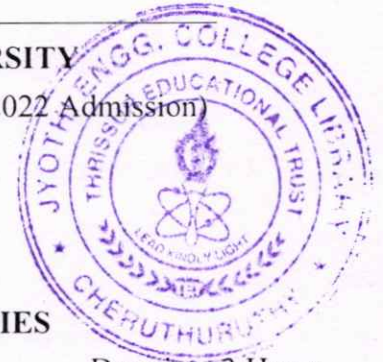Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth Semester B.Tech (Minor) Degree Examination June 2024 (2022 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 is expressivity?	3
2	What is global scope of a variable?	3
3	Differentiate between pointer and reference types.	3
4	List any three design issues of arithmetic expressions.	3
5	What is a pretest loop statement?	3
6	What are actual and formal parameters?	3
7	What is a pure virtual function in C++?	3
8	What do you mean by constructors in Object Oriented Programming?	3
9	What is producer consumer problem?	3
10	List out some of the applications of Prolog.	3

PART B

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

Module -1

11	a)	What are the programming design methodologies?	6
	b)	Explain the compilation process with a neat diagram.	8
12	a)	Explain the reasons for studying concepts of programming languages.	6
	b)	Discuss the categories of variables on the basis of their lifetimes.	8

Module -2

13	a)	Explain precedence and associativity with proper examples.	6
	b)	Define type checking, coercion, type error and strong type.	8
14	a)	Explain row major order and column major order with examples?	6
	b)	Define simple assignment, compound assignment, multiple assignment and unary assignment in programming languages.	8

Module -3

15. a) Explain multiple selection using if with an example.   6
    b) Explain different types of parameter passing techniques.   8
16. a) Explain local referencing environments.   5
    b) Explain how subprograms can be sent as parameters to other subprograms.   9

Module -4

17. a) What is inheritance in Object Oriented Programming? Explain different forms of inheritance in object oriented programming.   10
    b) Explain the concept of Event driven programming.   4
18. a) What are the design issues in object oriented languages?   7
    b) Explain function overloading and operator overloading in C++.   7

Module -5

19. a) Explain different process states with a neat diagram.   6
    b) Explain about semaphore and monitors to provide process synchronization.   8
20. a) Explain arithmetic and relational operators in LISP.   6
    b) Compare Functional and Imperative languages.   8

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