MLI–007

POST GRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING (PGDLAN)
Term-End Examination
December, 2023

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. What is a system ? Explain the characteristics of a system.   10

   Or

   Explain any *two* system analysis methods.

2. What is an algorithm ? Write an algorithm to generate Fibonacci sequence (1, 1, 2, 3, 5.....).

   10

   Or

   What are the three common strategies for problems solving ? Explain with suitable example.

3. Explain the advantages/disadvantages of object oriented programming over procedural programming.   10

   Or

   Explain the statements : Break and Continue with appropriate examples.

4. What are the differences between multiple and multilevel inheritance ? Explain with suitable example. 10

Or

What is private and public member function ? Explain with suitable example.

5. Write short notes (in about **250** words each) on any *two* of the following : 10

   (a) Copy constructor

   (b) Operator overloading

   (c) Abstract class

   (d) Exception handling

Part B : Java

1. What is an algorithm ? Write any *five* characteristics of an efficient algorithm and also mention the causes of inefficiency of algorithm. 10

Or

Draw flow chart for the algorithm to print the larger value among three input values.

2. Explain any *five* features of Java language. Also, explain the concept of class in Java. 10

Or

   1. // This is my first program.

   2. Public class MyFirstProgram{

   3. Public static void main (string args [ ]){

P. T. O.

4. System.out.println   ("MyFirstProgram");
        }
    }

Explain all the keywords in all statements in above Java program and also write the commands to compile and execute this program.

3. Explain the differences between Applets and Applications.   10

Or

List all operators in Java in order of their precedence (from highest to lowest). Also explain use of logical operators with example.

4. Write a Java program to swap two numbers using third variable.   10

Or

What is inheritance ? List the various types of inheritance supported by Java and also write an example to illustrate the use of concept of inheritance in Java.

5. Write short notes (in about **250** words each) on any *two* of the following :   10

    (a) Exception handling

    (b) Array in Java

    (c) Package

    (d) Access Control in Java

Part C : Visual Basic

1. What is a system ? Explain the characteristics of a system. 10

Or

Explain all five categories or generations of programming languages that have evolved over the years.

2. Discuss the Rapid Application Development (RAD) features of Visual Basic. 10

Or

Define a form. What are its essential properties ? Explain the role of tool-box and tool-bar in designing the form with the help of an example.

3. Write an event procedure to generate multiplication table of Nine. Select appropriate controls on the form. 10

Or

How to create a database in Visual Basic ? Explain the process of updating a record in the table.

4. What is a control ? Explain the various controls in a form briefly. 10

Or

Explain the following functions with an example for each :

(i)   PV Function

(ii) FV Function

(iii) DDB Function

(iv) Pmt Function

5. Write short notes on any *two* of the following in about **250** words each :   10

(a) String Functions

(b) Windows API

(c) Picture Box

(d) Testing Phase in SDLC