Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Examination (Regular and Supplementary), December 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 do you mean by compaction?	(4)
2	Explain orthogonality as language design tool.	(4)
3	What are the importances of data types in programming languages?	(4)
4	What are the characteristics of subroutines?	(4)

5	Begin
	Integer n;
	procedure P (K: integer)
	n := n+1;
	k := k+4;
	print (n);
	end
	n :=0;
	P(n);
	print (n);
	end
	What will be the output for the following parameter passing methods?
	a) call by value/result
	b) call by reference
	c) call by value
		(4)

6	What is Eval and apply?	(4)
7	Explain different types of inheritance with example.	(4)
8	Differentiate function overloading and function overriding.	(4)
9	Write a note on Remote Procedure call.	(4)
10	Explain co-schedule and its purpose.	(4)

PART B

Answer any two full questions, each carries 9 marks.

11 a) Explain heap based storage allocation techniques. (6)

b) Consider 1-Mbyte of memory is allocated using Buddy System. Show the allocation and deallocation of the following : (3)

1. Request 100k(A)
2. Request 240k(B)
3. Request 64k(C)
4. Request 256k(D)
5. Release B
6. Release A
7. Request 75k
8. Release C
9. Release E
10. Release D

12 a) Explain various categories of type compatibility. (5)

b) Explain memory layout and its impact on record data types. (4)

13 a) What is the importance of garbage collector? What are the various techniques used in garbage collection? (5)

b) How does the scope rule of passed function is evaluated? (4)

PART C

Answer any two full questions, each carries 9 marks.

14 a) Explain generic subroutine. Explain how generic programs are implemented in C++ and JAVA. (6)

b) What is the difference between coroutine and thread? (3)

15 a) Explain the working of scheme interpreter in the DFA simulation with an example. (5)

b) Write short notes on Higher order functions. (4)

16 a) What is an exception? How is it handled? Write an example in any one language. (6)

b) Explain equality testing in scheme with example. (3)

PART D

Answer any two full questions, each carries 12 marks.

17 a) Explain dynamic method binding in object-oriented programming. (6)

b) Explain data types supported by scripting languages. (6)

18 a) Explain features and architecture of java virtual machines. (9)

b) Explain the term barrier and monitor. (3)

19 a) Explain pattern matching mechanism in scripting languages. (6)

b) Explain Reflection in detail. (6)