

NATIONAL INSTITUTE OF TECHNOLOGY, KURUKSHETRA  
THEORY EXAMINATION

Question Paper

07 DEC 2018

Month and Year of the Examination: **NoV/DeC-2018**

Programme: **B.Tech.**

Semester: **Ist**

Subject: **Basics of Programming**

Course No: **CSIR-11**

Maximum Marks: **50**

Number of Questions to be attempted: **5**

Time allowed: **3 Hours**

Total No. of Questions: **8**

Total No. of Pages used: **2**

The candidates, before starting to write the solution, should please check the question paper for any discrepancy, and also ensure that they have been delivered the question paper of right **course no.** and **subject title**. Assume suitably and state, additional data required, if any.

**Note: All Questions are Compulsory**

1.	(a)Q: C language data types can be classified as: <ul style="list-style-type: none"> <li>• Primary data type</li> <li>• Derived data type</li> <li>• User-defined data type</li> </ul> Give the brief description of above data types.	3
	(b)Q: What do you mean by variables in C language. Describe different types of variables.	2
	(c)Q: Discuss the following operators in C Language: <ul style="list-style-type: none"> <li>• Arithmetic operator</li> <li>• Relational Operators</li> <li>• Logical Operators</li> <li>• Assignment Operators</li> <li>• Increments and Decrement Operators</li> <li>• Conditional Operators</li> <li>• Bitwise Operators</li> <li>• Special Operators</li> </ul>	5
2.	(a)Q: What do you mean by statement in C language. Discuss different types of statements used in C language with the help of examples.	5
	(b)Q: What is an Array. How to declare and initialize an Array? Also discuss the advantages and disadvantages of an Array.	5

3.	(a)Q: Define high level language over machine language? advantages and disadvantages. (b)Q: Write a C program to check that a given matrix is sparse matrix or not. (c)Q: Write a C program to find the Second Largest & Smallest Elements in an Array.	5
4.	(a)Q: A number is entered through the keyboard. Write a program in C language to get the reversed number. Also check whether the original and reversed number are equal or not? (b)Q: Write a C program that accept the numbers until it becomes zero. (c)Q: Write a C program to print the following pattern. <div style="text-align: center;"> 1  2 3  4 5 6  7 8 9 10  6 5 4  3 2  1 </div>	3.5 1.5 5
5.	(a)Q: Write a program in C language to find the type of triangle by taking input for the sides from the keyboard (scalene, isosceles, equilateral). (b)Q: Write a program in C language to multiply two matrices of order 3×3.	5 5
6.	(a)Q: Discuss the software development life cycle. (b)Q: Differentiate between call- by -value and call-by-reference with suitable example. (c)Q: Write short note on following: i. Compiler. ii. Operating System	5 2 3
7.	(a)Q: Write a program to compute cosine series: $\cos(x) = 1 - x^2/2! + x^4/4! - \dots + x^{2n}/(2n)! - \dots$ (b)Q: Write a C program using structure to calculate a party expenses. This program will read item name, price, quantity and calculate amount (price*quantity), using this program maximum 50 items can be read and calculate the total paid amount. (c)Q: Write C program to replace all EVEN elements by 0 and Odd elements by 1 in 1-D Array.	5 3 2
8.	(a)Q: What are main characteristics of C language? (b)Q: Write a C program to remove all characters in a String Except Alphabets. (c)Q: Write a C program to Find the Number of Vowels, Consonants, Digits and White space in a String.	2 3 5