



RN-6767

**B. E. - III (Sem. V) (Computer) Examination**  
**May / June - 2010**  
**Principles of Programming Languages**

Time : 3 Hours]

[Total Marks : 100

**Instruction :**

नीचे दर्शायेले निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. - 3 (Sem. 5) (Computer)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Principles of Programming Languages"/>	<input type="text"/>
Subject Code No. : <input type="text" value="6"/> <input type="text" value="7"/> <input type="text" value="6"/> <input type="text" value="7"/>	<input type="text"/>
Section No. (1, 2,...): <input type="text" value="1&amp;2"/>	<input type="text"/>
	Student's Signature

**SECTION - I**

- 1 (a) Match A with B 4
- | A                             | B                               |
|-------------------------------|---------------------------------|
| (i) Imperative language       | Functional language             |
| (ii) Applicative language     | Complex object                  |
| (iii) Rule-based language     | Procedural and command oriented |
| (iv) Object-Oriented language | Enabling condition.             |
- (b) Fill in the blanks : 6
- Program graphs contain \_\_\_\_\_ and \_\_\_\_\_ nodes.
  - In a simple call return subprogram code segment contains \_\_\_\_\_ and \_\_\_\_\_.
  - Association means binding of identifier to particular data object and subprograms.
  - \_\_\_\_\_ and \_\_\_\_\_ are one of the components of referencing environment.
  - \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are storage management phases.
  - Coercions are called \_\_\_\_\_ if int to long conversion occurs automatically.

- (c) (i) Describe the reasons why one should study a programming language. 8
- (ii) Define syntax and semantics. 2
- OR**
- (i) What is binding and binding time? Classify binding time. 8
- (ii) Explain strong typing. 2
- 2** (a) Write a prolog program to find the sum of prime numbers of first 100 integers. 7
- (b) Write a short-note on simple call-return subprograms. 8
- OR**
- (b) (i) Explain implicit and explicit sequence control. 4
- (ii) Explain two central problems in storage management. 4
- 3** Attempt any **three** : 15
- (i) Explain retention and deletion in reference to local referencing environment.
- (ii) Explain prime programs.
- (iii) Write a short-note on co-routines.
- (iv) Explain various components of referencing environment.

## SECTION - II

- 4** (a) State True or False related to C++: 10
- (i) Inline function increases speed of executing a program.
- (ii) Friend function can be used to share the private data of a class.
- (iii) Objects are made to provide data abstraction.
- (iv) It is possible to convert an object to a basic data type.
- (v) Constructor can be overloaded.

- (vi) It is not possible to create a program without a class.
  - (vii) C++ cannot be used to create system programs.
  - (viii) Inheritance is also called 'Has a' relationship.
  - (ix) Operator = cannot be overloaded.
  - (x) Destructors are called in order of object creation.
- (b) Answer the followings: **10**
- (i) Explain function overloading with an example.
  - (ii) Overload + and += functions for a class coordinate containing x and y integers.
- 5** (a) With a code snippet, explain public and private inheritance. **8**
- (b) Explain containership with a suitable example. **7**
- OR**
- 5** (a) With a program, explain the use of friend function as a bridge between two classes. **8**
- (b) Explain virtual base class with a suitable example. **7**
- 6** Answer any **three** : **15**
- (i) Describe inline function with a program.
  - (ii) List and explain all three characteristics of an Object Oriented Programming Language.
  - (iii) Explain nameless temporary object.
  - (iv) With a code snippet, explain exception handling.

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