Code No: 115AN **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech III Year I Semester Examinations, February/March - 2016
PRINCIPLES OF PROGRAMMING LANGUAGES
(Computer Science and Engineenring)

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)	Differentiate between static and dynamic semantic.	[2]
b)	Write EBNF description for the C union.	[3]
c)	Explain about the named constants.	[2]
d)	Distinguish between Pascal union types and Ada union types.	[3]
e)	Explain the lifetime of the variable.	[2]
f)	Explain the parameter passing in C.	[3]
g)	What are the applications of logic programming.	[2]
h)	Compare semaphores with monitors.	[3]
i)	What are the benefits of data abstraction.	[2]
j)	Explain the features of functional programming languages.	[3]

Part-B

(50 Marks)

2.a) Explain the attribute grammar and also write the attribute grammar for simple assignment statements
b) Explain about denotational semantics and axiomatic semantics for common programming language features. [5+5]

OR

3.a) Explain the parse tree for the sum and average program by using the grammar.
b) Differentiate between syntax and semantics. [5+5]

4.a) Discuss about guarded commands with an example.
b) Explain the unconditional statements with an example. [5+5]

OR

5.a) Explain about the type compatibility with an example.
b) Describe the different types of assignment statements. [5+5]

6. Explain the generic subprograms in Ada with an example. [10]

OR

7. Explain the overloaded subprogram with an example. [10]

8.a) Describe about the basic elements of prolog.
b) Distinguish between java thread and C# thread. [5+5]

OR

9. What is exception. How to handle the exceptions in Ada with an example. [10]

10.a) Explain the comparison of functional and imperative languages.
b) Write about Haskell. Explain the functions in Haskell. [5+5]

OR

11.a) Describe the scoping rule in common LISP, ML and Haskell.
b) Explain the applications of functional programming languages. [5+5]

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