DSVV

देव संस्कृति विश्वविद्यालय

शान्तिकुन्ज, हरिद्वार

उत्तर-पुस्तिका

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Student's Roll No. (in numbers) Paper code

परीक्षार्थी अनुक्रमांक (शब्दों में) Eighteen lakh Twenty four thousand fourteen नामांकन संख्या 1800000137
Student's Roll No. (in words) Enrollment Number

कक्षा BCA 5th (Sem) विषय C#. NET
Class Subject

दिनाँक 28/Nov/2020 दिन Saturday
Date Day

लघुत्तरीय A Short Answer Type							योग/Total
1	2	3	4	5	6	7	
दीर्घउत्तरीय B Long Answer Type							
1	2	3	4	5	6	7	
कुल योग अंकों में / TOTAL IN DIGITS							
कुल योग शब्दों में/TOTAL IN WORDS							

प्रश्न पत्र संख्या .....
Examination Paper Number

परीक्षक के हस्ताक्षर
Signature of Examiner

महत्वपूर्ण निर्देश / Important Instructions

1. उत्तर पुस्तिका में परीक्षार्थी अपना नामांकन क्रमांक केवल मुख्य पृष्ठ पर निर्धारित स्थान में ही लिखें अन्यत्र कहीं नहीं। Students must write their Enrollment Number on the Answer Booklet only at the prescribed place on the front page and nowhere else.
2. उत्तर पुस्तिका में परीक्षार्थी न तो कहीं अपना नाम लिखें और न ही कोई पहचान अंकित करें। Student should neither write their name in the Answer Booklet nor should they make any identification mark anywhere.
3. प्रश्न का क्रमांक सही और साफ-साफ लिखें। प्रश्न के खण्ड के साथ प्रश्न क्रमांक भी लिखें। Write the Question Number correctly and clearly. Write both the Section of the Question number.
4. एक प्रश्न का उत्तर समाप्त होने पर दूसरे प्रश्न का उत्तर नये पृष्ठ से ही प्रारम्भ करें। Start writing the answer of every question from a fresh page.
5. जिस प्रश्न को भी हल करें उत्तर पुस्तिका में उसे वही क्रम संख्या दें जो क्रम प्रश्न पत्र में दिया गया है। While answering the questions make sure that the Question number written in the Answer Booklet is the same as that given in the Question Paper.

Short Answer :-

Ans: 2

Data type Conversion :- It is the concept that is helpful when we want to store the value of one data type variable into a variable of another data type.

There are two type of conversion :-

1:- Implicit Conversion :- This conversion is type-safe and is done automatically be the C# compiler.

Ex:-
```
int i = 50;
float f = i; // implicit data type conversion
Console.WriteLine(f);
```

2:- Explicit Conversion :- These conversion are done by users using the pre-defined functions. Explicit conversions require a cast operator.

Ex:-
```
float a = 20.234f;
int b = (int)a; // explicit data type conversion
Console.WriteLine(b);
```

Ans:- 3 Properties :- Properties are named members of classes, structures and interfaces. Member variables or methods in a class or structures are called Fields. Properties are an extension of fields and are accessed using the same syntax. They use accessors through which the values of the private fields can be read, written or manipulated.

Properties do not name the storage locations. Instead, they have accessors that read, write or compute their values.

Types of Properties in C# :-

→ Read / Write Properties
→ Write Properties
→ Read Only Properties
→ Auto implemented Properties.

Ex:-
```
public class C1 $
        public int xn;
        public string name;
    3
public class C2 $
```

```
public static void Main (String[] args)
    {
        Cl Obj = new Cl();

        Obj.rn = 10000;

        obj.name = null;

        Console.WriteLine("Name: {0} \n Roll No: {1}", Obj.name, obj.rn);
    }
}
```

Output:-

Name :
Roll No: 10000

Ans:- 4 Program to reverse number in C# :-

```
using System;

    namespace ReverseNumber
    {

        public class Program
        {
            static void Main (string[] args)
            {
                Console.Write (" Enter a Number: ");
                int number = int.Parse (Console.ReadLine());
                int reminder, reverse = 0;
            while (number 70)
            {
                reminder = number % 10;
```

```
reverse = (reverse * 10) + reminder

    number = number / 10;
}
Console.WriteLine("The Reverse order is : {reverse}");
Console.ReadKey();
}
}
```

Output :

Enter a Number : 78541

The Reverse order is : 14587

Ans:- 5 Dynamic Polymorphism :- C# allows you to create abstract classes that are used to provide partial class implementation of an interface. Implementation is completed when a derived class inherits from it. Abstract classes contain abstract methods, which are implemented by the derived class.
Dynamic Polymorphism is implemented by abstract class and virtual functions.

Ex:-
```
namespace PolymorphismApplication {
    class Printdata {
    void print (int i) {
        Console.WriteLine ("Printing int : {0}", i);
    }
```

Importance of dynamic Polymorphism :-

→ In this process, a call to a single overridden method is solved during the runtime of the program. Method overriding is the prime example of Runtime Polymorphism.
The same name can be used which was used in superclass and also user can provide more specific definition additional to the general in superclass.

Long Answer :-

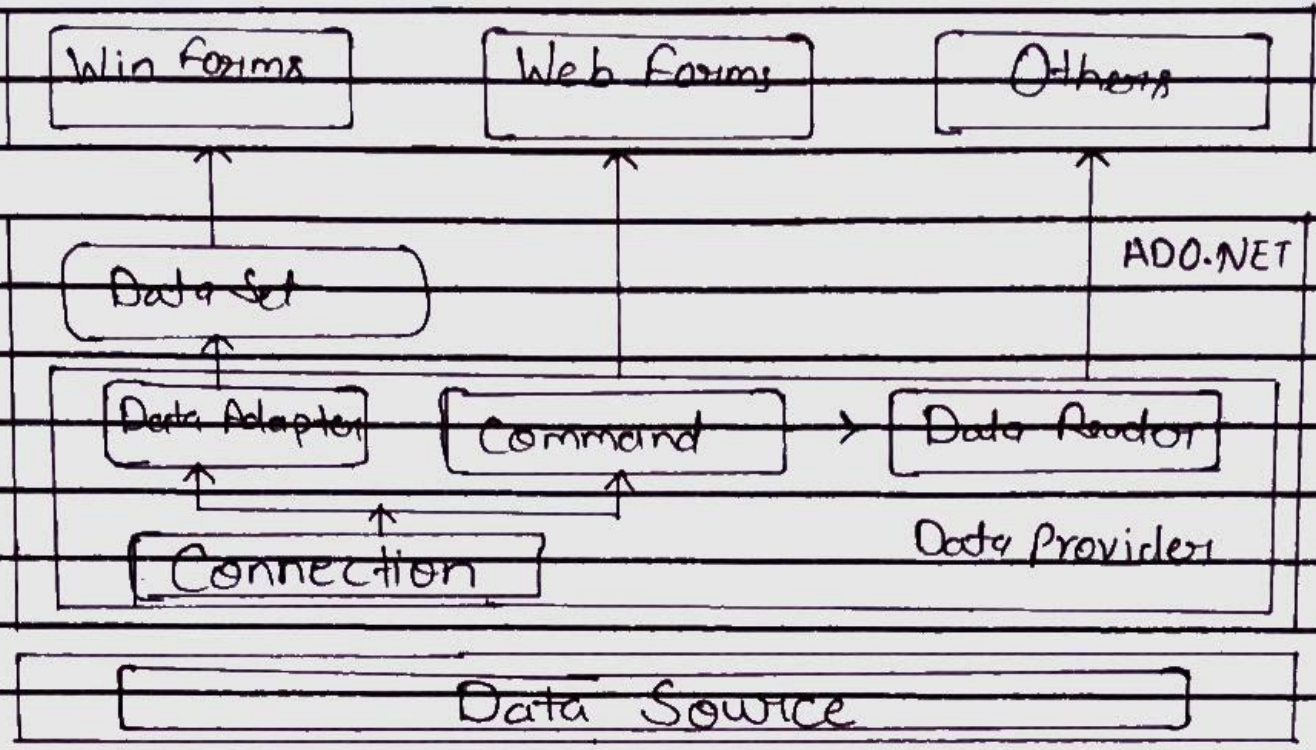
Ans :- 2

ADO.NET Technology :- ADO.NET is a data access technology from the microsoft .NET Framework that provides communication between relational and non-relational system through a common set of components.

ADO.NET is sometimes considered an evolution of ActiveX Data Objects (ADO) technology, but was changed so extensively that it can be considered an entirely new product.

- ADO stands for ActiveX Data Objects
- ADO is Microsoft Active-X component
- ADO.NET uses data in disconnected manner. When you access data, ADO.NET makes a copy of the data using XML.
- This makes ADO.NET efficient to use in networking environment.
- In ADO.NET we can send multiple transactions using a single connection instance.

ADO.NET Architecture :-



System.Data namespace is the one of ADO.NET and it contains classes used by all data providers. ADO.NET is designed to be easy to use.

Data Providers :- The data Providers classes are meant to work with different kinds of data sources. They are used to perform all data-management operations on specific database.

Data Set :- Data Set class provides mechanisms for manging data when it is disconnected from the data source.

Connection :- The connection Object provides physical connection to the Data Source.

Command :- The command Object uses to perform SQL statement or stored procedure to be executed at the Data Source.

Data Reader :- The DataReader Object is a stream-based, forward-only, read-only retrieval of query result from the Data Source, which do not update the data.

Data Adapter :- DataAdapter Object populate a Dataset Object with result from a Data Source.

Data Set :- Its provides a disconnected representation of result sets from the Data Source and it is completely independent from the Data Source. It provides much greater flexibility when dealing with Result set.

Answer:-4 Object Oriented Programming:- Procedural programming is about writing procedures or methods that perform operations on the data, while object-oriented programming is about creating objects that contain both data and methods.

- OOP is faster and easier to execute
- OOP provides a clear structure for the programs
- OOP helps to keep the C# code DRY "Don't Repeat Yourself" and makes the code easier to maintain, modify and debug.
- OOP makes it possible to create full reusable applications with less code and shorter development time.

Object Oriented Programming provide 4 principles:-

1:- Encapsulation:- It is a process of binding data members (variable, properties) and member functions (methods) into a single unit. The best example of for encapsulation is a class.

2:- Inheritance:- The ability to create a new class from an existing class is called Inheritance. The class from which the members are transferred is called Parent/base class and the class ~~with~~ which inherits the members of the Parent class is called Derived / child class.

3. Polymorphism:- It means that you can have multiple classes that can be used interchangeably, even though each class implements the same properties or methods in different ways.

4. Abstraction:- It refers to providing only essential information to the outsides world and hiding their background details.
Ex:- A web server hides how it processes data it receives, the end user just hits the endpoints and get the data back.

Object Oriented Programming Features:

OOP allows decomposition of a problem into a number of entities called objects and then builds data and function around these objects.

1. The software is divided into a number of small units called objects. The data and functions are built around these objects.
2. The data of the objects can be accessed only by the functions associated with that object.
3. The functions of one object can access the functions of another objects.

- A class is the core of any modern Object Oriented Programming language such as C#.
- In OOP language it is mandatory to create a class for representing data.
- A class will not occupy any memory space and hence it is only a logical representation of data.