

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Chaitra

Exam.	Regular/Back		
Level	BE	Full Marks	80
Programme	All (Except BAE)	Pass Marks	32
Year / Part	I / I	Time	3 hrs.

Subject: - Computer Programming (CT 401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) What is computer programming and computer software? Explain about types of programming languages and software. [2+2]
b) What do you mean by compiler? Explain in brief the steps involved during compilation process along with block diagram. [2+4]
2. a) What is expression? What kind of information is represented by expression? [2+2]
b) What is the purpose of the putchar function? How is it used within a C program? Compare with the getchar function with example. [6]
3. a) Compare nested-if control structure with else-if ladder structure along with flowchart. [4]
b) Write a program to read a number from user, count the number of even digits contained in it and display whether the resulting count is prime or not. [6]
4. a) Write a program to generate the following output. [6]


```

1 2 3 4 5 4 3 2 1
  1 2 3 4 3 2 1
    1 2 3 2 1
      1 2 1
        1
      
```
- b) What is a function? What type is the main () function? Explain actual parameter and formal parameter with example. [1+1+2]
5. a) Write a program to read one dimensional array of n elements, pass it to a function for processing so that, the program should display the largest and smallest element of an array from the main function. [6]
b) How can we initialize 2D array of character data type during compilation? Illustrate with suitable example. [4]
6. a) What is a structure? Explain nested structure with an example. [1+2]
b) Write a program to define a structure named Person with Name, address, salary as its member. Enter values for five persons. Pass the structure to a function which increases the salary by 15% each. Display the updated information in the main () function. [7]

7. a) Write the output of the following.

[6]

a 10

address: 65510

b

address: 65550

c

address: 65580

```
int a=10,*b,**c;  
b=&a;  
c=&b;  
printf("%d\t%d\n",b,*c);  
printf("%d\t%d\n",c,**c);  
printf("%d\t%d",*b+5,&c+2);
```

b) What do you mean by Generic pointer, Null pointer and File pointer?

[4]

8. a) Explain the FORTRAN structure. What are data types in FORTRAN?

[2+2]

b) Write a program to print the Fibonacci series until the term is less than 500.

[6]
