Course Name: **MTech Exec (CS) 3rd Semester**

Subject Code: **CS-6518**

Subject Name: **Cloud Computing**

Aim of the Subject

To introduce concepts related to the analysis, design and implementation of computation and storage clouds.

Learning Outcomes

The students are expected to learn following after completion of the course:

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Unit 1

OVERVIEW OF COMPUTING PARADIGM AND INTRODUCTION TO CLOUD COMPUTING: Recent trends in computing, evolution of cloud computing, Cloud computing (NIST model), properties, characteristics and disadvantages, role of open standards. Service models (XAAS), Deployment models.

Unit 2

INFRASTRUCTURE AS A SERVICE: Introduction, Hypervisors, Resource virtualization, examples.

Unit 3

PLATFORM AS A SERVICE and Software-as-a Service: Introduction, Cloud Platform and Management, examples. Introduction to SaaS, Web services, Web OS, examples.

Unit 4

SERVICE MANAGEMENT IN CLOUD COMPUTING: Service Level Agreements (SLAs), Billing & Accounting, comparing scaling hardware, economics of scaling, managing data.

Unit 5

CASE STUDY ON OPEN SOURCE AND COMMERCIAL CLOUDS: CLoudSIm, HDFS and MapReduce, Amazon, Microsoft Azure etc.

Text Book(s)

1. Barrie Sosinsky: "Cloud Computing Bible", Wiley-India, 2010

2. Rajkumar Buyya, James Broberg, Andrzej M. Goscinski: "Cloud Computing:

3. Principles and Paradigms", Wiley, 2011

Reference Material(s)

1. Nikos Antonopoulos, Lee Gillam: "Cloud Computing: Principles, Systems and Applications", Springer, 2012

2. Ronald L. Krutz, Russell Dean Vines: "Cloud Security: A Comprehensive Guide to Secure Cloud Computing", Wiley-India, 2010

3. Tim Mather, Subra Ku

Course Name: **MTech Exec (CS) 3rd Semester**

Subject Code: **CS-6220**

Subject Name: **Internet Programming Using Java**

Aim of the Subject

To make students learn fundamental concept of coding and perform them practically and to develop problem-solving skills

Learning Outcomes

The students are expected to learn following after completion of the course:

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Unit 1

Review of java concepts: Features of Java, Object-oriented programming overview, Introduction of Java Technologies, How to write simple Java programs, Data Types, Variables, Memory concepts, control statements, looping, Method Call Stack and Activation Record, Argument Promotion and Casting, Scope of declaration and Method Overloading, String Handling: The String constructors, String operators, Character Exaction, String comparison, String Buffer. Arrays: Declaring and Creating Arrays, Enhanced for Statement, Passing Arrays to Method, Multidimensional Arrays, Variable-Length Argument lists, Using Command-line Arguments

Unit 2

Inheritance: Extending classes & related things. Packages and Interfaces: Defining a Package, Understanding CLASSPATH, Access Protection, Importing packages, creating own packages Exception Handling: Introduction, overview of doing it and keywords used, when to use it, Multithreading: What are threads, The java thread model, Thread priorities, Thread life cycle, Thread Synchronization, Applets: Applet basics, Applet Architecture, Applet life cycle methods, Database connectivity: JDBC, The design of JDBC, Typical uses of JDBC

Unit 3

Introduction to HTTP, web Server and application Servers, Installation of Application servers, Config files, Web.xml. Java Servlet, Servlet Development Process, Deployment Descriptors, Generic Servlet, Lifecycle of Servlet. Servlet Packages, Classes, Interfaces, and Methods, Handling Forms with Servlet, Various methods of Session Handling, various elements of deployment descriptors.

Unit 4

JSP Basics: JSP lifecycle, Directives, scripting elements, standard actions, implicit objects. Connection of JSP and Servlet with different database viz. Oracle, MS-SQL Server, MySQL. java.sql Package. Querying a database, adding records, deleting records, modifying records, types of Statement. Separating Business Logic and Presentation Logic, Building and using JavaBean. Session handling in JSP, Types of errors and exceptions handling.

Unit 5

MVC Architecture Introduction to Remote Method Invocation, Introduction to Enterprise Java Bean, Types of EJB, Creating and working with Session Bean

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Text Book(s)

1. Java 2: The Complete Reference by Herbert Schildt, Tata McGraw- Hill, 8th Edition, 2011.

2. K. Mukhar, “Beginning Java EE 5: From Novice to Professional”, Wrox Press.

Reference Material(s)

1. The Java Programming Language, Ken Arnold , James Gosling , David Holmes, 3rd Edition, Person Education, 2000.

2. Head First Java, Kathy Sierra, Bert Bates, O’Reilly Publication, 2nd Edition, 2005

3. M. Hall, L. Brown, “Core Servlets and Java Serve