M 02000CST282072102 Pages: 2

Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth Semester B.Tech (Minor) Degree Examination June 2023 (2021 Admission)

Course Code: CST282

Course Name: PROGRAMMING METHODOLOGIES

Max. Marks: 100 Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks) Marks

1		What are Programming Environments? Give Examples	3
2		Compare the different types of type binding?	3
3		What is Aliasing?	3
4		Explain the concept of dynamic method binding with an example?	3
5		What is Unconditional Branching?	3
6		Explain general sub program characteristics?	3
7		What are events. Explain event handling?	3
8		Is it mandatory to use constructors in object oriented languages? Justify your answer.	3
9		What is fundamental concepts of subprogram level concurrency?	3
10		Explain the working 'let' constructs in scheme?	3

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

11	a)	Explain different criteria for evaluating languages?	10
	b)	Draw the Block diagram of Compilation Process?	4
12	a)	Define static, stack-dynamic, explicit heap dynamic and implicit heap dynamic variables. What are their advantages and disadvantages?	10
	b)	Define lifetime, scope, static scope and dynamic scope?	4

Module -2

13	a)	Define the design issues for arrays?	7
	b)	Explain row major order and column major order with examples?	7
14	a)	Elaborate the design issues of arithmetic expressions in detail?	8
	b)	Define operator precedence, operator associativity, functional side effect and referential transparency?	6

Module -3

15	a)	In what way 'C' s for statement is more flexible than that of many other languages?	7
	b)	Elaborate Unconditional Branching?	7
16	a)	Compare the different implementation models in parameter passing?	12
	b)	Define closures and Coroutines?	2

Module -4

17	a)	What are the design issues in object oriented languages?	6
	b)	Explain the following object oriented features: (i) Encapsulation (ii) Inheritance (iii) Constructors and Destructors (iv) Operator Overloading (v) Polymorphism	8
18	a)	What is an exception handler? Explain how exceptions are handled in object oriented language?	7
	b)	Explain in detail Event handling in Java?	7

Module -5

19	a)	Describe the fundamental concept in Subprogram-Level Concurrency?	7
	b)	Explain the concepts for Semaphore and Monitors.? What advantage do monitors have over semaphores?	7
20	a)	Compare Functional and Imperative programming languages?	7
	b)	Explain the basic elements of Prolog? Describe the applications of logic programming?	7

*****