

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	80
Programme	All (Except B.Arch)	Pass Marks	32
Year / Part	I / I	Time	3 hrs.

**Subject: - Computer Programming (CT401)**

- ✓ 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) Explain different generation of programming languages. [4]  
 b) Why do we need analysis and design before coding a program? [4]
2. a) What do you mean by precedence and associativity of an operator? Explain with suitable example. [3]  
 b) What are the differences between formatted and unformatted Input / Output. Give suitable example with sample output for the following: %10i, %3c, %-10.3f and %x. [1+4]
3. a) What are the purpose of the continue statement? Within which control statements can continue statement be included? Compare with the break statement. [1+2+2]  
 b) Write a program to find the sum of series  $S_n = \sum 1/n^2$  up to N term. [5]
4. What is the meaning of function prototyping? Write a program to calculate the sum of the series 1+11+111+.....+up to N terms using recursive function. If N is read as 5, the series is: 1+11+111+1111+11111. [2+6]
5. a) Explain with an example for compile time initialization of 2D array. Describe how compiler manages according to the number of initializers and size of an array given by a user in case of 1D array. [2+3]  
 b) Write a program to read a word from a main function, pass it into a function that will convert all of its characters into upper case if the first character is in lower case and into lower case if the first character is in upper case. Display the converted string from main function. [5]
6. a) Explain need of structures. How can we create and use a structure within another. [2+3]  
 b) Explain dot and arrow operators for accessing the members of a structure. [3]
7. a) If Ptr is a pointer to user defined type or basic type, by how many bytes is Ptr incremented when the statement Ptr++ is executed? [2]  
 b) Write a C program that calls reverse array () to reverse the array and return the array and display the element of reversed array using pointer. [6]
8. List different types of standard I/O used in C. Write a program to write name, roll no and age of five students into a disk file name "STUDENT.DAT". [2+6]
9. a) Explain different types of goto statements in FORTRAN programming with suitable example. Write a program to read n from user and display the sum of following series till  $n^{th}$  terms:  $1+(1+2)+(1+2+3)+(1+2+3+4)+.....n$  [4+4]  
 b) Explain with suitable example to show how an Impiled Do loop works in FORTRAN. [4]