

00154

**POST GRADUATE DIPLOMA IN
LIBRARY AUTOMATION AND
NETWORKING (PGDLAN)**

Term-End Examination

December, 2010

MLI-007 : PROGRAMMING (C++)

Time : 2 hours

Maximum Marks : 50

(Weightage : 40)

Note : (i) *There are three parts in this Question Paper.*

Part A : C++

Part B : Java

Part C : Visual Basic

- (ii) *Candidates are advised to attempt only the part opted by them.*
- (iii) *Mention clearly the part attempted before answering.*
- (iv) *All parts carry equal marks.*
- (v) *Answer all questions. All questions carry equal marks. Illustrate your answers with suitable examples and diagrams, wherever necessary. Write the relevant question number before writing the answer.*
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PART-A : C++

- 1.1 Define 'Overloading' ? Explain operator overloading with an example.

OR

- 1.2 Explain the concept of encapsulation and information hiding in an object-oriented paradigm, with the help of an example.

- 2.1 Explain the role of inheritance feature in object-oriented programming with a suitable example program in C++.

OR

- 2.2 Explain the various access specifiers available in C++, and differentiate between them with the help of an example.

- 3.1 How are arrays declared in C++ ? How can pointers be used to manipulate array elements ? Give an example.

OR

- 3.2 Explain the role of a destructor in a class. What is its functionality in terms of cleanup of unwanted objects.

4.1 Write a program in C++ that accept a string of 10 characters from the keyboard and count the occurrences of vowels in the string.

OR

4.2 Write a "string" class in C++ which should include two member functions, one function for calculating the number of words in an input string and another to calculate the number of characters.

5.0 Write short notes (about 250 words each) on *any two* of the following :

- (a) Polymorphism
- (b) BITWISE operators
- (c) Procedural programming
- (d) Nested classes

PART-B : Java

- 1.1** Define an algorithm. Write an algorithm to find the sum and average for "N" numbers given as input. Also draw a flowchart for the above problem.

OR

- 1.2** With the help of an illustration, discuss the general characteristics of any system.

- 2.1** Describe the basic features of JAVA programming language. Also, discuss the components of JAVA platform.

OR

- 2.2** Discuss the basic purpose of using JAVA libraries. Also, mention the use of following libraries in the programming :

- (a) JAVA. LANG
- (b) JAVA. AWT
- (c) JAVA. IO
- (d) JAVA. NET

- 3.1** With an example for each, list all the relational, logical and Bitwise operators used in JAVA programming language.

OR

3.2 Write an interactive simple program in JAVA to convert a Fahrenheit temperature to its equivalent Celsius temperature. Formula being $C = (5/9)(F - 32)$.

4.1 With the help of an example for each, write the syntax for the following constructs :

- (a) Switch case
- (b) For
- (c) Break
- (d) Goto

OR

4.2 Discuss briefly with respect to packages in JAVA:

- (a) Creating new packages
- (b) Importing packages
- (c) Adding classes to existing packages

Also, give an example for each.

5.0 Write short notes (about 250 words each) on *any two* of the following :

- (a) Exception handling in JAVA
- (b) Interfaces
- (c) Inheritance feature
- (d) Static and dynamic methods.

PART-C : VISUAL BASIC

- 1.1 Define a form. What are the essential properties of a form to be set ? What is the application of a tool box and a tool bar in designing a form ?

OR

- 1.2 Define an event. Describe the basic functionality of the following events and also mention the controls associated with them :

- | | |
|---------------|----------------|
| (a) Dbclick | (b) DeActivate |
| (c) Lostfocus | (d) UnLoad |
| (e) DragDrop | |

- 2.1 Describe the important features of IDE (integrated development environment) of Visual Basic.

OR

- 2.2 Define a variable. Mention the rules of naming a variable in VB. Also, list the types of variables along with their suffix special characters (at the end of the variable name).

- 3.1 List and explain the functions of various windows those are displayed when the VB application gets loaded in the design - mode.

OR

- 3.2 Write an event procedure to find sum and average of list of "N" numbers given as input. Draw the layout of the user - interface.

4.1 Write an event procedure to calculate the total marks, average, percentage and corresponding grade, if marks of 3 courses (TMA and TEE) are given. Note that pass in both the components are compulsory. 40% is the pass - percentage. Assumptions can be made wherever necessary. Draw the layout of the user-interface.

OR

4.2 Write the file extension names for the following VB files :

- (a) Project file
- (b) Form module file
- (c) Custom control file
- (d) Standard module file
- (e) Class module file
- (f) Resource file.

5.0 Write short notes (about 250 words each) on *any two* of the following :

- (a) OLE
 - (b) Indexes
 - (c) DbList, DbCombo and DbGrid controls
 - (d) String functions
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