Code No: 114DJ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year II Semester Examinations, May - 2017
PRINCIPLES OF PROGRAMMING LANGUAGES
(Information Technology)

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) Define parsing. [2]
  b) Differentiate between procedural languages and object oriented languages. [3]
  c) What mixed-mode assignments are allowed in C and Java? [2]
  d) Write any two design issues for arithmetic expressions. [3]
  e) What is meant by static and dynamic allocation? [2]
  f) List design issues of sub programs. [3]
  g) Define monitor. [2]
  h) What is the difference between checked and unchecked exception in java? [3]
  i) What data types were parts of original LISP? [2]
  j) What type inferencing is used in ML? [3]

PART-B
(50 Marks)

2.a) What do you mean by axiomatic semantics? Explain with an illustration computation of weakest precondition for a sequence of statements.
  b) What are the factors that influence the basic design of programming languages?
  [5+5]

OR

3.a) Describe the basic concept of denotational semantics.
  b) Explain in detail about various language evaluation criteria and the characteristics that affect them. [5+5]

4.a) Explain about stack dynamic variables and explicit heap dynamic variables.
  b) Explain about heap management of a single size and variable size segments. [5+5]

OR

5.a) Explain about subscript bindings and various array categories.
  b) What are guarded commands? Explain. [5+5]

6.a) Explain how subprogram is overloaded. Give examples.
  b) Explain about parameterized abstract data types with an example in C. [5+5]

OR

7.a) Explain how various implementation models of parameter passing are actually implemented.
  b) Distinguish between name type compatibility and structure type compatibility using examples. [5+5]

8.a) Explain in brief about exception handling in Ada.
 b) Discuss in detail Terms and Goals statements in Prolog.   [5+5]

OR

9.a) What is a semaphore? What are the operations performed on a semaphore?
 b) Write short notes on C# threads.   [5+5]

10.a) Explain the basic primitives of LISP. Give suitable examples.
 b) Explain in detail ML inferencing process.   [5+5]

OR

11.a) Explain about the data types and their values in python.
 b) What is the importance of module library in python?   [5+5]

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