POST GRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING (PGDLAN)

Term-End Examination

December, 2018

00761

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 Define the term "System" in the context of Systems Analysis and Design. What are its characteristics ? Also describe the classification of Systems.

OR

1.2 What is the Full-form of DFD ? List the symbols and mention their purpose. Draw a basic DFD for a Bibliographic search along with all of its conventions.

2.1 Define a Flow-chart. List the symbols of flow-chart along with their use. Also, draw a flow-chart to find the largest number among three given input numbers (A, B and C).

OR

2.2 Along with appropriate examples for each, explain Increment and Decrement operators in C++. Also mention their use in programs.

3.1 With reference to C++, explain the following statements along with an example program for each :

(a)   Do... While statement

(b)   Break and continue statements

OR

3.2 What are macros in C++ ? Write a macro to define :

(a)   a MAX function

(b)   a PI value

(c)   MAXSIZE of an array A

4.1 What is a member function in C++ ? Write the differences between Private and Public member functions along with an appropriate example for each.

OR

4.2 Write a C++ program to add two matrices A, B of size (2x2).

5.0 Write short notes (about 250 words each) on **any 2** of the following :
(a) Operator overloading
(b) Decrement and Increment operators
(c) Inheritance (Single and Multiple)
(d) Polymorphism in C++

PART - B
(JAVA)

1.1 Explain the features/characteristics of the following category of languages :
(a) Machine Language
(b) Assembly Language
(c) High-level language
(d) 4 GL

OR

1.2 Define the term algorithm. What is the significance of pseudocode in writing the algorithms ? List the characteristics of efficient algorithms.

2.1 With reference to Java explain the following terms :
(a) Platform Independent
(b) Multithreaded
(c) Portable
(d) Dynamic

OR

2.2 Write a program in Java to calculate the sum of given list of N numbers.

3.1 Describe the need and features of Java platform (JVM and Java API) and Java libraries.

OR

3.2 List and describe the following operators in Java :

(a)	Arithmetic	(b)	Bitwise
(c)	Logical	(d)	Relational

4.1 Explain the following Java statements along with their syntax and purpose of use :

(a) Try and Catch

(b) Throw

Write a simple program-segment for each statement and explain.

OR

4.2 Write a step by step process in Java to create packages and adding classes to existing packages.

5.0 Write short notes (about **250** words each) on **any 2** of the following :

(a) Interfaces in Java

(b) "Extends" and "find" keywords and their use .

(c) Type casting in Java

(d) Wrapper classes in Java

PART - C
(VISUAL BASIC)

1.1 Draw a Data flow Diagram (DFD) for "Student Admission System", following all the conventions of DFD's. Also mention a checklist of DFD construction.

OR

1.2 A system analyst must prossess various skills to effectively carry out the job. However, how does the following skills help him especially ? Explain.
   (a) Interpersonal skills
   (b) Technical skills

2.1 Define an *Event*. Describe the basic purpose of the following events and also mention the controls associated with them :
   (a) Dbl click   (b) De Activate
   (c) Lost Focus   (d) Unload
   (e) Drag drop

OR

2.2 Describe the basic features of VB-IDE (Integrated Development Environment).

3.1 For each of the category of the functions given below, give atleast 3 functions, their purpose and an example for each :
   (a) String functions
   (b) Financial functions

OR

3.2 Write an event procedure to enter the details of the newly arrived books. Also, draw a sample layout for the entry-form along with appropriate controls.

4.1 Write an event procedure to calculate the monthly wages of the daily wage employees working in the library given the attendance and pay - per day as inputs.

OR

4.2 Write the syntax for the following Control statements along with an example for each :

(a) For...Next   (b) Do While... Loop

5.0 Write short notes (about **250** words each) on **any 2** of the following :

(a) Debugging and Error handling in VB

(b) Indexes and their creation

(c) Multiple Document Interface. (MDI)

(d) Object Linking and Embedding (OLE)