

NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA
THEORY EXAMINATION

Question Paper

Month and Year of the Examination: **Dec-2019**

Programme: **B.Tech.**

Semester: **Ist Sem**

Subject: **Basics of Programming (BoP) (Common to all branches)**

Course No: **CSIR-11**

Maximum Marks: **50**

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

Time allowed: **3 Hours**

Total No. of Questions: **5**

Total No. of Pages used: **1**

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.

1.	<p>(a)Q:What is Software Development Life Cycle (SDLC)? Why is SDLC important for development of any software? Also discuss the various phases of SDLC.</p> <p>(b)Q: Write a C program to convert a given number into its / their equivalent words.</p> <p style="text-align: center;">OR</p> <p>(b)Q: Write a C program to concatenate two strings without using strcat() function.</p>	<p>1+1+3</p> <p>5</p>
2.	<p>(a)Q: Write a program to print the following pattern:</p> <p style="text-align: center;">ABCDE BCDE CDE DE E</p> <p>(b)Q: Write a C program to find the saddle point coordinates in a given 2D matrix. (Hint: A saddle point is an element of the 2D matrix, which is the minimum element in its row and the maximum in its column).</p> <p style="text-align: center;">(OR)</p> <p>(b)Q: Write a C program to swap two numbers using bitwise operators.</p>	<p>5</p> <p>5</p>
3.	<p>(a)Q: Write a function in C, which passed a square matrix as one parameter and dimension of the matrix as second parameter. This function should display sum of both diagonals of the square matrix.</p> <p>(b)Q: What is the need of function prototype? What is the syntax to use it? Give an example.</p> <p>(c)Q: Consider following declaration: char str[30];</p>	<p>5</p> <p>3</p> <p>2</p>

	How the working of following statement1 is different from statement2? statement1: scanf("%s", str); statement2: gets(str);	
4.	<p>(a)Q: Assume that string is declared as array of characters. Write a program in C which reads a string (say STR1) and generates a new string (say STR2) from it such that all lowercase alphabets of STR1 are stored in uppercase in STR2, all uppercase alphabets of STR1 are stored in lowercase in STR2 and other characters of STR1 remain unchanged. For example if STR1 is inputted as aBcd5E\$f, STR2 should be outputted as AbCD5e\$F. From string.h, only strlen can be used, and its other functions are not permitted.</p> <p>(b)Q: Write a function in C which is passed a string as parameter and returns sum of ASCII codes of all of its characters. There is no need to write main. Write this function only.</p>	<p>7</p> <p>3</p>
5.	<p>(a)Q: Assume that our program uses student as a structure. N represents the number of students. The structure student consists of rollnumber, name, and marks. Write a function avg which is passed array of students and N as parameters and it returns the average marks of these N students. Write another function findstudents, which is passed array of students, N and average_marks as parameters and it displays the name and roll number of all of those students who scored marks more than the average_marks. Write only this function. There is no need to write main etc.</p> <p>(b)Q: Write a function in C to find the number of times a given word 'the' appears in the given string. Write only this function. There is no need to write main etc.</p>	<p>7</p> <p>3</p>

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