Code No: 07A40501   R07   Set No. 2

II B.Tech II Semester Examinations,December 2010
PRINCIPLES OF PROGRAMMING LANGUAGES
Computer Science And Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) What is the use of friend function in C++? Explain with example.

   (b) Write short notes on C# threads.   [8+8]

2. (a) What is a language generator? Explain how the language generator used to generate the sentences of a language.

   (b) Compute the weakest precondition for the following assignment
   x = 2 * y + x - 1 { x > 1 }   [8+8]

3. (a) Explain the problems associated with Unconditional Branching.

   (b) Explain about the iteration based on Data structures.   [8+8]

4. (a) What are the exceptions that are defined in the default package standard. Explain.

   (b) What are the classes of exceptions in java. Explain.   [8+8]

5. (a) Explain coroutines in detail.

   (b) What are the generic characteristics of sub program.   [12+4]

6. Define the following:

   (a) Stack Dynamic

   (b) Explicit Heap-dynamic

   (c) Implicit heap-dynamic variables

   (d) Static.   [4+4+4+4]

7. (a) How can knowledge of programming language characteristics benefit the whole computing community? Discuss.

   (b) Why is it useful for a programmer to have some background in language design?   [8+8]

8. (a) What is functional composition. Explain.

   (b) Describe the semantics of COND and LET.   [8+8]

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Code No: 07A40501 | **R07** | **Set No. 4**

II B.Tech II Semester Examinations,December 2010
PRINCIPLES OF PROGRAMMING LANGUAGES
Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain in detail the Java thread class.

    (b) Give brief description about binary semaphores. [8+8]

2. (a) What is the role of interpretation in the design of Programming languages? Discuss.

    (b) Distinguish between Compilation and Interpretation. [8+8]

3. (a) Differentiate between procedures and functions.

    (b) Explain pass-by-reference and pass - by - result parameter passing techniques. [6+10]

4. (a) Write a scheme function that computes the volume of a sphere, given its Radius.

    (b) Describe the semantics of COND and LET. [8+8]

5. Explain in detail about exception handling in Ada. [16]

6. (a) Explain about the Coercion in Expressions.

    (b) List out the errors that can occur in expression evaluation. [8+8]

7. Discuss about the heap management during the runtime process. [16]

8. (a) Describe the operation of a general language generator.

    (b) Consider the grammar
    <assign> → <id> = <expr>
    <id> → A|B|C
    <expr> → <expr> + <term> | < term >
    <t erm > → <term> * < factor > | < factor >
    <factor> → (<expr>) | < id > Show a parse tree and a leftmost derivation
    for B = C* (A * C + B) (D) [8+8]

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Code No: 07A40501   **R07**   **Set No. 1**

II B.Tech II Semester Examinations,December 2010
PRINCIPLES OF PROGRAMMING LANGUAGES
Computer Science And Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain the considerations for choosing parameter passing methods.

   (b) Explain with example, how arrays can be passed as arguments.   [8+8]

2. Discuss about the following Denotational semantics:

   (a) Assignment statements

   (b) Logical pretest loops.   [8+8]

3. (a) Discuss the applications of functional languages.

   (b) What are the differences between functional and imperative languages. [8+8]

4. (a) Describe how pointers are used in C and C++ with examples?

   (b) Discuss the various problems associated with pointers.   [8+8]

5. (a) How can an exception handler be written in java so that it handles any exception.

   (b) How are exceptions bound to handlers in C++.   [8+8]

6. (a) What are the three possible levels of concurrency in programs? Explain.

   (b) Discuss about the multiprocessor architecture in detail.   [8+8]

7. (a) Describe narrowing and widening conversion.

   (b) Describe a situation in which add operator in a Programming Language, would not be associative.   [8+8]

8. (a) Explain the different aspects of the cost of a programming language.

   (b) What common programming language statement, in your opinion, is most detrimental to readability?   [8+8]

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Code No: 07A40501 | **R07** | **Set No. 3**

II B.Tech II Semester Examinations,December 2010
PRINCIPLES OF PROGRAMMING LANGUAGES
Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain differences between a depth first and breadth first search when discussing how multiple goals are satisfied.

   (b) Explain the two approaches to matching goals to facts in a database. [8+8]

2. (a) What are the different states that a task can be. Explain.

   (b) Explain in detail the cooperation synchronization. [6+10]

3. (a) What is a linker? Explain the responsibilities of the linker.

   (b) Explain the three methods of implementing a programming language. [8+8]

4. (a) Distinguish between Static Strings and Dynamic Strings.

   (b) Describe the process of Array initialization. [8+8]

5. (a) Explain, how multidimensional arrays can be passed as arguments in Ada language.

   (b) Explain the various design issues that are involved in functions. [8+8]

6. (a) Explain DEFINE function in detail with suitable example.

   (b) What are the features of ML. Explain. [8+8]

7. (a) Discuss the benefits of Operator overloading.

   (b) Explain the different types of operators that can be overloaded in C++. [8+8]

8. (a) Explain how is the order of evaluation of attributes determined for the tree of a given grammar.

   (b) Compute the weakest precondition for the following sequences of assignment statements and their postcontidions:
   a = 2 * b + 1;
   b = a - 3
   { b < 0 } [8+8]

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