LOYOLA COLLEGE (AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE
MASTER OF SCIENCE in COMPUTER SCIENCE
(Effective from the Academic year 2012 -2013)

SEMMESTER – III

<table>
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<tr>
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<th>Category</th>
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<th>Contact Hours</th>
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<tr>
<td>1</td>
<td>MC</td>
<td>Cloud Computing</td>
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<td>3</td>
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<td>MC</td>
<td>Open Source Technology</td>
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30 26+2

SEMMESTER – IV

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<td>Project Work and Viva-Voce</td>
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Objectives:

1. To gain knowledge in cloud computing technology.

2. To acquire the knowledge in various services and applications over the cloud

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V
Migrating to the Cloud: Cloud Services for Individuals – Cloud services aimed at the mid-market – Enterprise-Class Cloud Offerings – Migration.

Text Book:

Reference Books:
Objectives:
1. To understand the concepts of open source technology
2. To gain knowledge in Linux administration and developing application based on Linux.

UNIT I

UNIT II
Installation of Linux interactively-Perform user and group administration-Administer the Linux printing subsystem, Automate tasks with at, cron -Install, update, query and remove software packages with RPM

UNIT III

UNIT IV

UNIT V
MySQL : Configuring MySQL Server, working with MySQL Databases, MySQL Tables, SQL Commands – INSERT, SELECT, UPDATE, REPLACE, DELETE. Date and Time functions. PHP – MySQL Application Development: Connecting to MySQL with PHP, Inserting data with PHP, Retrieving data with PHP. Developing PHP scripts for dynamic web page like Feedback form, online admission form, online test.

Text Books:

Reference Books:
Objectives:
1. To gain practical experience in open source technology
2. Developing applications using the same.
   
1. Installation of WAMP/LAMP
2. Designing your own page using PHP
3. Create user using shell script with limited privileges
4. Changing file permissions using shell script
5. Scheduling a job using cron
6. Linux installation
7. Create a multimedia application using Linux
8. Create and edit a document using open office
9. Working with different types of looping statements using PHP
10. Working with different types of array using PHP
11. Working with PHP forms
12. Executing DML and DDL commands using MySQL
13. Retrieving data from table using PHP
14. Inserting data into table using PHP
15. Create a feedback form using PHP and MySQL
16. Create an application for ONLINE TEST using PHP and MySQL.
Objectives:
1. To obtain the knowledge about the Wireless network operations and technologies behind the mobile communication and its applications.
2. To understand different mobile technologies.

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V

Text Books:

Reference Books:
Web Resources:
1. www.springer.com
2. www.brunel.ac.uk
3. www.sciencedirect.com
Objectives:
1. To provide practical exposure in the software development through choosing a real world problem.
2. To develop an automated system and provide exposure in documentation of the system.
ARTIFICIAL INTELLIGENCE

Objectives:
1. To obtain knowledge in artificial intelligence as machine learning.
2. To obtain skills in perception, reasoning and learning.
3. To provide in-depth understanding of major techniques used to simulate intelligence.

UNIT I

UNIT II

UNIT III
Knowledge Representation: First order logic – representation revisited – Syntax and semantics for first order logic – Using first order logic – Knowledge engineering in first order logic - Inference in First order logic – prepositional versus first order logic – unification and lifting – forward chaining – backward chaining - Resolution - Knowledge representation - Ontological Engineering - Categories and objects – Actions - Simulation and events - Mental events and mental objects

UNIT IV

UNIT V

Text Book:

Reference Books:
3. Luger F. George, “Artificial Intelligence-Structures and Strategies for Complex Problem Solving”,
2002, Pearson Education.
Objectives:
1. To develop skills and knowledge in Distributed objects,
2. Understand the concept of Distributed Computing, Distributed file system, Name services and Distributed transactions.

UNIT I

UNIT II
Inter process Communication - The API for the Internet Protocols - External Data Representation and Marshalling - Client-Server Communication - Group Communication - Distributed Objects and Remote Invocation - Communication Between Distributed Objects - Remote Procedure Call - Events and Notifications.

UNIT III

UNIT IV
Name Services - Domain Name System - Directory and Discovery Services - Global Name Service - Clocks, Events and Process States - Synchronizing Physical Clocks - Logical Time And Logical Clocks - Global States.

UNIT V
Transactions - Nested Transactions - Locks - Optimistic Concurrency Control - Timestamp Ordering - Comparison - Flat and Nested Distributed Transactions - Atomic Commit Protocols - Concurrency Control in Distributed Transactions - Distributed Deadlocks - Transaction.

Text Book:

Reference Books:

Web resources: http://distributedcomputing.info/
http://fieldtrip.fcdonders.nl/tutorial/distributedcomputing
Objectives:
1. To gain knowledge in cellular technology with various transmission techniques.
2. To understand the communication techniques under mobile computing.

UNIT I

UNIT II
Cellular concepts and system design fundamentals: Cellular concept and frequency reuse – Multiple access schemes- Channel assignment and handoff- Interference and system capacity- Trunking and Erlang capacity calculations

UNIT III
Mobile radio propagation: Radio wave propagation issues in personal wireless systems – Propagation models - Multipath fading and based and impulse response models – Parameters of mobile multipath channels - Antenna systems in mobile radio.

UNIT IV

UNIT V
System examples and design issues: Multiple Access techniques – FDMA, TDMA and CDMA systems Operational systems - Wireless networking - Design issues in personal wireless systems.

Text Book :
K. Feher, 2000, “Wireless Digital Communications”, PHI, New Delhi,

Reference Books:
1. T.S. Rappaport ,”Wireless Communications - Principles and Practice”, 1996, PHI
Objectives:

1. To understand the fundamentals in theory of computation and in automata theory.
2. To give an overall view of the different phases of compilation and its purpose.

UNIT I

UNIT II

UNIT III

UNIT IV

UNIT V

Text books:

Reference Books: