 > P \geq 70$	First division
$70 > P \geq 50$	Second division
$50 > P \geq 40$	Third division
Otherwise	Fail.

Assume each subject carrying 100 full marks and student must secure greater or equal to 40 in each subject for division.

5. Differentiate between break and continue statement. Write a program to display following output. (2+4)

```
1
1 1
1 1 1
1 1 1 1
1 1 1 1 1
```

6. Write a program to input any 10 numbers then find out greatest and smallest number. (6)

7. Write a program to add two 3 × 3 matrix using function. . (6)

8. What is recursion? Write a program to find the factorial of given number using recursion. (2+4))

OR

What is pointer? Write a program to sort 'n' numbers in ascending order using dynamic memory. (2+4)

9. List any five names of graphics function. Write a program to read lines of text then count no. of vowels. no. of digits and no. of spaces. (2+4)

10. Write a program to create a file "RECORD.IXT" then store roll no, name and percentage of 10 students. (6)