

--	--	--	--	--	--	--	--

**B.Tech. Degree III Semester Regular/Supplementary Examination  
February 2022**

**CS 19-202-0305 PRINCIPLES OF PROGRAMMING LANGUAGES**

*(2019 Scheme)*

Time: 3 Hours

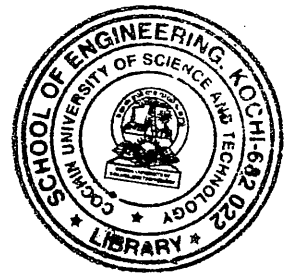
Maximum Marks: 60

**PART A**

(Answer *ALL* questions)

(8 × 3 = 24)

- I. (a) What does it mean for a program to be reliable? Define Aliasing with example.
- (b) Discuss the BNF and EBNF notation with suitable example.
- (c) What are the three general characteristics of subprograms?
- (d) Briefly explain coroutines with suitable diagram.
- (e) Explain the exception handling mechanism with suitable example.
- (f) Design and implementation issues of object oriented programming.
- (g) Application of functional programming and logic programming languages.
- (h) With suitable example, explain resolution in logic programming.



**PART B**

(4 × 12 = 48)

- II. (a) Briefly explain various programming paradigms. (5)
- (b) How readability and writability can be achieved in a programming language? (7)

**OR**

- III. (a) Describe denotational semantics. (6)
- (b) Give the denotational semantics for a binary number by specifying the grammar. (6)

- IV. (a) How the variables can be characterized? Explain. (6)
- (b) What are named constants? Give example. (6)

**OR**

- V. Briefly describe static scope and dynamic scope with suitable examples. Also explain the advantages and disadvantages. (12)

- VI. Explain the polymorphism and inheritance with suitable examples. (12)

**OR**

- VII. Compare and contrast the features of object-oriented languages Smalltalk, C++ and Java. (12)

- VIII. (a) Explain Lamda Calculus with suitable example. (6)
- (b) Explain any five functions used in LISP. (6)

**OR**

- IX. Describe the programming language, PROLOG and also write the deficiencies of PROLOG. (12)

\*\*\*

