Printed Pages:02   **Sub Code: KCS 201**

Paper Id: **110265**   **Roll No.** ☐☐☐☐☐☐☐☐☐☐☐

B. TECH
(SEM II) THEORY EXAMINATION 2018-19
PROGRAMMING FOR PROBLEM SOLVING

Time: 3 Hours   *Total Marks: 100*

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**

		Marks	CO
a.	What is the difference between .obj and .exe files in C?	2	2
b.	List the components of C language.	2	1
c.	Differentiate assignment and equality operators in C.	2	1
d.	Correlate else if ladder and switch case statement.	2	3
e.	Differentiate while and do while loop.	2	3
f.	Differentiate recursion and iteration.	2	3
g.	Explain the significance of null character in string.	2	5
h.	Differentiate linear and binary search.	2	4
i.	Differentiate static and dynamic memory allocation.	2	5
j.	Define the structure of a node in linked list.	2	5

SECTION B

2.   **Attempt any *three* of the following:**

		Marks	CO
a.	Draw the block diagram of a computer system. Explain its different components with suitable example.	10	1
b.	Differentiate operator precedence and associativity. Write a program in C to elaborate the use of logical AND and logical OR operators in C.	10	1
c.	What is the use of break statement in loops? Write a program in C using while loop to elaborate the use of break statement.	10	3
d.	Write a program in C to input two 3x3 matrix from the user and print multiplication as the result in matrix form. (Write comments also at appropriate places in the program)	10	3
e.	Explain the importance of pointers in C. Write a program in C to swap the values of two numbers entered by user using function call by reference method.	10	4

SECTION C

3.   **Attempt any *one* part of the following:**

		Marks	CO
a.	Write an algorithm and draw a flowchart to find the sum of digits of an integer number entered by the user.	10	2
b.	Write an algorithm and draw a flowchart to reverse an integer number entered by the user.	10	2

4.   Attempt any *one* part of the following:

		Marks	CO
a.	Define the term mixed operands in an arithmetic expression with few examples. Write a program in C to elaborate the use of type casting.	**10**	**1**
b.	Explain the use of default in switch statement. Write a program that takes two operands and one operator from the user and perform the operation and prints the result by using switch statement.	**10**	**3**

5.   Attempt any *one* part of the following:

		Marks	CO
a.	Write a program in C to print following pattern with appropriate comments: 10 9 8 7 6 5 4 3 2 1	**10**	**3**
b.	Discuss the concept of assembler. Explain complier, interpreter, loader and linker with example.	**10**	**3**

6.   Attempt any *one* part of the following:

		Marks	CO
a.	Write the importance of sorting in problem solving. Write a program in C using bubble sort technique to sort 10 numbers entered by the user.	**10**	**4**
b.	Explain the importance of structure in C programming. Write a program in C using structure to enter and print the record of 10 books available in your library. Following fields may be included in the record: - book_title, book_price and number_of_pages.	**10**	**5**

7.   Attempt any *one* part of the following:

		Marks	CO
a.	Define various file operations in C. Write a program in C to count and print the number of characters in a file.	**10**	**5**
b.	Explain the following: (i) Macros. (ii) Union (iii) Enumerated data types (iv) Type conversion	**10**	**5**

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