

Cloud Computing

B.E. Sem. VIII [INFT]

(Elective – II)

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25
Term Work	–	25

SYLLABUS

- **Prerequisite:** Distributed Systems.
 - **Objective:** Students will have a comprehensive knowledge of cloud computing techniques, best practices in cloud computing. They will be able to understand the current challenges in cloud computing. They will be able to understand how to design and implement cloud-based applications.
1. **Understanding Cloud Computing:** Introduction to cloud computing, are you ready for cloud computing?, surveying the Role of Cloud Computing, developing the cloud services.
 2. **Understanding Windows Azure Platform Architecture:** The Windows Azure Developer Portal, Creating and running Projects in the Azure Development Platform, Using Azure Application Templates for Visual Studio 2008, Taking advantage of Auxiliary Cloud Services, Deploying Application and Services to the Azure Cloud.
 3. **Analyzing the Windows Azure Operating System:** The Lifecycle, Securing and Isolating Services and Data, Assuring Fabric Controller Availability, Virtualizing Windows Server for Azure.
 4. **Scaling Azure Table and Blob Storage:** Creating Storage Accounts, Using or Wrapping the Azure Storage Services' REST APIs, Understanding Azure Table Storage, Storing and retrieving Blobs.
 5. **Minimizing Risk When Moving to the Azure Cloud Service:** Bypassing the Barrier to Cloud Computing, Implementing the Secure Sockets Layers Transmission, Encryption for Web Roles, Encrypting Personal Information in Azure Storage Services, Auditing Conformance to Regulatory and Industry Standards.
 6. **Authenticating and Authorizing Service User:** Taking Advantage of ASP.NET Membership Services, Adapting ASP.NET Authentication and Role Management to Windows Azure Web Role, Analyzing the AspProviders Library's Classes, Moving the AspProvidersDemo's Data Source to the Cloud, Integrating Membership Services with an Azure Service, Authenticating users with Windows Live ID.
 7. **Optimizing the Scalability and Performance of Azure Tables:** Assigning Primary Key Values to Entities, Handling Associated Entities, Taking Advantage of Entity Group Transactions, Uploading the table data, Displaying the Data from Heterogeneous Tables in Grids.
 8. **Massaging with Azure Queues:** Creating and Processing Azure Queues and Messages, Enhancing the Thumbnails.sin Sample Solution.

9. **Authenticating Users with .NET Access Control Services:** Creating the .NET Services Solution, Installing the .NET Services SDK and other Tools, Crating the CardSpace Credentials at Federatedidentity.net, Using a Managed CardSpace Credential with ACS.
10. **Interconnecting the Services with the .NET Service Bus:** Creating .NET Service Solution and Installing Prerequisites, Relaying Message with SB, Analyzing the .NET Services SDK's EchoSample Solution, Using the Configuration File to Specify WSHttpRelayBinding.
11. **Exploring .NET Service Bus Queues and Routers:** Persisting Messages in Service Bus Queues, Delivering Message with Service Bus Routers.

Reference Books:

1. Cloud Computing with the Windows Azure Platform, (*Roger Jennings*) Wiley.
2. Cloud Computing, (*Michael Miller*) Pearson Education.
3. AJAX Construction Kit: Building Plug-and-Play Ajax Applications, (*Michael Morrison*)
4. AJAX Security, (*Billy Hoffman and Bryan Sullivan*).
5. Parallel Programming, (*Barry Wilkinson and Michael Allen*).

