

Assignment I

1. Create a console application with a class named STUDENT holding private variables, the marks of 6 subjects namely English, Maths, Computers, Physics, Chemistry and Biology. Include a parameterized constructor which assigns a default value 0 for all the subjects using the concept of optional parameters. Create a parameterized method Calculate_Marks, that accepts 3 parameters which computes the total of only science stream subjects and display the same. Illustrate the usage of 'call by value' and 'call by reference' using methods for swapping the marks of English with the marks of computers. Test the class through the main.
2. Create a console application with a base class name Library with method addMember(). Use array concept to add the members. Consider another class 'MitLibrary' which is inherited from base class with two methods calculateDays() and calculateDue().
calculateDays(): Using DateTime type calculate number of days between borrow and return of books.
calculateDue(): Calculate due based on the name and number of days. While calculating due, if number of days more than 10, then Rs 2/day is the penalty. If the name is not matching with the list, then print message.
Create another method DeleteMember() using partial class concept.
Test the class using main().
3. A. State the differences between Websites and Web Projects in ASP.NET.
B. Write a simple console program using C# programming language. The program should display the following information
 - Number of days in December, 2013
 - Current date and time
 - Future date and time (after adding 100 years to current date)
 - Check if future date is a leap year
 - Day on which future date falls (ex: Sunday, Monday...)

[Note : Refer sample output. Answers for the above question doesn't match the below output. Its given just for showing the format of output expected]

```
Current Date is : 05-11-2014 AM 10:49:41  
Date after adding 60 days is : 04-01-2015 AM 10:49:41  
Date after adding 60 days is not a Leap Year  
Date after adding 60 days falls on Sunday  
Number of days present in November, 2014 is 30
```

4. a) Explain three implications and two drawbacks of CLR.
b) Write the C# syntax for the following:
 - i. To create an ArrayList for storing two objects of "Product" class and two string objects.
 - ii. To create an enumeration called "Days" with values (i.e. Sun- Sat). Write a main program to display the integers associated with Tuesday and Friday. Give the output of the code.
 - iii. To create a method (with definition) which accepts a float variable and casts it to double and returns the result in double format.
 - iv. To create and initialize a Generic list for storing Objects of "Student" class.
5. Write C# console application program that creates stopwatch class which has a counter that starts from 1 to 60 . As soon as it becomes 61, an event should be fired with proper event handler.