Application Programming - Exam Paper

Duration: 60 minutes | Mark: 25

Exercise 1: Create a Console Application named 'GeometryExample'.

- ✓ Add a class Cylinder which should contain two methods called 'Process()' and 'Result()' respectively.
- ✓ Process() method should calculate BaseArea, LateralArea, TotalArea and Volumn as shown in Fig1.
- ✓ Result() method should return the results of calculating.
- ✓ Application should display the result as shown in Fig 1.

Calculation formula
BaseArea = Radius * Radius * Math.PI;
LateralArea = 2 * Math.PI * Radius * Height;
TotalArea = 2 * Math.PI * Radius * (Height + Radius);
Volume = Math.PI * Radius * Radius * Height;

```
Enter the dimenstions of the cylinder
Radius: 38.64
Height: 22.48

Cylinder Characteristics
Radius: 38.64, Height: 22.48
Base: 4690.55 ¦ Lateral: 5457.75 ¦ Total: 14838.85 ¦ Volume: 105443.65
```

Fig 1

Exercise 2

Create a program as per the guidelines given below using C# to demonstrate Inheritance and Polymorphism:

- ✓ Create a base class with two variables weight and name and two methods Show() and SetMe(weight, name).
- ✓ Create two derived classes called Lion and Tiger respectively.
- ✓ Constructors of both the derived classes should call base class method with parameters.
- ✓ Display the result as shown in Fig.2.

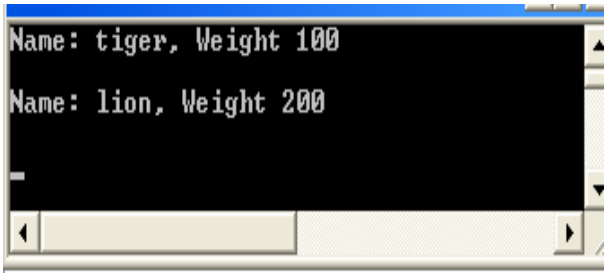

Fig.2

Marking:	
03.0	Marks for creating Console Application with classes.
04.0	[2 X 2] Marks for creating methods.
04.0	[2 X 2] Marks for accepting the values and displaying results in proper format.
06.0	[2 X 3] Marks for creating classes to demonstrate Inheritance and Polymorphism.
04.0	[2 X 2] Marks for creating and implementing 'Show()' and 'SetMe(weight, name)' methods.
02.0	Marks for implementing constructors
02.0	Marks for displaying the results.
25.0	Total Marks