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MLI-007

POST GRADUATE DIPLOMA IN LIBRARY AUTOMATION AND NETWORKING (PGDLAN)

Term-End Examination

December, 2019

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 Write an algorithm and draw a corresponding flow-chart to find the sum, difference, product and quotient (depending upon the choice made by the user) from the given two integers as input.

OR

1.2 Explain the paradigms :

(a) Procedural programming

(b) OO programming

2.1 Discuss the significance of public, private and protected member functions in a class with suitable examples for each.

OR

2.2 Define Inheritance. With the help of an example program in C++ explain the purpose of Multiple Inheritance in programming.

3.1 With the help of a C++ program, illustrate the concept of polymorphism.

OR

3.2 Explain the role of a Systems Analyst. Also, mention the skills that (S)/he should possess.

4.1 "Templates in C++ enable you to define generic classes". With the help of an example, justify the above statement.

OR

4.2 Write a C++ program to open a new student membership in a University library. Write appropriate data members and member functions in C++ to retrieve the complete student details if the membership_no is given as input.

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

(a) Virtual Function
(b) Exception Handling
(c) Logical and Relational Operators in C++
(d) Scope Resolution Operator

PART B : Java

1.1 With the help of a neat diagram, explain System Development Life Cycle by describing all of its phases.

OR

1.2 With respect to JAVA, explain the iterative operations and the statements/constructs .

2.1 Explain the object oriented features of JAVA.

OR

2.2 Explain how Modularity can be achieved in JAVA programming with the help of an illustrative program/application.

3.1 Briefly explain about the following JAVA libraries along with their classes :

(a) java.lang (b) java.io
(c) java.util (d) java.awt

OR

3.2 List and explain the following operators in JAVA.

(a) Arithmetic (b) Logical

4.1 With the help of sample code-segments of JAVA explain the following conditional statements :

(a) Break (b) Continue (c) Goto

OR

4.2 Write a JAVA program to find whether a given YEAR is a LEAP YEAR or NOT.

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

(a) Try.. Catch statement
(b) Type casting and Type conversion in JAVA
(c) Wrapper Classes
(d) Constructors and Destructors

PART C : Visual Basic

1.1 Define a Data Flow Diagram (DFD) and explain its use. Mention various DFD symbols and their purpose. Also, draw a DFD to depict the admission process to PGDLAN of IGNOU.

OR

1.2 Define a Flow-chart and explain its use. Mention various flowchart symbols and their purpose. Draw a flowchart to find the largest number among 3 numbers given.

2.1 Describe Fourth Generation Languages (4GL) and their features with the help of an example 4GL.

OR

2.2 Explain the following control structures of VB, by giving their syntax and a sample code-segment for each :

(i) For...Next loop (ii) Select Case Statement

3.1 Define a form in Visual Basic. How is it used to create graphical user interface for the VB applications ? Explain with an example lay-out of a form.

OR

3.2 Identify the controls required on the form for the following :

(a) To input text
(b) To display a label
(c) To provide a multiple choice on the form
(d) To group controls together on the form
(e) To provide a push button access for events

4.1 Write an event procedure to different command buttons to display sum, difference, quotient and product for two given numbers as input.

OR

4.2 Write an event procedure to display the sum of "n" integers given as input.

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

(a) Data Manager
(b) Arithmetic, Logical and Relational operators in Visual Basic
(c) Step-by-step procedure to create an OLE object at design time
(d) Financial functions in VB