

R09

Code No: 09A50501

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**

**B. Tech III Year I Semester Examinations, May/June – 2013**

**Principles of Programming Languages  
(Computer Science and Engineering)**

**Time: 3 hours**

**Max. Marks: 75**

**Answer any five questions**

**All questions carry equal marks**

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1. What is meant by programming paradigm? Explain various programming paradigms with examples. [15]
- 2.a) Write BNF description for arithmetic expressions that implements the operator hierarchy of any imperative language.  
b) Discuss with an example operator precedence grammar. [15]
- 3.a) Briefly explain the specification and implementation aspects of the following data types.  
i) Boolean ii) Character  
b) What do you mean by dangling reference? Explain with an example. [15]
4. Discuss in detail the design issues for arithmetic expressions. [15]
- 5.a) Define scope. Explain the static scope and dynamic scope with examples.  
b) Explain pass by result parameter passing technique in detail. [15]
6. Discuss how producer-consumer problem and Dining philosopher's problem are solved using concurrency in ADA. [15]
- 7.a) Discuss how exception handlers are helpful in C++ exception handling.  
b) Explain the use of java finally clause in exception handling. [15]
- 8.a) Explain some of the important functions of LISP.  
b) Describe procedural abstraction in Python. [15]

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