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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