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

III B. Tech I Semester Supplementary Examinations, October/November - 2018

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

1	a)	Define syntax and semantics of a language	[3M]
	b)	What mixed-mode assignments are allowed in C and Java?	[4M]
	c)	List the design issues for subprograms.	[4M]
	d)	Differentiate between statement level concurrency and subprogram level concurrency.	[4M]
	e)	Give the features of Scheme	[3M]
	f)	What are multi paradigm languages?	[4M]

PART -B

2	a)	Briefly present milestones in the evolution of programming languages.	[8M]
	b)	Consider the grammar: <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)).	[8M]
3	a)	Write about static variables, stack dynamic variables and heap dynamic variables.	[8M]
	b)	Present the classification of arrays based on subscript binding. Give programming examples.	[8M]
4	a)	Discuss about pass-by-value and pass-by-name parameter passing methods, with a detailed programming example for each.	[8M]
	b)	What is an Activation Record Instance? Explain different parts of it and implementation in the case of a recursive factorial function.	[8M]
5	a)	Differentiate between procedural and object oriented languages.	[8M]
	b)	Discuss about exception handling in C++.	[8M]
6	a)	Write about data types and structures in Scheme.	[8M]
	b)	Discuss about function declarations and control statements in ML.	[8M]
7	a)	What is the purpose of predicate calculus? How it helps in theorem proving?	[8M]
	b)	List and explain the applications of logic programming.	[8M]

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