

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

Term-End Examination 00516

June, 2018

MLI-007 : PROGRAMMING

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** Compare and contrast procedural with object-oriented programming paradigms. Also, give an example of each programming paradigm.

OR

- 1.2** "Algorithm design is the key factor in problem solving". Justify the statement and also explain different problem solving strategies.

- 2.1** Define the term "Polymorphism" in context of C++. Also, write a program demonstrating the concept of polymorphism in C++.

OR

- 2.2** Explain the difference between private and public member functions, using suitable C++ program segments for each.

- 3.1** Explain how an array of objects can be created using a suitable C++ program.

OR

- 3.2** Write a program in C++ to perform addition of two 3×3 matrices.

- 4.1** Define static variable and a static function. Differentiate between both using suitable program codes in C++.

OR

- 4.2** Explain the concept of destructor in a class using an example of C++ code. Also, discuss its role in term of cleanup of unwanted objects.

- 5.0 Write short notes (about 250 words each) on any two of the following :
- (a) Abstract class
 - (b) Type casting
 - (c) Templates
 - (d) Exception Handling

PART - B
(Java)

- 1.1 Write differences and similarities between 'Applets' and 'Applications' in Java. Also, give an example of each.

OR

- 1.2 Explain the use and significance of the following in Java.
- (i) java.lang
 - (ii) java.awt
 - (iii) java.util
 - (iv) java.io

- 2.1 Create a class student_data. Also, write corresponding meaningful data members and member functions to output the students names, programme code and semester number, if student's roll number is given.

OR

- 2.2 Write a program in Java to maintain the record of books in a library. Details of the books should be saved according to rack/shelves, subject wise. Write appropriate data members and member functions.

- 3.1 What is the difference between 'type casting' and 'type conversion' ? How is type conversion and type casting implemented in Java ?

OR

- 3.2 Differentiate between keywords "this" and "super". Also, write a code segment as an example for each.

4.1 Can we refer a subclass object by a superclass variable ? Explain with the help of an example.

OR

4.2 What is encapsulation ? How does Java ensure restricted access to the data members of a class ? Explain.

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

- (a) Packages
- (b) Constructors and Destructors
- (c) Try-Catch Statement
- (d) Wrapper Classes

PART - C

(Visual Basic)

1.1 Discuss OLE (Object Linking and Embedding) with the help of examples.

OR

1.2 What is the use of a Data Control on the form ? Explain with the help of an example.

2.1 Write an event procedure that accepts list of "n" numbers and count the number of even numbers and odd numbers and display them separately.

OR

2.2 Write an event procedure that check whether the given number is a prime number or not.

3.1 Write the syntax for the following control structures and also give an example for each.

- (a) For Statement
- (b) Select Case

OR

3.2 What is a variable ? What are the various rules to be followed to name a variable. Also, give any four valid variable names.

4.1 Explain the use and associated events (**any two**) for the following controls :

- (a) Label
- (b) List Box
- (c) Check Box
- (d) Image

OR

4.2 Explain various Date and Time functions available in VB, along with an example for each.

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

- (a) MDI Form
 - (b) DB List and DB Combo
 - (c) Indexes
 - (d) Flexi Grid Control
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