

Examination Control Division

2068 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	All (Except B. Arch.)	Pass Marks	32
Year / Part	1 / 1	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) How high level programming languages are similar to natural language? Describe. [3]
b) Does Algorithm and Flowchart design makes programming faster and easier? Describe with strong supporting points. Also draw flowchart to check whether a number is Armstrong or not. [2+3]
2. a) What are unary operators in C? Why are they named so? [2]
b) What are preprocessor directives in C? Why are they needed? [2]
c) How formatted input/output can be performed in C? Explain with example. [4]
3. Differentiate between conditional operator and if-else statement. write a program in C that calculates the sum of digits entered by the user successively until the sum reduces to a single digit number. For example, $12345 \Rightarrow 1+2+3+4+5=15 \Rightarrow 1+5=6$. [2+6]
4. Write a program in C to read a string and display it in reverse order. Use user defined functions to count the number of characters in it and reverse it. [8]
5. Write down the significance of array in C. Write a program to multiply two 3×3 matrix. Two matrix are input from main () function and pass to a user defined function with argument with array. The result is also displayed from main () function. [2+6]
6. Why structure variable differs from array? Write a program to input name, post and salary of ten employees from main () function and pass to structure type user defined function (arguments of this function should also a structure type). This function returns structure variable which keeps the record of only those employees whose salary is greater than 10,000. This modified record is also displayed from main () function. [2+6]
7. Explain how pointers can be used in C. How can you access array elements using pointer. Write a C program that reads a string from user and use a user defined function to copy the contents of the read string into another character array changing lower case letters to upper if any. Use pointer to process string. [1+1+6]
8. Write a program to input and save record like name, roll, address and obtained mark of 48 students in a binary file and search and display the record of a student whose obtained mark is highest. The information should be organized in a structure. [8]
9. Write a program in FORTRAN, to check whether a positive integer entered from the keyboard is a palindrome or not. (Hints: A number is palindrome if its reverse is equal to the number itself). [8]
10. Write FORTRAN program to display greatest and smallest number from list ten elements. [8]
