Q2 (a) Explain the concepts of CTS and CLS (Common Language Specification).

Answer Page Number 7 of Textbook

Q2 (b) List any 4 .NET Namespaces and briefly explain their purpose.

Answer   .NET namespaces – System, System.collecctions, System.data,
                1112System.Diagnostics, System. Drawing

Q3 (a) With an example, explain how you compile multiple Source files.

Answer   CSC /r:System.Windows.Forms.dll yourapp.cs outfile.cs

Q3 (b) List and briefly explain any four predefined XML documentation elements.

Answer   Predefined XML documentation elements - <code>, <example>, <exception>,
                <list>, <param>, <permission>

Q4 (a) Write the anatomy of basic C# class. Write the variations of main() method.

Answer

```
        Anatomy of basic c# class:
         Using System;
         Class HelloClass        {
                 /* main can be declared private if you desire
                 Public static in Main(String[] args)    {
                         Console.WriteLine("Hello World\")l
                         Return 0;
                 }
         }
```

Q4 (b) List and explain the string formatting flags of C#.

Answer
Some string formatting flags – C or c, D or d, E or e, F or f, G or g, N or n, X or x

Q5 (a) Explain three pillars of OOP: Encapsulation, Inheritance and polymorphism.

Answer

        Encapsulation – how well object's internal implementation is hidden
        Inheritance – how does the language promote code reuse.
        Polymorphism – how do related objects communicate.

Q5 (b) Explain abstract classes and abstract methods with example program.

Answer
> abstract classes – cannot be instattiated
> abstract methods – should be defined in derived classes

Q6 (a) What do you understand by errors, bugs and exceptions?   Give the important members of the system exception class.

Answer Page Number 231 of Textbook

Q6 (b) Discuss the difference between catch and throw exceptions.

Answer Page Number 235-236 of Textbook

Q7 (a) Explain in detail, the concept of interfaces with multiple base interfaces.

Answer Page Number 287 of Textbook

Q7 (b) Distinguish between shallow and deep copy, as applied to cloning. How would you implement cloning for a custom class using ICIoneable interface.

Answer Page Number 297, 301 of Textbook

Q8 (a) Which are the inherited members of System.MulticastDelegate. What is their purpose?

Answer Method, target, combine, getInvocationlist, remove.

Q8 (b) What do you understand by asynchronous delegates in C#. Explain with an example.

Answer Page Number 341 of Textbook

Q9 Write short notes on the following:
>   **(i) Problem with COM versioning and COM deployment.**
>   **(ii) Single file and multifile assemblies.**

Answer
>   **i.**   Coclasses, no intrinsic support, com problems, …
>   **ii.**   Registration entry problem, CLSID, IID problems, farewell to HKEY_CLASSES_ROOT.

Text Book

C# and the .NET Platform, Andrew Troelsen, Second Edition 2003, Dreamtech Press