Code: 9A05501

R9

B.Tech III Year I Semester (R09) Supplementary Examinations, May 2013
PRINCIPLES OF PROGRAMMING LANGUAGES
(Common to ECC and CSE)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a)   Compare the two approaches of bridging gap between high level languages and machine level languages.
  (b)   How an abstract syntax tree helps the designer of the programming languages? Explain with suitable an example

2 (a)   Convert the following BNF to EBNF
          <assign> → <id> = <expr>
          <id> → A | B | C
          <expr> → <id> + <expr> | <id> * <expr> | (<expr>) | <id>
  (b)   Describe the basic concept of denotational semantics.

3 (a)   What are design issues and implementation issues to be considered for including records and unions in a programming language?
  (b)   What is a variable? What are the attributes of a variable? Elaborate on each of them.

4 (a)   What are the differences between break statement of C++ and that of java?
  (b)   Give brief description about guarded commands.
  (c)   Write design issues for arithmetic expressions.

5 (a)   Discuss about type-checking.
  (b)   Explain how subprograms names are passed as parameters.

6   What is a monitor? Explain usage of monitors with example in concurrent Pascal to implement cooperation synchronization.

7 (a)   Explain exception handling in ML.
  (b)   Distinguish between checked and unchecked exceptions.

8 (a)   Discuss in detail about the different data structures that are present in LISP with suitable examples.
  (b)   Give brief description about the dialects of LISP.

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