

No. of Printed Pages : 8

MLI-007

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

Term-End Examination

December, 2020

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. Define a “system” in the context of an organisation and briefly explain the general characteristics of it.

Or

List all the elements of a “system” and explain them. Also, mention various classifications of systems.

2. Write an algorithm and draw a corresponding flowchart to find the largest number among 3 given numbers.

Or

Write short notes on the following special purpose languages :

- (i) HTML
 - (ii) Structured query language
3. Explain the following statements of C++ with the help of an example each :
- (a) WHILE
 - (b) FOR
 - (c) SWITCH

Or

Write a program in C++ to count the number of characters in a given string. Write appropriate class, data members and member functions.

4. Define a *friend* function. Illustrate its use by writing a program-segment.

Or

With the help of any C++ program, explain the purpose of base class and derived classes.

5. Write short notes (in about **250** words each) on any *two* of the following :
- (a) Virtual function
 - (b) Exception Handling
 - (c) Templates
 - (d) Polymorphism

Part B : Java

1. Explain the following programming paradigms :
- (a) Procedural programming
 - (b) Object oriented programming

Or

In the Software Development Life Cycle (SDLC), explain the following phases in detail :

- (a) Recognition of need
- (b) Feasibility study
- (c) Analysis
- (d) Design

2. Write a program in JAVA to perform “a/b”, where “a” and “b” are integers and also it should handle the “divide by zero” exception.

Or

Define an interface. Also, write a program segment in JAVA that defines an interface and a class that implements it.

3. Write a program in JAVA which accepts a string and replaces each alphabetic character of a string with its previous character.

Example :

I/P – CLASS

O/P – BKZRR

Or

Define a constructor. How is it different from a member function ? Illustrate with necessary examples for each.

4. Write a short note on polymorphism in JAVA. Illustrate this concept with the help of an example program.

Or

Define an abstract data type. List various data types in JAVA along with the significance of each.

5. Write short notes (in about **250** words each) on any *two* of the following :
- (a) Inheritance
 - (b) Type casting
 - (c) “Finally” keyword and its use
 - (d) “This” keyword and its use

Part C : Visual Basic

1. Discuss the Rapid Application Development (RAD) features of VB.

Or

List any *three* fourth generation languages. What are its features ? Describe.

2. Define a control. List any *five* controls and describe a main event associated with that control.

Or

Write an event procedure to calculate the monthly salaries of 3 daily-wage employees of library, if attendance and pay-per-day are given as inputs.

3. For each category of functions given below, mention at least 3 functions, their use and an example for each :
 - (a) Financial functions
 - (b) String functions

Or

Define a form. What are its essential properties ? What is the role of tool-box and tool-bar in designing the form ?

4. List various arithmetic, logical and relational operators in VB.

Or

Write an event procedure to find the sum of “N” integers given as input.

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

- (a) Multiple Document Interface (MDI)
- (b) Indexes and their creation
- (c) Modularity