Code No: R1622056 **R16** SET - 1

II B. Tech II Semester Supplementary Examinations, November - 2019
PRINCIPLES OF PROGRAMMING LANGUAGES
(Com to CSE, IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) What are general purpose languages? Give some examples. (2M)
   b) What are name type and structured type compatibility? (3M)
   c) Differentiate between procedures and functions. (2M)
   d) What is the difference between an exception and an error? Give examples. (2M)
   e) Define domain set and range set w.r.t. functional languages. (3M)
   f) What are declarative languages? (2M)

PART -B

2. a) Discuss language evaluation criteria and the characteristics that affect them. (7M)
   b) Consider the grammar: (7M)
   <assign> → <id> = <expr>
   <id> → A | B | C
   <expr> → <id> + <expr> | <id> * <expr> | (<expr>) | <id>
   Give parse tree and left most derivation for A = A * (B + (C * A)) and A = A * (B + (C)).

3. a) Explain about evaluation of static scope and dynamic scope. (7M)
   b) What are mixed mode arithmetic expressions? List their merits and demerits. (7M)

4. a) Explain the basic requirements for implementing call and return of simple subprograms. (7M)
   b) What is an Activation Record Instance? Explain different parts of it and implementation in the case of a recursive factorial function. (7M)

5. a) Explain different design issues for object oriented languages. (7M)
   b) Discuss the reasons for using exception handling in a programming language. What if there exist programming languages with no exception handling? (7M)

6. a) Write about data types and structures in LISP. (7M)
   b) Discuss in detail about lambda expressions. (7M)

7. a) Explain about first-order predicate calculus. (7M)
   b) What are multi-paradigm languages? Explain with examples. (7M)

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