**SARDAR PATEL UNIVERSITY**  
**Programme: MCA**  
**Semester: III**  
**Syllabus with effect from: June 2014**

<table>
<thead>
<tr>
<th>Paper Code: PS03CMCA03</th>
<th>Total Credit: 4</th>
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<tr>
<td>Title Of Paper: The .NET Technology</td>
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<th>Unit</th>
<th>Description in detail</th>
<th>Weighting (%)</th>
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| 1    | **The .NET Technology - I**  
Introduction and evolution, architecture  
Key design goals and features of the .NET platform  
Introduction to the .NET framework  
Common Language Runtime, Common Type System, Common Language Specification, The Base Class Library  
Common applications of the .NET technology (standalone systems, client-server systems, web-based applications, web services, mobile development, rich client applications, etc.)  
Program interaction: console applications, Web Forms, Windows Forms, Windows Presentation Foundation, Windows Communication Foundation |               |
| 2    | **The .NET Technology - II**  
Managed code, compilation to intermediate language, Just-In-Time compilation, garbage collection, assemblies and the GAC  
Multithreading, security, namespaces, automatic boxing and unboxing, generics, collections and iterating over collections, delegates, partial classes, versioning, event-driven programming |               |
| 3    | **Introduction to Programming Using Visual Basic .NET & C# .NET**  
Introduction to the Visual Studio .NET development environment, Syntax, data types, control structures, Basic data types in the .NET framework  
Class fundamentals, Inheritance, polymorphism, interfaces and delegates  
Exception handling, Arrays, Lists, Collections and iterating over them |               |
| 4    | **User Interface Development**  
User interface development using Windows Forms  
Windows Presentation Foundation: major concepts, need for it  
User interface development using Windows Presentation Foundation |               |
| 5    | **Database Access from .NET**  
Different database access models and their comparison, Managing database connections, Developing data-oriented applications using connected mode, Developing data-oriented applications using disconnected mode, Generating reports |               |
| 6    | **Advanced Features of .NET**  
Multithreading, Internationalization, Remoting and network programming, Custom controls |               |

**Basic Text & Reference Books**

- Documentation of relevant software packages