

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

**Term-End Examination**

**June, 2015**

00448

**MLI-007 : PROGRAMMING**

*Time : 2 hours*

*Maximum Marks : 50*

*(Weightage : 40%)*

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**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. (a) With the help of an example, explain Modularity. Also mention how can you achieve this in C++ programming.

### **OR**

- (b) Write short notes on any *two* of following Special Purpose Languages :
- (i) HTML
  - (ii) PERL
  - (iii) SQL
2. (a) List and give the operation for each of the following operators :
- (i) Arithmetic If operator
  - (ii) Comma operator
  - (iii) Sizeof operator
  - (iv) Bitwise operators

### **OR**

- (b) Explain how to create an object and assign value to it with the help of an example program-segment.
3. (a) With the help of an example program-segment, discuss how to create a file, open a file, write the contents to it, read the contents and close the file, in C++.

### **OR**

- (b) "Templates in C++ enable you to define generic classes." With the help of an example, justify the above statement.
4. (a) Write a program in C++ to implement the "fine-calculation from the students for the overdue books after the due-date" for a library. Select appropriate data-members and member functions.

**Note :** *Make necessary assumptions wherever needed.*

**OR**

- (b) Write a program in C++ to open a new membership in a library by a newly joined student. Write appropriate data-members and member-functions in C++.

**Note :** *Make necessary assumptions and write them.*

5. Write short notes (about 250 words each) on any **two** of the following :
- (a) Virtual Function
  - (b) Single Inheritance
  - (c) Public, Private and Protected Specifiers
  - (d) Exception Handling

## **PART B**

### **JAVA**

1. (a) Write an algorithm and draw a corresponding flow chart to find the largest number among the three numbers given.

### **OR**

- (b) Explain the following problem-solving strategies :
- (i) Divide and Conquer Strategy
  - (ii) Dynamic Programming
  - (iii) Backtracking

Also mention the application (at least one) for each strategy.

2. (a) With the help of an example for each, explain the use of the following constructs of JAVA programming :
- (i) Break
  - (ii) Continue
  - (iii) Goto

### **OR**

- (b) With the help of an example for each, explain the following looping constructs in JAVA :
- (i) do while ...
  - (ii) switch ... case ...

3. (a) What is a Constructor ? Explain how it is used in initialising an object. Give an example.

**OR**

- (b) Define Inheritance. List and explain the various types of inheritance possible in JAVA.
4. (a) Write a program in JAVA to search for an already existing book and mention the status like the Rack/Shelf no., subject-area, available/not available, etc.

*Note : Assumptions can be made wherever necessary.*

**OR**

- (b) Write a program in JAVA using inheritance, VEHICLE being the parent class and LIGHT MOTOR VEHICLE and HEAVY MOTOR VEHICLE being the derived classes. Create objects respectively. Write appropriate data-members and member functions for the above classes.
5. Write short notes (about 250 words each) on any *two* of the following :
- (a) Inner Classes
  - (b) Access Controls (Protected, Public, Private)
  - (c) Try and Catch Exception Statement

**PART C**  
**VISUAL BASIC**

1. (a) Explain the various stages/phases involved in System Development Life Cycle.

**OR**

- (b) Write an algorithm and draw a corresponding flow chart to find the sum and average of given 10 integers, as input.
2. (a) Discuss the various tools available on the VB interface.

**OR**

- (b) What is the use of a DEBUG window ? Explain briefly with the help of an example.
3. (a) List the various data types available in Visual Basic. Also, mention special symbol/character that can be used to indicate various types of variables.

**OR**

- (b) Briefly write the action that will be performed by each of the following financial accounting functions :
- (i) Rate function
  - (ii) DDB function
  - (iii) PV function
- Also, give the syntax for each.

4. (a) Write an event procedure to display the grade, total marks and average marks for the courses of PGDLAN. Evaluation consists of Assignments and TEE. Pass in both the components is compulsory.

**Note :** *Make necessary assumptions.*

**OR**

- (b) Write an event procedure to count the total of even numbers and odd numbers in a given list of 10 numbers as input.

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

- (a) Indexes and their creation
- (b) OLE (Object Linking and Embedding)
- (c) Multiple Document Interface (MDI)

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