Paper Code: CS503

Roll No.

B.TECH
(SEM V) ODD SEMESTER EXAMINATION 2016-17
PRINCIPLE OF PROGRAMMING LANGUAGE

[Time: 3 hrs.]   **[Max. Marks: 100]**

Note- Attempt All Questions. All Questions carry equal marks:-

1. Attempt any four questions.   [4x5=20]
   a) Explain Ambiguity and its type with example.
   b) Explain the terms syntax and semantics and pragmatic in details.
   c) Define BNF and CFG grammars with their notations. How CFG is different from the BNF.
   d) What are the prominent features of Programming Languages?
   e) Describe the concept of orthogonality in programming language design.
   f) Describe the various phases of complier with a proper example.

2. Attempt any two questions.   [2x10=20]
   a) Write short notes on the following:
      i) Elementary Data Type.   ii) Inheritance and Encapsulation.
   b) Describe Implicit and Explicit Sequence Control with example.
   c) Briefly define Subprogram Control. Explain call by value, call by reference and call by name.

3. Attempt any two questions.   [2x10=20]
   a) Define the concept of imperative programming. Discuss its data structure used.
   b) Explain the following terms with one proper example each:
      i) Runtime Polymorphism   ii) Abstraction
   c) What is the concept of Functional Programming? Describe LISP with help of some commands.

4. Attempt any two questions.   [2x10=20]
   a) Explain the concept of Logic Programming. Represent following expressions in FOPL:
      i) Sue is human.
      ii) Bill owns a House.
      iii) John like Pizza.
      iv) Peter doesn't own a house.
      v) Every house has an owner.
   b) Define Concurrent Programming. What are the different techniques used for Synchronization in Concurrent Programming.
   c) Write short notes on the following terms:
      i) Prolog   ii) Network Programming.

5. Attempt any two questions.   [2x10=20]
   a) Write a short note on Lambda Calculus.
   b) Explain the following terms with a proper example each:
      i) Bound and Free Variables.   ii) β- reduction.
   c) Write the short notes on Simple Types and Subtyping.