Code No: R22056 **R10** SET - 1

II B. Tech II Semester Supplementary Examinations, January - 2014
PRINCIPLES OF PROGRAMMIG LANGUAGE
(Com. to CSE, IT)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks
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1. a) Explain in detail about various language evaluation criteria and the characteristics that affect them.
   b) Explain the process of compilation. (7M+8M)

2. a) Explain in detail about the notion of Binding Time.
   b) Explain in detail about an object lifetime and storage management. (7M+8M)

3. Define Attribute grammars. Give an attribute grammar for simple assignment statements. How is the order of evaluation of attributes determined for the trees of Attribute grammar? (15M)

4. a) Explain in detail about structured and unstructured control flows.
   b) Explain in detail about sequencing and recursion control flows with examples. (7M+8M)

5. Explain in detail the following data types:
   a) array
   b) lists
   c) record
   d) union and pointer (15M)

6. Briefly explain message passing run-time program management in detail. (15M)

7. Explain in detail about the following concepts in Object Oriented Programming:
   a) Encapsulation
   b) Multiple inheritances
   c) Dynamic Method Binding (5M+5M+5M)

8. a) Explain about functional forms provided in LISP.
   b) Discuss about basic elements of Prolog. (7M+8M)

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Code No: R22056 **R10** SET - 2

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(Com. to CSE, IT)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks
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1. a) Give important factors that influence the basic design of programming language.
   b) Explain in detail about Programming domains and language categories. (8M+7M)

2. a) Define Lifetime, scope, static Scope and dynamic scope. What are the general problems with static scoping?
   b) Discuss on implementation of pointer and reference types. (8M+7M)

3. a) What do you mean by axiomatic semantics? Give the weakest precondition for a sequence of statements.
   b) Explain about stack dynamic variables and explicit heap dynamic variables. (7M+8M)

4. Explain in detail about the following Control Flows with examples:
   a) Sequencing
   b) Iteration
   c) Recursion (5M+5M+5M)

5. a) Explain in detail various design issues of character string types.
   b) Explain about pointers in C and C++. (8M+7M)

6. a) Explain in detail about Concurrent programming fundamentals.
   b) Explain in detail about Language – level mechanisms. (7M+8M)

7. a) Briefly explain Dynamic Method Binding in Java with example.
   b) What are the applications of Logic Programming? (7M+8M)

8. a) Explain Functional Programming concepts in detail.
   b) Explain Logic programming concepts in detail. (7M+8M)
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Code No: R22056 **R10** SET - 3

II B. Tech II Semester Supplementary Examinations, January - 2014
PRINCIPLES OF PROGRAMMIG LANGUAGE
(Com. to CSE, IT)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks
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1. Explain in detail the following programming language implementation:
   a) Compilation
   b) Virtual Machines
   c) Programming environments (5M+5M+5M)

2. a) Explain in detail about the binding of referencing environments.
   b) Explain in detail about Macro expansion and separate compilation. (7M+8M)

3. a) Explain in detail about the role of Semantic Analyzer.
   b) Explain in detail about the Space management for attributes. (7M+8M)

4. Explain in detail the following Control structures:
   a) Compound Statements
   b) Unconditional Statements
   c) Guarded commands (5M+5M+5M)

5. a) What is type checking? Discuss the various types of type checking.
   b) Explain about type compatibility. (8M+7M)

6. a) Explain the basic concepts of exception handling? What are the design issues for exception handling systems?
   b) Why were imperative features added to most dialects of LISP? (8M+7M)

7. Explain in detail about the following concepts in Object Oriented Programming:
   i) Encapsulation
   ii) Inheritance
   iii) Dynamic Method Binding (5M+5M+5M)

8. a) Write the applications of logic programming.
   b) Write about the basic elements of PROLOG.
   c) What is an exception? (5M+5M+5M)

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Code No: R22056 **R10** SET - 4

II B. Tech II Semester Supplementary Examinations, January - 2014
PRINCIPLES OF PROGRAMMIG LANGUAGE
(Com. to CSE, IT)

Time: 3 hours Max. Marks: 75

Answer any **FIVE** Questions
All Questions carry **Equal** Marks
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1. Explain in detail the following Programming Language Implementation:
   a) Interpretation
   b) Context-Free Grammars
   c) Programming environments (5M+5M+5M)

2. a) Explain in detail about the Binding of Referencing Environments.
   b) Explain in detail about an Object Lifetime and Storage Management. (7M+8M)

3. a) Explain in detail about the procedure of evaluating Attributes.
   b) Explain about S-attributed and L-attributed grammar in detail. (7M+8M)

4. a) Explain in detail arithmetic relational and Boolean expressions.
   b) Explain in detail assignment statements. (8M+7M)

5. a) Explain type checking techniques in parameter passing.
   b) Explain how multidimensional arrays are passed as parameters. (8M+7M)

6. a) What are the three semantic models of parameter passing?
   b) Define shallow and deep binding for referencing environments of subprograms that have been passed as parameters. (8M+7M)

7. Explain in detail about the various concepts in Object Oriented Programming. (15M)

8. a) What is unification? Why is it important in logic programming?
   b) Describe the difference between forward chaining and backward chaining. Which chaining in used in PROLOG by default.
   (5M+10M)

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