Code No: 55025 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I Semester Examinations, May/June - 2015
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.a) Discuss the readability problem which is caused by using the same closing reserved control statements in languages that lack them
b) In what way do overriding methods in C# syntactically differ from their counterparts in C++? [8+7]

2.a) Convert the following EBNF TO BNF
S → A {bA}
A →a[b]A
b) Discuss about denotational and axiomatic semantics. [8+7]

3.a) What are the advantages of user-defined data types?
b) Discuss in detail the primary design and implementation issues of pointer and reference types.
c) What is type checking? Mention its importance. [5+5+5]

4.a) Discuss the advantages and disadvantages of Short Circuit Evaluation.
b) Consider the rules of associativity and precedence of Java language show the order of evaluation of the following expression: a + b * c / (d / e * f %g) – h. [8+7]

5.a) Describe the design issues for functions.
b) In what ways are co-routines different from conventional subprograms? Explain with suitable examples. [8+7]

6.a) What is a monitor? How do monitor condition variables differ from semaphores?
b) Explain about C++ parameterized ADT with appropriate examples. [8+7]

7.a) What are the possible frames of exceptions in Ada? How can an exception be explicitly raised in Ada?
b) What are the syntactic forms and usage of fact and rule statements in Prolog? [8+7]

8.a) Write about Procedural Abstraction and Data Abstraction with respect to scripting languages.
b) State the applications of functional programming languages. [9+6]

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