POST GRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING (PGDLAN)

Term-End Examination   00148

December, 2014

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.

PART-A : (C++)

1.1 List the objectives of each phase of SDLC.

OR

1.2 Describe the multifaceted role of a Systems Analyst. Also, discuss the role of library professionals as System Analysts.

2.1 Write an algorithm and draw a corresponding flow-chart to find the smallest number among the 3 numbers given. Follow the proper conventions.

OR

2.2 Explain the following basic constructs of programming languages :

(a) Assignment statement

(b) Control statements

3.1 Discuss why is object oriented programming paradigm becoming popular when compared to other paradigms. List its benefits.

OR

3.2 With the help of an example for each, explain the Increment/Decrement Operators in C++.

4.1 Write a program in C++ to implement a class named "ISSUE" which helps in issuing the book(s) to the students in a college library.

Note : Make necessary assumptions, if necessary.

OR

4.2 Write a program in C++ to implement a class named "CATALOGUE" to maintain the details of the books in the "REFERENCE" section.

Note : Make necessary assumptions, if necessary.

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

(a) Multilevel Inheritance

(b) Array of Objects

(c) Function Overloading

(d) Scope Resolution Operator

PART-B : JAVA

1.1 Define a flow-chart. List all the flow-chart symbols and their purpose of use. Draw a flow-chart to add two integers and display their sum.

OR

1.2 Write an algorithm to find the largest among the three numbers given.

2.1 Differentiate between Applets and Java Applications. Mention 2 examples for each.

OR

2.2 Describe the object oriented programming features of JAVA.

3.1 Explain the following JAVA libraries :

(a) java.lang   (b) java.io

(c) java.awt   (d) java.util

OR

3.2 With the help of an example program code, explain the User-Defined Exceptions in JAVA.

4.1 Write a program in JAVA to display the course-details in any particular semester of a 3 year (6 semesters) bachelor degree programme, if enrolment no. and semester are given as inputs. Write appropriate data-members and member-functions.

> **Note :** Assumptions can be made where ever necessary.

OR

4.2 Write a program in JAVA to enter the details of the books to be placed on the racks/shelves, subject-area wise. Write appropriate data-members and member functions.

> **Note :** Assumptions can be made wherever necessary.

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

(a) Interfaces

(b) Adding classes to existing packages

(c) Type casting in JAVA

(d) Wrapper classes

PART-C : VISUAL BASIC

1.1 What is the basic purpose of drawing the Data Flow Diagrams (DFD's) ? List various symbols and their use in the DFD's.

OR

1.2 What is the role of a Systems Analyst ? What kind of qualities should he/she possess ?

2.1 Write step by step procedure to create a new table with the help of an example.

OR

2.2 What is a variable ? What are the various rules to be followed to name a variable. Give some valid variable names.

OR

2.3 What is the use of Form in VB ? Describe any seven Form properties.

3.1 Write the use of the following controls on the Form with an example for each :
  (a) Command button
  (b) Label
  (c) Combo box
  (d) Frame
  (e) Data control

OR

3.2 Write the syntax for the following control structures and also give an example for each :
  (a) For statement
  (b) Select case

4.1 Write an event procedure to find the Gross-salary, Net-salary for the Library employees of a University if Basic, Grade Pay, Allowances, TA, DA, Deductions, Attendance are given as input.

Note : Make assumptions wherever possible.

OR

4.2 Write an event procedure to calculate the late fine, if the book is returned to the library after the due-date by the student. The following are the rates :

Days	Fine
< 30	₹ 30
30-60 days	₹ 45
60-90 days	₹ 100
More than 90 days	Student should pay the cost of the book

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

(a)   Active × control

(b)   OLE

(c)   Creating Indexes.

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