Code No: **RT31053**　　　　　　**R13**　　　　　　SET - 1

III B. Tech I Semester Supplementary Examinations, August - 2021
PRINCIPLES OF PROGRAMMING LANGUAGES
(Computer Science and Engineering)

Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
　　　　2. Answering the question in **Part-A** is compulsory
　　　　3. Answer any **THREE** Questions from **Part-B**
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PART –A　　　　　　　　　　　　　　　　　　　　(22 Marks)

1. a) Explain evaluation of PL/I language. [3M]
   b) What is an Associative Array? Explain its uses. [4M]
   c) Define Parametric Profile and Protocol of a subprogram. [4M]
   d) Write a short note about characteristics of *Smalltalk.* [4M]
   e) Write briefly about scheme interpreter. [4M]
   f) Explain fact statements in Prolog. [3M]

PART –B　　　　　　　　　　　　　　　　　　　　(48 Marks)

2. a) Explain the necessary steps involved in language evaluation criteria. [8M]
   b) Explain about the preconditions and post conditions of a given statement mean in axiomatic semantics. [8M]

3. a) Explain Referencing Environments and Named Constants. [8M]
   b) What are the design issues of Counter Controlled Loops? Explain about for loop in python. [8M]

4. a) Explain about the semantic models of parameter passing. [8M]
   b) Define Subprogram. Explain different categories of subprograms. [8M]

5. a) Write in detail about Semaphores and Monitors. [8M]
   b) Explain about the mixed-mode assignments that are used in Ada and Java Languages. [8M]

6. a) Compare the functional programming languages with imperative languages. [8M]
   b) Explain about: [8M]
      i) the internal representation of two LISP lists
      ii) Scoping rule in common Lisp and Haskell.

7. a) Explain how backtracking works in Prolog and also Compare the concept of data typing in Ada with that of Prolog? [8M]
   b) What are the Applications of Logic Programming? Write briefly about List structures. [8M]

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