



THE ENGINEERING JUNCTION

TRIBHUWAN UNIVERSITY
INSTITUTE OF ENGINEERING

Examination Control Division
2080 Baishakh

| Exam | Back | | |
|-------------|----------------------|------------|--------|
| Level | BE | Full Marks | 80 |
| Program | All except BAS & BAR | Pass Marks | 32 |
| Year / Part | I/I | Time | 3 hrs. |

Subject: - Computer Programming (CT 401)

- ✓ Candidates are required to give their answer 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) How is an application software different from system software? Explain with examples. [4]
b) How is code in source file is converted to the executable file? Explain with key steps involved. [4]
2. a) How is constant different than a variable? [2]
b) Write a C program to read an integer 'd' from the user. If 'd' is the radius of a circular ground in meters, then this program should calculate and display the area of the circle in square meter. [6]
3. What are formatted input/ output functions? Explain each in detail with examples. [4+6]
4. a) Differentiate between library function and user defined functions. Provide relevant examples. [3]
b) What is a function prototype? Write a C program to find sum of, first 10 natural numbers using recursion. [1+4]
5. a) Write a program to read marks of 48 students in a class and display the second highest mark. [5]
b) How can we copy one string to another string without using any string handling function? [5]
6. What do you mean by array of structure? Write a program to create a structure named "Student" having members Roll, Name, Address and Marks. Use this structure to read the information of 48 students in a class and display the information of, only those students whose marks is between 50 and 70. [2+8]
7. What are pointer arithmetic? Explain with example. Write a C program that uses pointer to read m×n matrix from user. Pass it to function that finds the transpose of the matrix. [4+4]
8. a) How is a binary file different than a text file? Write the syntax and uses of fseek() and rewind() functions in C. [2+2]
b) Write a C program to read the name, year_of_release, and language of 3 movies. Save the movie data of all 'English' language movies in a data file. [4]
9. What is the use of FORMAT statement? Explain I and F format with example. Write a program in FORTRAN to read a number from user and check whether it is a prime number or not. [4+4]
10. Write short notes on: [2×3]
 - a) While and do-while statement
 - b) String manipulation in C.
