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SE-6767

B. E. - III (Sem. V) (Computer Engineering) Examination

April / May – 2011

Principles of Programming Languages

Time :3 Hours] [Total Marks : **100**

Instructions :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. - 3 (SEM. 5) (COMPUTER ENGINEERING)

Name of the Subject :

☛ Principles of Programming Languages

☛ Subject Code No. : 6 7 6 7 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

Section 1

1 A) Fill in the blanks. 10

1] _____ means checking that each operation executed by a program receives the proper number of arguments of proper data type.

2] Most languages provides a data type for representing true and false, usually called a _____ data type.

3] A data structure is _____ if all its components are of the same type.

4] The data structure composed of a fixed number of components of different types is usually termed a _____

5] Usually the _____ causes control to move forward in the program an explicit point at the end of a given control structure.

6] A _____ is a proper program that can not be subdivided into smaller proper programs.

7] Prolog program consists of a series of facts, concrete relationship among data _____ and a set of rules.

8] Backtracking is a general programming technique available in any language that creates _____ structures.

9] Uniform evaluation rule is also known as _____ evaluation rule.

10] _____ is the operation of joining two character strings to make one long string.

B) Explain polymorphism with example. 5

C) Explain heap storage management. 5

2 A] Explain language paradigms in detail . 10

B] Explain abstract classes in brief. 5

OR

A) Explain attributes of good language in detail. 10

B) Write about elements that are required for storage. 5

3 Explain any three. 15

1. Binding time.
2. Strong typing.
3. Backtracking.
4. Rule based languages.

Section II

4 (a) Fill-in the blanks: [10]

1. Out of C++ and Java, _____ is platform independent.
2. Generic class is created by _____ feature of C++.
3. _____ function is used to force the derived classes to override the same function.
4. _____ function is called automatically in order of the object creation.
5. If a function is small, _____ keyword is put before the function to speed up execution time.
6. 'Has a' relationship is also called _____.
7. Out of C++ and Java, _____ has virtual machine.
8. In function _____, two or more function with same names are written in the class.
9. There are two types of polymorphism in C++: Function Overloading and _____.
10. _____ handling feature has three keywords: try, throw and catch.

(b) Answer the followings: [10]

1. Emulate DOS Type command with a command line argument.
2. With an example, show how an object can be converted into another object.

5 (a) With a code snippet, explain static variables and static function. [08]

(b) Explain function overriding with a code snippet. [07]

OR

(a) With a code snippet explain virtual base class. [08]

(b) Overload >> and << operators for a class citizen containing name and age. [07]

6 Answer ANY THREE: [15]

1. Describe any use of friend function with a code snippet.
2. Explain function overloading with a program.
3. With a simple C++ code explain the conversion between objects of two classes.
4. Write a short-note on JAVA.