CS-503 **Roll No.** | | | | | | | | | | |

B.Tech.
(SEM V) ODD SEMESTER EXAMINATION 2015-16
Principle of Programming Languages

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

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

Q1. Attempt any four: **(5*4=20)**

a. What is the role of programming languages?
b. Define the main attributes of a good programming language?
c. What do you mean by paradigms of programming languages?
d. What are the main benefits of using high level languages?
e. Draw various phases of compiler by drawing a suitable diagram.
f. Write five differences between a compiler and an interpreter.

Q2. Attempt any two: **(10*2=20)**

a. Explain formal translation models with their relative merits.
b. What are the main stages of the process of translation of a program? Describe each stage.
c. Discuss Chomsky classification of languages with their language recognizer.

Q3. Attempt any two: **(10*2=20)**

a. What are the different specification of data types? Give general syntax of specification of an operation and explain it.
b. Explain the concept of abstraction and its categories. What are the two parts of abstract data types and also discuss benefits of ADT with example.
c. Short notes on any two of the following:
    i. Encapsulation
    ii. Inheritance
    iii. Sequence control

Q4. Attempt any two: **(10*2=20)**

a. What do you understand by imperative programming languages? Explain various characteristics of the imperative programming languages?
b. Differentiate between the definition of activation record and activation template. Write the implementation of activation record and its template using suitable example.
c. Write short note on any two of the followings:
    i. Call by value
    ii. Call by reference
    iii. Function vs. Subprogram

Q5. Attempt any two: **(10*2=20)**

a. Write an algorithm (steps) for Client/Server system using transmission control program (TCP) in the context of network programming.
b. What is lambda calculus? Explain function composition in lambda calculus with example.
c. Write short note on any two of the followings:
    i. Concurrent programming
    ii. Functional programming
    iii. Logic programming