

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech S5 (S) (PT) Exam Sept 2020

Course Code: CS403**Course Name: PROGRAMMING PARADIGMS**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer all questions, each carries 4 marks.*

- | | | Marks |
|----|---|-------|
| 1 | What is short circuit evaluation? Give an example. | (4) |
| 2 | Differentiate between enumeration and subrange datatypes. | (4) |
| 3 | Differentiate between strongly typed and statically typed language. | (4) |
| 4 | What is a subroutine calling sequence? | (4) |
| 5 | What is the principle purpose of generics? | (4) |
| 6 | Write a code in Scheme to find factorial of a number using recursion. | (4) |
| 7 | How we can implement multiple inheritance in java? | (4) |
| 8 | Compare greedy matching with minimal matching. | (4) |
| 9 | What is a thread pool in java? What is its use? | (4) |
| 10 | What is busy waiting? What is its principal alternative? | (4) |

PART B*Answer any two full questions, each carries 9 marks.*

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|----|---|-----|
| 11 | a) Define closest nested scope rule. Explain with the help of an example. | (6) |
| | b) Write a tail recursive function to print the Fibonacci series. | (3) |
| 12 | a) How type coercion can be performed in C language? Illustrate with an example. | (4) |
| | b) Differentiate between structural equivalence and name equivalence with examples. | (5) |
| 13 | a) What is the order of evaluation in C programming language? | (4) |
| | b) How array elements are stored in memory? Explain the memory address calculation. | (5) |

PART C*Answer any two full questions, each carries 9 marks.*

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|----|---|-----|
| 14 | a) Show the functioning of co-routines with appropriate diagram. | (3) |
| | b) Explain the different types of parameter passing methods. | (6) |
| 15 | a) Define Lambda calculus. | (3) |
| | b) Demonstrate Lazy Evaluation with an example, How it benefits? | (6) |
| 16 | a) What is a static chain? How is it maintained during a subroutine call? | (6) |
| | b) How equality testing can be done in Scheme? | (3) |

PART D

Answer any two full questions, each carries 12 marks.

- 17 a) Write a C++ program to add two complex numbers of the form $a+ib$ using operator overloading and explain the overloading. (8)
b) How to implement overloading in C++? (4)
- 18 a) What do you mean by late binding of machine code? What are its advantages and disadvantages? (6)
b) Write short notes on Virtual Machines. (3)
c) What is quasi parallelism? (3)
- 19 a) Explain busy wait synchronization. (6)
b) What are the different features of scripting languages? (6)
