B.Tech. Degree III Semester Examination November 2014

CS 1305 PRINCIPLES OF PROGRAMMING LANGUAGES
(2012 Scheme)

Time: 3 Hours   Maximum Marks: 100

PART A
(Answer *ALL* questions)

(8 × 5 = 40)

I.   (a)   What are the benefits of learning the concepts of programming languages?

(b)   Write a note on attribute grammars.

(c)   Explain the concept of arranging array elements as row-major-order and column major-order.

(d)   Differentiate between scope and lifetime of a variable.

(e)   Explain the features of Small talk.

(f)   Differentiate between function overloading and function overriding.

(g)   Explain the inferencing process of Prolog.

(h)   Write a note on clausal form.

PART B

(4 × 15 = 60)

II.   Define the syntax of a programming language and explain the formal methods of describing syntax.   (15)

OR

III.   Explain in detail, the various factors affecting the evaluation of programming languages.   (15)

IV.   What are the different types of parameters? Explain the various parameter passing methods.   (15)

OR

V.   (a)   What are pointers? What are the various design issues associated with pointers?   (10)

(b)   Write short notes on   (5)
         (i)   Referencing environment
         (ii)   Named constants

VI.   Explain in detail, the design issues associated with programming languages.   (15)

OR

VII.   What are errors and exceptions? Explain how exceptions are handled in Java.   (15)

VIII.   (a)   Discuss the different types of statements in Prolog with example.   (10)

(b)   Explain the following: (5)
         (i)   COND
         (ii)   LIST

OR

IX.   (a)   Explain the characteristics of functional programming languages.   (10)

(b)   What are atoms and lists in LISP?   (5)

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