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Code No: 125AN

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech III Year I Semester Examinations, November/December - 2017
PRINCIPLES OF PROGRAMMING LANGUAGES
(Computer Science and Engineering)

Time: 3 hours   Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B
consists of 5 Units. Answer any one full question from each unit. Each question carries
10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	List the principal phases of compilation.	[2]
b)	Explain the features of denotational semantics.	[3]
c)	Explain about guarded commands.	[2]
d)	Differentiate between user defined and primitive data types with an example.	[3]
e)	Explain about the local referencing environments.	[2]
f)	Explain the design issues for functions.	[3]
g)	Explain the parts of smalltalk class.	[2]
h)	Distinguish between Competitive Synchronization and Cooperation synchronization.	[3]
i)	What is the type inferencing used in ML.	[2]
j)	What are the applications of functional programming languages.	[3]

PART - B

(50 Marks)

2.a)	Distinguish between ambiguous grammer and attribute grammar with an example.	
b)	Construct the parse tree for the simple statement.	[5+5]

$$A := B * (A + C)$$

OR

3.a)	Explain about the preconditions and postconditions of a given statement mean in axiomatic semantics.	
b)	Describe the important factors influencing the writability of a language.	[5+5]

4.a)	Describe about the pointers in FORTRAN 90, Ada, pascal with an example.	
b)	Write the syntax and semantic rule of an attribute grammer for simple assignment statements.	[5+5]

OR

5.a)	Explain about the control structures with an example.	
b)	Explain the different types of Union with an example.	[5+5]

6.	Explain the different parameter passing methods with an example.	[10]

OR

7.a)	What is an overloaded subprogram explain with an example.	
b)	What are the characteristics of co-routine feature? List the languages which allow coroutines.	[5+5]

8.a) What is semaphore. Explain the different types of semaphores.
  b) Explain the design issues of an exception handling system. [5+5]

OR

9.a) Explain about the data abstraction for SIMULA 67.
  b) Explain how to handle the exceptions in C++. [5+5]

10.a) Write a function that computes the sum of numbers using vectors in LISP.
  b) Explain the different types of data types used in Python. [5+5]

OR

11.a) Explain how to handle exceptions in Java with an example.
  b) Explain about the fundamentals of functional programming languages. [5+5]

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