

Paper Id: 110111

Roll No: 

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**B. TECH.**  
**(SEM-I) THEORY EXAMINATION 2019-20**  
**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.

2 x 10 = 20

Qno.	Question	Marks	CO
a.	Name different storage class with one example of each.	2	CO1
b.	Describe the functionalities of operating system.	2	CO1
c.	Differentiate between implicit & Explicit type conversion.	2	CO2
d.	What do you understand by mixed operands? Explain with example.	2	CO2
e.	What is the meaning of prototype of a function?	2	CO3
f.	Differentiate between while and do-while loop.	2	CO3
g.	Write an algorithm to find second largest element in an array.	2	CO4
h.	Differentiate structure with union.	2	CO4
i.	Explain the role of C preprocessor.	2	CO5
j.	What do you mean by pointer arithmetic?	2	CO5

**SECTION B**

2. Attempt any *three* of the following:

3 x 10 = 30

Qno.	Question	Marks	CO
a.	Discuss the major components of a digital computer with suitable block diagram. Also discuss the function of each component.	10	CO1
b.	What are operators? Mention different types of operators in C. Explain the difference between operator precedence and associativity with suitable example.	10	CO2
c.	Take the three digit number from the user then write a program to check entered number is palindrome or not.	10	CO3
d.	Write a program that prints the real roots of a quadratic equation. Also draw flowchart for the same.	10	CO4
e.	Write macro definition with arguments for calculation of simple interest and amount. Store these macro definitions in a file called 'interest.h'. Include this file in your program and use the macro definitions for calculating simple interest and amount.	10	CO5

**SECTION C**

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

1 x 10 = 10

Qno.	Question	Marks	CO
a.	Differentiate between: (i) Compiler and Interpreter (ii) Linker and Loader (iii) break and continue	10	CO1
b.	(i) Define data types in C. Discuss primitive data types in terms of memory size, format specifier and range. (ii) Explain structure of a C program.	10	CO1

