SYLLABUS FOR M. Sc COMPUTER SCIENCE

FOR THE STUDENTS ADMITTED FROM THE YEAR

2014 - 2015 ONWARDS

PERIYAR INSTITUE OF DISTANCE

EDUCATION (PRIDE)
1. OBJECTIVE OF THE PROGRAMME

To Develop the Post Graduates in Computer Science with strong knowledge of theoretical Computer Science discipline who can be employed in Research and Development (R&D) units of Industries and Academic institutions.

2. ELIGIBILITY FOR ADMISSION TO TWO YEAR M. Sc PROGRAMME:

Candidates who have passed in any one of the following or equivalent are eligible to apply:

(i) Bachelor’s Degree in any programme with Mathematics at +2 level
    
    OR

(ii) Bachelor’s Degree in any programme with Mathematics/Statistics as one of the subjects.

3. DURATION OF THE PROGRAMME

The duration for Master of Science in COMPUTERSCIENCE programme shall consist of two years.
### 4. STRUCTURE OF M. Sc (Computer Science) PROGRAMME
(FROM 2015-16 AND THEREAFTER)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Exam Duration (Hrs)</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year –I</strong></td>
<td></td>
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<tr>
<td>Core Course-1-15DPCS01-Discrete Mathematics</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-2-15DPCS02- Web Technology</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-3-15DPCS03- Design and Analysis of Algorithms</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-4-15DPCS04- Advanced Database Management Systems</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-5-15DPCS05- Advanced Computer Networks</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course 6- 15DPCS 06-Advanced Operating Systems</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-7-15 DPCS07-Java Programming</td>
<td>3</td>
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</tr>
<tr>
<td>Elective Course 1</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>15DPCSZ --</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Course-8-15DPCSP01-Lab – II Web Technology Lab</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Core Course-9-15dPCSP02-Lab – III Java Programming Lab</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Core Course-10-15DPCSP03 - Design and Analysis of Algorithms lab</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Core Course-11-15DPCS08 Web Programming</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-12-15DPCS09 Software Engineering</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-13 -15DPCS10 Soft Computing</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Core Course-14-15DPCS11 Data science and Big data analytics</td>
<td>3</td>
<td>25</td>
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<tr>
<td>Core Course-16-15DPCS13 Network Security</td>
<td>3</td>
<td>25</td>
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<tr>
<td>Elective Course 2</td>
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<tr>
<td>15DPCSZ --</td>
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<tr>
<td>Elective Course 3</td>
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<td>15DPCSZ --</td>
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<tr>
<td>Core Course-17-Web Programming Lab 15DPCSP04</td>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>Core Course-18- Lab 15DPCSP04-Animation Lab</td>
<td></td>
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</tr>
</tbody>
</table>
Elective Course Code : 15DPCSZ- -

List of Electives

**Elective -1**
- Course 15PCSZ01: Advanced Computing
- Course 15PCSZ02: Compiler Design
- Course 15PCSZ03: Internetworking with TCP/IP
- Course 15PCSZ04: Software Project Management

**Elective -2**
- Course 15PCSZ05: XML and web services
- Course 15PCSZ06: Client/Server Technology
- Course 15PCSZ07: Embedded systems
- Course 15PCSZ08: Data Mining and Warehousing

**Elective -3**
- Course 15PCSZ09: System Analysis and Design
- Course 15PCSZ10: Software Testing
- Course 15PCSZ11: Enterprise Resource Planning
- Course 15PCSZ12: Digital Image Processing
5. EXAMINATIONS

a) THEORY
EVALUATION OF INTERNAL ASSESSMENT

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>15</td>
</tr>
<tr>
<td>Seminar</td>
<td>05</td>
</tr>
<tr>
<td>Assignment</td>
<td>05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

The Passing minimum shall be 50% out of 25 marks (13 marks)

b) EVALUATION OF EXTERNAL EXAMINATIONS
QUESTION PAPER PATTERN

Time duration: 3 Hours Max. Marks : 75

**PART- A**: 5x5 = 25
Answer all the questions
Either or type for each unit

**PART- B**: 5x10 = 50
Answer all the questions
Either or type for each unit

The Passing minimum shall be 50% out of 75 marks (38 marks)

c) PARACTICAL
EVALUATION OF INTERNAL ASSESSMENT

<table>
<thead>
<tr>
<th></th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>15</td>
</tr>
<tr>
<td>Test 2</td>
<td>15</td>
</tr>
<tr>
<td>Record</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

The Passing minimum shall be 50% out of 40 marks (20 Marks)

EVALUATION OF EXTERNAL EXAMINATIONS

Time duration: 3 Hours Max. Marks : 60
QUESTION PAPER PATTERN
1. One compulsory question from the given list of programmes : 30 Marks
2. One Either/OR type question from the given list of programmes: 30 Marks

Distribution of Marks
- Problem Understanding : 05 Marks
- Program writing : 10 Marks
- Debugging : 10 Marks
- For Correct Results : 05 Marks

Dissertation and Project work
- Evaluation (Internal) : 50 Marks
- Evaluation (External) : 150 Marks

5. REGULATIONS OF PROJECT WORK
   a. Students should do their Project work in Company/ Institutions.
   b. The students should prepare three copies of the dissertation and submit the same to the study centre. one copy is to be retained in the centre library and one copy is to be submitted to the University (Director-Pride) and the student can hold one copy.
   c. A Sample format of the dissertation is enclosed in Annexure-I.
   d. Format of the Title page and certificate are enclosed in AnnexureII.

6. PASSING MINIMUM
   The candidate shall be declared to have passed the examination if the candidate secures not less than 50% marks in the University examination in each paper / practical/Dissertation and Project work.

7. CLASSIFICATION OF SUCCESSFUL CANDIDATES
   Candidates who secure not less than 60% of the aggregate marks in the whole examination shall be declared to have passed the examination in First Class. All other successful candidates shall be declared to have passed in Second Class. Candidates who obtain 75% of the marks in the aggregate shall be deemed to have passed the examination in First Class with Distinction provided they pass all the examinations prescribed for the course at the first appearance.
8. COMMENCEMENT OF THIS REGULATION

These regulations shall take effect from the academic year 2015-16 onwards.

ANNEXURE I
BONAFIDE CERTIFICATE
COMPANY ATTENDANCE CERTIFICATE
ACKNOWLEDGEMENT
CONTENTS

Chapter No. Title Page.No

SYNOPSIS

1. INTRODUCTION
   1.1 ORGANIZATION PROFILE
   1.2 SYSTEM CONFIGURATION
       1.1.1 HARDWARE CONFIGURATION
       1.1.2 SOFTWARE SPECIFICATION
2. SYSTEM STUDY
   2.1 EXISTING SYSTEM
       2.1.1 DEMERITS
   2.2 PROPOSED SYSTEM
       2.2.1 SYSTEM STUDY
       2.2.2 FEATURES
3. SYSTEM DESIGN AND DEVELOPMENT
   3.1 INPUT DESIGN/FORM DESIGN
   3.2 OUTPUT DESIGN/REPORT
   3.3 CODE DESIGN
   3.4 DATABASE DESIGN
   3.5 SYSTEM DEVELOPMENT
4. TESTING AND IMPLEMENTATION

CONCLUSION, BIBLIOGRAPHY

A. DATA FLOW DIAGRAMS
B. TABLE STRUCTURES
C. SAMPLE INPUT/FORMS
D. SAMPLE OUTPUTS/REPORTS

*Based on the Dissertation work, the above titles may be varied.
ANNEXURE II

A. Format of the title page

TITLE OF THE DISSERTATION
A Dissertation submitted in partial fulfillment of
the requirements for the degree of

Master of Science (Computer Science)
to the Periyar University, Salem -11.

By

STUDENT NAME
REG.NO.

CENTRE NAME
PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)

PLACE with Pin Code
MONTH - YEAR
B. Format of the Bonafide Certificate

Name of the Internal Guide

Designation
Department Name
College Address

CERTIFICATE

This is to certify that the dissertation entitled__________________________ submitted in partial fulfillment of the requirement for the degree of Master of Science in ________________to the PRIDE, Periyar University, Salem is a record of bonafide work carried out by ________________________under my supervision and guidance and that no part of the dissertation has been submitted for the award of any degree or diploma.

Date: ____________________________

Signature of the guide

Place: ______________________________

Signature of the Co-Ordinator

Examiner:
FIRST YEAR

15DPCS01 DISCRETE MATHEMATICS

Unit-I


Unit-II


Unit-III


Unit-IV


Unit-V


Text Book:

1. J.P.Trembley and R.Manohar, Discrete Mathematical Structures with Applications to Computer Science, Tata McGraw Hill, New Delhi, 1997. Sections: 1.4.1, 1.5.1, 1.5.2, 1.6.1, 3.3.1 -3.3.2, 2.3.1, 2.3.2, 2.4.1-2.4.4, 2.4.6, 2.5.1, 2.5.2, 4.1.1, 4.1.4, 4.2.1, 4.2.2, 4.3.1, 6.1.1, 4.6.1, 4.6.2.
Reference Books:


15DPCS02 WEB TECHNOLOGY

UNIT – I: Introduction HTML & XHTML


UNIT – II: Cascading Style Sheet (CSS) & Java Script


UNIT – III: Dynamic Documents using Java Script


UNIT – IV: XML & Web services

UNIT – V: PHP & Ajax


Text Book


Reference Books


15DPCS03 DESIGN AND ANALYSIS OF ALGORITHMS

Unit-I


Unit-II

Unit-III

Dynamic Programming - Computing a binomial coefficient – Warshall’s and Floyd’ Algorithm – Application of Warshall’s Algorithm to the digraph – Floyd’s Algorithm for the all pairs shortest paths Problem - The Knapsack problem and Memory function.

Unit-IV


Unit-V


Text Book


Reference Books


15DPCS04 ADVANCED DATABASE MANAGEMENT SYSTEM

Unit-I

Advanced SQL: Accessing SQL From a Programming Language – Functions and procedures – Triggers – Recursive Queries – Advanced Aggregation Features – OLAP –
Formal Relational Query Languages: The Relational Algebra – The Tuple Relational Calculus – The Domain Relational Calculus. DDL, Normalization

Unit-II


Unit-III


Unit-IV


Unit –V


Text Books:

Reference Books:


15DPCS05 Advanced Computer Networks

Unit 1


Unit 2


Unit 3


Unit 4

Transport Layer- Process to Process Delivery, UDP, TCP, SCTP, Data Traffic, Congestion, Congestion Control, Quality of Services, Techniques to improve QoS, Integrated Services.

Unit 5

Application Layer – Domain Name System, Remote Login, Electronic Mail and File Transfer, WWW and HTTP. Security – Cryptography, Symmetric Key
Cryptography, Asymmetric Key Cryptography, RSA, IPSecurity, SSL/TLS, Firewalls.

**Text Books:**

**Reference Books:**

**15DPCS06 ADVANCED OPERATING SYSTEM**

**Unit-I**


**Unit-II**


**Unit-III**


**Unit-IV**

**Memory Management:** **Main Memory:** Background – Swapping – Contiguous Memory Allocation – Segmentation – Paging – Structure of the Page Table – **Virtual**
1. **Memory**: Background – Demand Paging – Copy-on-Write – Page Replacement – Allocation of Frames – Thrashing – Memory-Mapped Files – Allocating Kernel Memory.

**Unit-V**


**Text Book:**


**Reference Books:**


**15DPCS07 JAVA PROGRAMMING**

**UNIT-I**


**Unit-II**

**programming:** Thread Model-Creating a Thread- Thread Priorities-Synchronization- Interthread Communication.

**Unit-III**

**String Handling:** Constructors- Length - Special String Operations - Character Extraction - String Comparision - Modifying a String - String Buffer. **Input/Output:** The I/O Classes and Interfaces – File - I/O Exceptions - Byte Streams - Character Steams – Serialization. **The Applet Class:** Basics-Architecture - Applet Skeleton - Display methods - Status Window - Passing Parameters. **Event Handling:** Event Model – Classes - KeyEvent Class- Event Listner Interfaces.

**Unit-IV**


**Unit-V.**


**TEXT BOOK**


**References**

1. Design Online Book Store using List and Frames
2. Design a Time Table using Table and Images
3. Embedding Video and Audio Files in HTML
4. Design Event Web Page using Style Sheet (Font/Text, Color and Border Properties)
5. Write an XML document to display your bio-data. Write an XSL style sheet and attach it to the XML document. Validate the document using DTD or XSD.
6. Write an Ajax Program to get the User name suggestions in Registration Form
7. Web page using XML with Java Script
8. Design Image Map using Java Script
9. Registration Form Validation using Java Script
10. Simple Game using Event handling in Java Script
11. History of web pages using DOM
12. String Functions in PHP
13. Accessing the Student Exam Result Database (MySQL) using PHP
14. Develop a web application for Airline Reservation System using PHP & AJAX.
15. Online Shopping cart with Table operations (Insert, Select, Delete, Update) using PHP

15DPCSP02 JAVA PROGRAMMING LAB

Use JAVA Programming Language to implement the following:

1. Concept of different types of inheritance.
2. Concept of Interface.
3. Concept of Package.
4. To handle mouse events.
5. To handle keyword events
6. To create applets incorporating the following Features:
   a. Create a color palette with matrix of buttons
   b. Set background and foreground of the control text area by selecting a color from color palette.
   c. In order to select Foreground or background use check box control as radio buttons
   d. To set background images
7. Use GridLayout to design a calculator and simulate the functions of simple calculator.
8. To Create Input output and Random files
9. To develop chat application with datagram sockets and datagram packets.
10. To invoke servlet from HTML forms.
11. To invoke servlet from Applets.
12. To invoke servlet from JSP.
13. Simple client/server application.
14. JDBC to interact with database.
15. To create multiple chat applications using TCP packets.

15DPCSP03  DESIGN AND ANALYSIS OF ALGORITHMS LAB

1. Apply the divide and Conquer technique to arrange a set of numbers using merge sort method.
2. Perform Strassen’s matrix multiplication using divide and conquer method.
4. Construct a minimum spanning tree using greedy method.
6. Solve Dijkstra’s Algorithm using Greedy Technique.
7. Solve Subset Sum problem using Backtracking
8. Implement the 8-Queens Problem using backtracking.
10. Find the solution of traveling salesperson problem using branch and bound technique.
SCOND YEAR

15DPCS08 WEB PROGRAMMING

Unit – I


Unit –II


Unit –III


Unit –IV


Unit –V


Text Book:

Reference Books:
1. David Chappell, Understanding .NET , Pearson education, 2002

15DPCS09 SOFTWARE ENGINEERING

UNIT – I:


UNIT-II:


UNIT-III:

**Design:** Architectural Design decisions – System organization – Modular decomposition styles – Control styles – Reference architectures. **Distributed Systems Architectures:** Multiprocessor architectures – Client-Server Architectures – Distributed object architectures – Inter-organisational distributed computing. **Application Architectures:** Data processing systems – Transaction processing systems – Event processing systems – Language processing systems. **User Interface Design:** Design issues - The UI design process- User Analysis – User Interface prototyping – Interface evaluation.
UNIT-IV:


UNIT-V:


TEXT BOOK:


REFERENCE BOOKS:


15DPCS10 SOFT COMPUTING

**Unit-I:**

Fundamentals of Neural Networks Basic Concepts of Neural Network-Model of an Artificial Neuron - Neural Network Architectures - characteristics of Neural Networks - Learning Methods-Taxonomy-History of Neural Network - Early Neural Network Architectures.

**Unit-II:**

Back propagation Networks Architecture of Backpropagation Network - Backpropagation Learning Illustrations-applications - Effect of Tuning Parameters of the Backpropagation Neural Network-Selection of various parameters in Backpropagation Neural Network-Variations of Standard Backpropagation algorithms.
Unit-III:

Unit-IV:

Unit-V:
Genetic Modelling Inheritance operators – Cross over – Inversion and deletion – Mutation operator – Bitwise operators – Bitwise operators used in GA - Generation cycle – Covergence of Genetic algorithm- Applications.

TEXT BOOK:
1. Rajasekaran. S and VijayalakshmiPai, Neural Networks, Fuzzy Logic and Genetic Algorithms, PHI, 2008 (Chapters: 2.1, 2.3-2.9, 3.1-3.7, 6.3, 6.5, 7.3-7.6, 8.1-8.7, 9.1-9.9)

REFERENCE BOOKS:
Unit-I: Introductions of Big Data Analytics


Unit-II: Advanced Analytics and Statistical Modeling Theory


Unit-III: Basic Data Analytic Methods Using R and Hadoop

R Studio - Understanding the features of R language: R packages - Data operations using R – Data modeling in R. Hadoop: Different Hadoop models – Features of Hadoop: Hadoop Distributed File System (HDFS) – MapReduce. Plot architecture of HDFS and MapReduce

Unit-IV: HadoopMapReduce Programs

The basics of MapReduce Programs - Stages of HadoopMapReduce data processing – Limitations of MapReduce - The HadoopMapReduce fundamentals - HadoopMapReduce terminologies. Intergrating R and Hadoop: Introduction of RHIPE – The Architecture of RHIPE – Introduction of RHadoop

Unit-V: Learning Data Analytics with R and Hadoop

Exploring web pages categorization - Computing the frequency of stock market change - Predicting the sale price of blue book for bulldozers – case study. Importing and Exporting Data from Various Database’s: Learning about data files as database - Understanding MySQL - Understanding Excel - Understanding MongoDB - Understanding SQLite.

TEXT BOOK

2. Vignesh Prajapati, Big Data Analytics with R and Hadoop, 2013. (Chapter: 1,2,3,4,5,7)
Unit-I


Chapters: 1, 2.1 to 2.6

Unit-II


Chapters: 3.1 to 3.3, 3.4.1 to 3.4.4, 3.4.7 to 3.4.9, 3.5.1

Unit-III


Chapters: 3.6, 4.1.1 to 4.1.8, 4.4, 5.2 to 5.6

Unit-IV


Chapters: 7.1 to 7.3.5, 7.5, 8.1.1 to 8.1.6

Unit-V


Text Book:

References Books:


15DPCS13 NETWORK SECURITY

UNIT-I:


UNIT-II:

Introduction to Number theory – Public-key Cryptography and RSA – Key Management: Diffie – Hellman Key Exchange – Elliptic Curve Cryptography.

UNIT-III:


UNIT-IV:


UNIT-V:


TEXT BOOK:


REFERENCE BOOKS:


15DPCSP04 Web Programming Lab
A. Implement the following using VB.NET

1. Creating and using Variables, Arrays and Structure
2. Creating and using Procedures
3. Using Decision Structures
   a. Checking User Input
   b. Confirming Application Close

4. Implementing Structured Exception Handling
5. Creating Menus, Status Bars and Toolbars
6. Create and open a connection to a database using ADO.NET
7. Create, read, update, and delete records in a database using ADO.NET

B. Implement the following using ASP.NET

1. Create a master page to serve as a template for the Web site’s pages.
2. Create a admin page with an editable master-detail view for browsing, inserting, updating, and deleting records.
3. Create a simple web site
4. Create and open a connection to a database using ADO.NET
5. Create, read, update, and delete records in a database using ADO.NET
6. Use SqlDataSource to populate a DropDownList and GridView
7. Use ObjectDataSource to Populate a GridView
8. Create a feedback form.

15DPCSP05 ANIMATION LAB

Photoshop
1. To design the text with image and adding the special effects on the respected text and image.
2. To develop the any natural picture

Premiere
3. To design the text with image and adding the special effects on the respected text and image.
4. To develop the any new model of picture

Illustrator
5. To design the text with image and adding the special effects on the respected text and image.
6. To develop the dancing text and image.

Flash
7. To design the text with image and adding the special effects on the respected text and image.
8. To develop the any natural picture

Dream weaver
9. To design the text with image and adding the special effects on the respected text and image.
10. To develop the animation of alphabet with relevant picture
11. To develop the any natural picture
12. To design the text with image and adding the special effects on the respected text and image.
13. To be develop the any picture

**Maya**
14. To Create a Clip for a Character of the human Skeleton Components.
15. To develop the Rendering (The Real World) animations.
16. To develop the Maya Dynamics.

**ELECTIVE-I**

**15DPCSZ01**

**ADVANCED COMPUTING**

**Unit-I:**


**Unit-II:**


**Unit-III:**

**Unit-IV:**


**Unit-V:**

Cloud Services Need for Web-Based Application – The cloud Service Development – Cloud Service Development Types – Cloud Service development tools.

**Text Books:**


**References Books:**


Unit-I


Unit-II


Unit-III


Unit-IV

**Unit-V**


**Text Book:**


**Reference Books:**


**15DPCSZ03 INTERNETWORKING WITH TCP/IP**

**UNIT 1: INTRODUCTION**

UNIT 2: TCP


UNIT 3: IP IMPLEMENTATION

IP global software organization–routing table–routing algorithms–fragmentation and reassembly error processing (ICMP) –Multicast Processing (IGMP).

UNIT 4: TCP IMPLEMENTATION I

Data structure and input processing–transmission control blocks–segment format–comparison –finite state machine implementation–Output processing–mutual exclusion –computing the TCP data length.

UNIT 5: TCP IMPLEMENTATION II


TEXT BOOKS:

REFERENCES:

15PCSZ04 SOFTWARE PROJECT MANAGEMENT

UNIT-I:
SPM : Introduction - Overview of Project planning - Project Evaluation.

UNIT-II:
Selection of an appropriate project approach - Software Effort Estimation.

UNIT-III:
Activity Planning - Risk Management.- Resource Allocation

UNIT-IV:
Monitoring and Control - . Managing people and Organizing Teams

UNIT-V:

TEXT BOOKS:
REFERENCE BOOKS:

1. Futrell, Quality software Project management, Pearson Education India.
2. Royce, Software Project management, Pearson Education India.

ELECTIVE-II

15PCSZ05 XML AND WEB SERVICES

Unit – I:

Unit-II
Multiple device types using XML and XSLT- Using XML to define data- Transforming XML into other formats - XSLT.

Unit-III
Web services – web services and their approach to distributed computing – Web services technology – Web services architecture.

Unit-IV

Unit –V
Creating and Using web services : Understanding XML based web services – SOAP and web services – Additional needs for web services - creating a web service – Declaring a web service – Creating the web service class – Advertising a web service – Securing a web service – Exploring authentication options.

Text Books
2. G. Andrew Duthie, Microsoft ASP .NET Programming with Microsoft VISUAL C# .NET step by step, PHI private Limited, New Delhi – 2006. For Units 3 and 4 Chapter 11

Reference Books

15PCSZ06 CLIENT /SERVER TECHNOLOGY

Unit-I

Unit-II

Unit-III
Unit-IV

Unit-V

TEXT BOOK

REFERENCE BOOKS

15PCSZ07 EMBEDDED SYSTEMS

UNIT-I:

UNIT-II:

UNIT-III:
UNIT-IV:

Basic Design using a Real Time Operating System: Principles - Encapsulating Semaphores and Queues - Hard Real Time Scheduling Considerations Saving Memory Space - Saving Power.

UNIT-V:


TEXT BOOK:


REFERENCE BOOKS:


15PCSZ08 DATAMINING AND WAREHOUSING

Unit-I


Unit-II

Data warehouse – A multidimensional data model – Data warehouse architecture – Data warehouse implementation – From data warehouse to data mining-Efficient methods for data Cube computation.

Unit-III

Mining Frequent Patterns, Associations and Correlations: Basic Concepts-Efficient and scalable Frequent Itemset Mining Methods-Mining Various kinds of
association rules—from association Mining to correlation analysis—constraint-based Association Mining. Classification and prediction—Issues regarding classification and prediction—classification by decision tree induction—Bayesian classification—Rule based classification.

**Unit-IV**


**Unit-V**

Mining Data Streams—Mining Time-Series Data—Mining Sequence patterns in Transactional Data Bases—Multimedia Data Mining—Text Mining—Mining the world wide web.

**Text Book**


**Reference Books**


**ELECTIVE-III**

**15PCSZ09 SYSTEM ANALYSIS AND DESIGN**

**Unit-I**


**Unit-II**


**Unit-III**

**Unit-IV**

**Unit-V**

**TEXT BOOK:**

**REFERENCE BOOKS:**

**SOFTWARE TESTING**

**UNIT-I:**

**UNIT-II:**
Establishing a software testing methodology - Determining software testing techniques.

**UNIT-III:**
Eleven-step software testing process overview - Access project management development estimate and status - Develop test plan - Requirements phase testing.

**UNIT-IV:**
Design phase testing - Program phase testing - Execute Test and record result - Acceptance test.

**UNIT-V:**
Report test results - Testing software installation – Test software changes - Evaluate test effectiveness - Effective methods for software testing.

**TEXT BOOK:**


**REFERENCE BOOKS:**


**15PCSZ11 ENTERPRISE RESOURCE PLANNING**

**Unit-I**


**Unit-II**


**Unit-III**


**Unit-IV**

Strategies for migration to new ERP systems – GO Live performance surprises – Managing after GO Live – Maintenance of ERP systems.

Unit-V

Text Book

Reference Book

15PCSZ12 DIGITAL IMAGE PROCESSING

Unit-I DIGITAL IMAGE FUNDAMENTALS
Image formation, Image transforms – Fourier transforms, Walsh, Hadamard, Discrete cosine, and Hotelling transforms.

Unit-II IMAGE ENHANCEMENT & RESTORATION

Unit-III IMAGE COMPRESSION & SEGMENTATION

Unit-IV REPRESENTATION AND DESCRIPTION
Representation schemes- Boundary descriptors- Regional descriptors - Relational Descriptors

Unit-V OBJECT RECOGNITION AND ENTERPRISE RESOURCE PLANNING
Patterns and pattern classes - Decision-Theoretic methods - Structural methods.
TEXT BOOK:

REFERENCE BOOKS: