JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

III Year B.Tech. CSSE II Sem

Sl.No	Course Code	Subject	L	T	P	Credits
1.	9A05506	Computer Networks	4	0	0	4
2.	9A15601	Mathematical Modeling and Simulation	4	0	0	4
3.	9A05601	Object Oriented Analysis and Design	4	0	0	4
4.	9A05704	Advanced Computer Architecture	4	0	0	4
5.	9A05701	Web Technologies	4	0	0	4
6.	9A05603	Optimizing Techniques	4	0	0	4
7.	9A15602	Computer Networks Lab	0	0	3	2
8.	9A12602	Web Technologies Lab	0	0	3	2
		contact periods/week	24	00	06	
			Total/Week 30			
Total Credits (6 Theory + 2 Labs)						28

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	4	**0**	**4**

(9A05506) COMPUTER NETWORKS

(Common to CSSE, ECM)

UNIT 1

Introduction: Network Hardware, Network Software, References Models, The Physical Layer: The Theoretical Basis for Data Communication Guided Transmission Media, Communication Satellites, The public Switched Telephone Network-The Local Loop: Modern ADSL and wireless, Trunks and Multiplexing, Switching.

UNIT II

The Data Link Layer: Data link Layer Design Issues, Elementary Data Link Protocols, Sliding Window Protocols.

UNIT III

The Medium Access Control Sublayer: The Channel allocation Problem, Multiple Access Protocols, Ethernet-Ethernet Cabling, Manchester Encoding, The Ethernet MAC Sublayer Protocol, The Binary Exponential Backoff Algorithm, Ethernet Performance, Switched Ethernet, Fast Ethernet, Wireless Lans-The 802.11 Protocol Stack, The 802.11 Physical Layer, The 802.11 MAC SubLayer Protocol, The 802.11 Frame Structure.

UNIT IV

The Network Layer**:** Network Layer Design Issues, Routing Algorithms, Congestion Control Algorithms.

UNIT V

Internetworking, The Network Layer in the Internet.

UNIT VI

The Transport Layer: The Transport Service, Elements of Transport Protocols, The Internet Transport Protocols: UDP, The Internet Transport Protocols: TCP.

UNTI VII

The Application Layer: DNS-The Domain Name System, Electronic Mail, The World Wide Web, Multimedia.

UNTI VIII

Network Security**:** Cryptography, Symmetric-Key Algorithms, Public-Key Algorithms, Digital Signatures.

TEXT BOOKS:

1. Computer Networks, Andrew S. Tanenbaum, Fourth Edition, Pearson Education.

REFERENCES:

1. Computer Communications and Networking Technologies, Michael A. Gallo, William M. Hancock, Cengage Learning.
2. Computer Networks-Principles, Technologies and Protocols for Network Design, Natalia Olifer, Victor Olifer, Wiley India.
3. Data Communications and Networking, Behrouz A. Forouzan, Fourth Edition, Tata McGraw Hill.
4. Understanding Communications and Networks, Third Edition, W.A.Shay, Cengage Learning.
5. Computer and Communication Networks, Nader F. Mir, Pearson Education.
6. Computer Networking: A Top-Down Approach Featuring the Internet, James F.Kurose, K.W.Ross, Third Edition, Pearson Education.
7. Data and Computer Communications, G.S.Hura and M.Singhal, CRC Press, Taylor and Francis Group.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E) **T P C**
4 0 4

(9A15601) MATHEMATICAL MODELING and SIMULATION

UNIT I
Operation Research Models, Solving the OR Model, Queuing and Simulation Models, Art of Modeling, Principles of Modeling, Linear Programming: Formulation of LPP Models, Two-Variable LP Model, Graphical Solution to LP in Two Variables, Linear Programming in Standard Form, Solving System of Equation, The Simplex Method, Dual Simplex Method.

UNIT II
Transportation Model: Definition, Nontraditional Transportation Models, The Transportation Algorithm, The Assignment Model. Network Models: CPM and PERT.

UNIT III
Goal Programming: Formulation, Algorithms. Integer Linear Programming: Integer Programming Algorithms, Travelling Sales Person Problem.

UNIT IV
Deterministic Inventory Models: General Inventory Model, Role of Demand in the Development of Inventory, Static EOQ Models, Dynamic EOQ Models, Probabilistic Inventory Models: Continuous Review Models, Single-Period Models, Multi-Period Model.

UNIT V
Queuing Models: Introduction, Elements of Queueing Model, Role of Exponential Distribution, Pure Birth and Death Models, Generalized Poisson Queueing Models, Specialized Poison Queues, (M/G/1)(GD/∞/∞)-Pollaczek-Khintchine(P-K) Formula, Other Queueing Model, Queueing Decision Models.

UNIT VI
Basic Simulation Modeling: The Nature of Simulation, Systems, Models and Simulation, Discrete-Event Simulation, Simulation of another Inventory System, Other Types of Simulation. Simulation Software.

UNIT VII
Random-Number Generators: Introduction, Linear Congruential Generators, Other Kinds of Generators, Testing Random-Number Generators, Generating Random Variates: Intrifference the Duction, General Approaches to Generating Random Variates, Generating Continuous Random Variates.

UNIT VIII
Output Data Analysis for a Single System: Types of Simulation with Regard to Output Analysis, Statistical Analysis for Terminating Simulation, Statistical Analysis for Steady-State Parameters. Comparing Alternative System Configurations: Confidence Intervals for the Difference between the Expected Response of Two Systems, Confidence Intervals for Comparing More Than Two Systems.

TEXT BOOKS:

1. Operations Research: An Introduction, Hamdy. A. Taha, Eight Edition, Pearson Education
2. Operations Research: Principles and Practice, Ravindran, Philips, Solberg, Second Edition, Wiley Indian Edition

REFERENCES:

1. Introduction to Operations Research, F.S. Hillier, G.J. Lieberman, Eight Edition, Tata McGraw-Hill, 2005, rp2007.
2. Introductory Operations Research: Theory and applications, H.S. Kasana & K.D. Kumar, Springer, 2003, rp2005.
3. Operations Research Theory and Applications, J K Sharma., Third Edition, Macmillan India Ltd, 2007.
4. Operations Research, P. K. Gupta and D. S. Hira, S. Chand & co., 2007.
5. Operations Research, Panneerselvam, Second Edition, PHI, 2006, rp2008.
6. Operations Research, Ravindran, Phillips, Solberg, Second Edition,Wiley India.
7. Operations Research, W.L.Winston, Fourth Edition, Cengage Learning.
8. Operations Research, Col. D. S. Cheema, Laxmi Publications Ltd., 2005.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	4	**0**	**4**

(9A05601) OBJECT ORIENTED ANALYSIS and DESIGN
(Common to CSE, CSSE, IT)

UNIT I

Introduction to UML: Importance of Modeling, Principles of Modeling, Object Oriented Modeling, Conceptual Model of the UML, Architecture, Software Development Life Cycle.

UNIT II

Basic Structural Modeling: Classes, Relationships, Common Mechanisms, and Diagrams, Advanced Structural Modeling: Advanced Classes, Advanced Relationships, Interfaces, Types and Roles, Packages.

UNIT III

Class and Object Diagrams: Terms, Concepts, Modeling Techniques for Class and Object Diagrams.

UNIT IV

Basic Behavioral Modeling-I: Interactions, Interaction Diagrams.

UNIT V

Basic Behavioral Modeling-II: Use Cases, Use Case Diagrams, Activity Diagrams.

UNIT VI

Advanced Behavioral Modeling: Events and Signals, State Machines, Processes and Threads, Time and Space, State Chart Diagrams.

UNIT VII

Architectural Modeling: Component, Deployment, Component Diagrams and Deployment Diagrams.

UNIT VIII

Case Study: The Unified Library Application.

TEXT BOOKS:

1. The Unified Modeling Language User Guide, Grady Booch, James Rumbaugh, Ivar Jacobson, Pearson Education.
2. UML 2 Toolkit, Hans-Erik Eriksson, Magnus Penker, Brian Lyons, David Fado, WILEY-Dreamtech India Pvt. Ltd.

REFERENCES:

1. Fundamentals of Object Oriented Design in UML, Meilir Page-Jones, Pearson Education.
2. Modeling Software Systems Using UML2, Pascal Roques, Wiley- Dreamtech India Pvt. Ltd.
3. Object Oriented Analysis and Design, Atul Kahate, The McGraw-Hill Companies.

4. Object-Oriented Analysis and Design with the Unified Process, John W. Satzinger, Robert B Jackson and Stephen D Burd, Cengage Learning.
5. Learning UML 2.0, Russ Miles and Kim Hamilton, O'Reilly, SPD.
6. Appling UML and Patterns: An introduction to Object – Oriented Analysis and Design and Unified Process, Craig Larman, Pearson Education.
7. UML and C++, R.C.Lee and W.M.Tepfenhart, PHI.
8. Object Oriented Analysis, Design and Implementation, B.Dathan and S.Ramnath, Universities Press.
9. OODesign with UML and Java, K.Barclay, J.Savage, Elsevier.
10. Mark Priestley: Practical Object-Oriented Design with UML, TMH.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	4	**0**	**4**

(9A05704) ADVANCED COMPUTER ARCHITECTURE

UNIT I
Parallel Computer Models: The State of Computing-Multiprocessors and Multi Computers-Multivector and SIMD Computers, PRAM and VLSI Models, Architectural Development Tracks, Program and Networks Properties: Conditions of Parallelism, Program Partitioning and Scheduling, Program Flow Mechanisms, System Interconnect Architectures.

UNIT II
Principles of Scalable Performance: Performance Metrics and Measures, Parallel Processing Applications, Speedup Performance Laws, Scalability Analysis and Approaches. Processors and Memory Hierarchy: Advanced Processor Technology, Superscalar and Vector Processors, Memory Hierarchy Technology.

UNIT III
Bus, Cache and Shared Memory: Bus Systems, Cache Memory Organizations, Shared-Memory Organizations, Pipelining and Super Scalar Techniques: Linear Pipeline Processors, Nonlinear Pipeline Processors, Instruction Pipeline Design, Arithmetic Pipeline Design.

UNIT IV
Multiprocessors and Multicomputer: Multiprocessor System Interconnects Cache Coherence and Synchronization Mechanisms, Three Generations of Multicomputers, Message-Passing Mechanisms.

UNIT V
Multivector and SIMD Computers: Vector Processing Principles, Multivector, MultiProcessors, Compound Vector Processing, SIMD Computer Organizations, The Connection Machine CM-5.

UNIT VI
Scalable, Multithreaded and Dataflow Architectures: Latency, Hiding Techniques, Principles of Multithreading, Fine-Grain Multicomputers, Scalable and Multithreaded Architectures, Dataflow and Hybrid Architectures.

UNIT VII
Instruction Level Parallelism: Introduction, Basic Design Issues, Problem Definition, Model of a Typical Processor, Operand Forwarding, Reorder Buffer, Register Renaming-Tomasulo's Algorithm, Branch Prediction, Limitations in Exploiting Instruction Level Parallelism, Thread Level Parallelism.

UNIT VIII
Trends in Parallel Systems: Brief Overview of Technology, Forms of Parallelism, Case Studies.

TEXT BOOKS:
1. Advanced Computer Architecture, Kai Hwang and Jotwani, Second Edition, McGraw-Hill Publications.

REFERENCES:

1. Advanced Computer Architecture, D.Sima, T.Fountain, P.Kacsuk, Pearson Education.
2. Computer Architecture: A Quantitative Approach, Third Edition, John L.Hennessy and David A. Patterson, Morgan Kufmann(An Imprint of Elsevier).
3. Computer Architecture and Parallel Processing, Hwang and Briggs.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	4	**0**	**4**

(9A05701) WEB TECHNOLOGIES

UNIT I
Introduction to Web Technologies: Introduction to Web Servers like Apache 1.1,IIS XAMPP(Bundle Server), WAMP(Bundle Server),Handling HTTP Request and Response, Installations of Above Servers.

UNIT II
Introduction to PHP: The Problem with Other Technologies (Servelets and JSP), Downloading, Installing, Configuring PHP, Programming in a Web Environment and the Anatomy of a PHP Page.

UNIT III
Overview of PHP Data Types and Concepts: Variables and Data Types, Operators, Expressions and Statements, Strings, Arrays and Functions.

UNIT IV
Overview of Classes, Objects and Interfaces**:** Creating Instances using Constructors, Controlling Access to Class Members, Extending Classes, Abstract Classes and Methods, using Interfaces, Using Class Destructors, File Handling and using Exceptions.

UNIT V
PHP Advanced Concepts: Using Cookies, Using HTTP Headers, Using Sessions, Authenticating users, Using Environment and Configuration variables, Working with Date and Time.

UNIT VII
Creating and Using Forms: Understanding Common Form Issues, GET vs. POST, Validating Form Input, Working with Multiple Forms, and Preventing Multiple Submissions of a Form.

UNIT VII
PHP and Database Access: Basic Database Concepts, Connecting to a MYSQL Database, Retrieving and Displaying Results, Modifying, Updating and Deleting Data, MVC architecture.

UNIT VIII
PHP and Other Web Technologies**:** PHP and XML, PHP and AJAX

TEXT BOOKS:

1. Beginning PHP and MySQL, Jason Gilmore, Third Edition , Apress Publications (Dream tech.).
2. PHP5 Recipes A problem Solution Approach Lee Babin, Nathan A Good, Frank M.Kromann and Jon Stephens.

REFERENCES:

1. Open Source Web Development with LAMP using Linux, Apache, MySQL, Perl and PHP, J.Lee and B.Ware(Addison Wesley) Pearson Education.
2. PHP6 Fast and Easy Web Development, Julie Meloni and Matt Telles, Cengage Learning Publications.
3. PHP5.1, I. Bayross and S.Shah, The X Team, SPD.
4. PHP and MySQL, Example, E.Quigley, Prentice Hall(Pearson).
5. PHP Programming solutions, V.Vaswani, TMH.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	4	**0**	**4**

(9A05603) OPTIMIZING TECHNIQUES
(Common to CSE, CSSE)

UNIT I
Introduction to Optimization: Requirements for the Application of Optimization Methods, Applications of Optimization in Engineering, Structure of Optimization Problems, Functions of a Single Variable: Properties of Single-Variable Functions, Optimality Criteria, Region Elimination Methods, Polynomial Approximation or Point Estimation Methods.

UNIT II
Functions of a Several Variables: Optimality Criteria, Direct-Search Methods, Gradient Based Methods, Comparison of Methods and Numerical Results.

UNIT III
Linear Programming: Formulation of Linear Programming Models, Graphical Solution of Linear Programming in Two Variables, Linear Programming in Standard Form, Principles of the Simplex Method, Applications.

UNIT IV
Transportation Problems: Introduction, Optimal Solution for BFS, Unbalanced Transportation Problem, Transshipment, Assignment Problems, Hungarian Method.

UNIT V
Constrained Optimality Criteria: Equality-Constrained Problems, Lagrange Multipliers, Economic Interpretation of Lagrange Multipliers, Kuhn-Tucker Conditions, Kuhn-Tucker Theorems, SaddlePoint Conditions, Second-Order Optimality Conditions, Generalized Lagrange Multiplier Method, Generalization of Convex Functions.

UNIT VI
Transformation Methods: Penalty Concept, Algorithms, Codes, and Other Contributions, Method of Multipliers, Constrained Direct Search: Problem Preparation, Adaptations of Unconstrained Search Methods, Random-Search Methods.

UNIT VII
Quadratic Approximation Methods for Constrained Problems: Direct Quadratic Approximation, Quadratic Approximation of the Lagrangian Function, Variable Metric Methods for Constrained Optimization, Structured Problems and Algorithms: Integer Programming, Quadratic Programming, Complementary Pivot Problems, Goal Programming.

UNIT VIII
Project Management: Introduction, Critical Path Method, Critical Path Determination, Optimal Scheduling by CPM, Project Evaluation and Review Technique, Dynamic Programming: Introduction, Formulation, Recursive Relations, Continuous Cases, Discrete Cases, Forward Recursions, Linear Programming vs. Dynamic Programming.

TEXT BOOKS:

1. Engineering Optimization: Methods and Applications, A. Ravindran,K. M. Ragsdell, G.V. Reklaitis, Second Edition, Wiley India Edition.
2. Introductory Operation Research: Theory and Applications, H.S. Kasana, K.D. Kumar, Springer International Editions.

REFERENCES:

1. Optimization Methods in Operations Research and systems Analysis, K.V. Mital and C.Mohan, New Age International (P) Limited, Publishers, Third Edition, 1996.
2. Operations Research, J.K.Sharma, Mac Millan.
3. Operations Research: An Introduction, H.A. Taha, PHI Pvt. Ltd., Sixth Edition, Pearson Education

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E)	**T**	**P**	**C**
	0	**3**	**2**

(9A15602) COMPUTER NETWORKS LAB

1. Write a Program To Implement Bit Stuffing.
2. Write a Program To Implement Character Count.
3. Write a Program To Implement Character Stuffing.
4. Implement On A Data Set Of Characters The Three CRC Polynomials – CRC 12, CRC 16 And RC CCIP.
5. Write a Program To Implement Transposition One Time Padding.
6. Write a Program To Implement Hamming Code For Single Bit Error Correction.
7. Implement Dijkstra's Algorithm To Compute The Shortest Path Thru A Graph.
8. Take an Example Subnet Graph With Weights Indicating Delay Between Nodes. Now Obtain Routing Table Art Each Node Using Distance Vector Routing Algorithm.
9. Take An Example Subnet Of Hosts. Obtain Broadcast Tree For It.
10. Take a 64 Bit Playing Text And Encrypt The Same Using DES Algorithm.
11. Write a Program To Break The Above DES Coding.
12. Write a Program To Implement Substitution Cipher Cryptography.
13. Using RSA Algorithm Encrypt A Text Data And Decrypt the Same.
14. Write a Program To Implement Transposition Of Cipher Cryptography.
15. Write a Program To Implement Two Way Communications in Client/Server Architecture.

JAWAHARLAL NEHRU
TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. III-II-Sem. (C.S.S.E) **T P C**
0 3 2

(9A12602) WEB TECHNOLOGIES LAB
(Common to CSSE, IT)

Objective :
To create a fully functional website with mvc architecture. To Develop an online Book store using we can sell books (Ex amazon .com).

Hardware and Software required :
1. A working computer system with either Windows or Linux
2. A web browser either IE or firefox
3. Apache web server or IIS Webserver
4. XML editor like Altova Xml-spy [www.Altova.com/**XML**Spy – free] , Stylusstudio , etc.,
5. A database either Mysql or Oracle
6. JVM(Java virtual machine) must be installed on your system
7. BDK(Bean development kit) must be also be installed

Week-1:

Design the following static web pages required for an online book store web site.
1) **HOME PAGE:**
The static home page must contain three **frames**.

Top frame : Logo and the college name and links to Home page, Login page, Registration page, Catalogue page and Cart page (the description of these pages will be given below).

Left frame : At least four links for navigation, which will display the catalogue of respective links. For e.g.: When you click the link **"CSE"** the catalogue for **CSE** Books should be displayed in the Right frame.

Right frame: The *pages to the links in the left frame must be loaded here*. Initially this page contains description of the web site.

<table>
<tr><td>Logo</td><td colspan="4">Web Site Name</td></tr>
<tr><td>Home</td><td>Login</td><td>Registration</td><td>Catalogue</td><td>Cart</td></tr>
<tr><td>CSE
ECE
EEE
CIVIL</td><td colspan="4">Description of the Web Site</td></tr>
</table>

Fig 1.1

2) LOGIN PAGE:

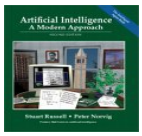
This page looks like below:

Logo	Web Site Name			
Home	Login	Registration	Catalogue	Cart
CSE ECE EEE CIVIL	Login : Password: Submit Reset			

3) CATOLOGUE PAGE:

The catalogue page should contain the details of all the books available in the web site in a table. The details should contain the following:

1. Snap shot of Cover Page.
2. Author Name.
3. Publisher.
4. Price.
5. Add to cart button.

Logo	Web Site Name			
Home	Login	Registration	Catalogue	Cart
CSE ECE EEE CIVIL		Book : XML Bible Author : Winston Publication : Wiely	$ 40.5	Add to cart
		Book : AI Author : S.Russel Publication : Princeton hall	$ 63	Add to cart
		Book : Java 2 Author : Watson Publication : BPB publications	$ 35.5	Add to cart
		Book : HTML in 24 hours Author : Sam Peter Publication : Sam publication	$ 50	Add to cart

Note: Week 2 contains the remaining pages and their description.

Week-2:

4) CART PAGE:

The cart page contains the details about the books which are added to the cart.

The cart page should look like this:

Logo	Web Site Name			
Home	Login	Registration	Catalogue	Cart
CSE ECE EEE CIVIL	**Book name** Java 2 XML bible	**Price** $35.5 $40.5	**Quantity** 2 1	**Amount** $70 $40.5
		Total amount -		$130.5

5) REGISTRATION PAGE:

Create a "*registration form* "with the following fields

1) Name (Text field)
2) Password (password field)
3) E-mail id (text field)
4) Phone number (text field)
5) Sex (radio button)
6) Date of birth (3 select boxes)
7) Languages known (check boxes – English, Telugu, Hindi, Tamil)
8) Address (text area)

WEEK 3:

VALIDATION:

Write *JavaScript* to validate the following fields of the above registration page.

1. Name (Name should contains alphabets and the length should not be less than 6 characters).
2. Password (Password should not be less than 6 characters length).
3. E-mail id (should not contain any invalid and must follow the standard pattern name@domain.com)
4. Phone number (Phone number should contain 10 digits only).

Note : You can also validate the login page with these parameters.

Week-4:

Design a web page using **CSS (C**ascading **S**tyle **S**heets**)** which includes the following:

1) Use different font, styles:

In the style definition you define how each selector should work (font, color etc.).

Then, in the body of your pages, you refer to these selectors to activate the styles.

For example:

```
<HTML>
<HEAD>
<style type="text/css">
B.headline {color:red, font-size:22px, font-family:arial, text-
decoration:underline}
</style>

</HEAD>

<BODY>
<b>This is normal bold</b><br>
Selector {cursor:value}

For example:

<html>
<head>
<style type="text/css">
.xlink {cursor:crosshair}
.hlink{cursor:help}
</style>
</head>

<body>
<b>
<a href="mypage.htm" class="xlink">CROSS LINK</a>
<br>
<a href="mypage.htm" class="hlink">HELP LINK</a>
</b>
</body>
</html>

<b class="headline">This is headline style bold</b>
</BODY>

</HTML>
```

2) Set a background image for both the page and single elements on the page.
You can define the background image for the page like this:

```
BODY {background-image:url(myimage.gif),}
```

3) Control the repetition of the image with the background-repeat property.
As background-repeat: repeat
Tiles the image until the entire page is filled, just like an ordinary background image in plain HTML.

4) Define styles for links as

A:link
A:visited
A:active
A:hover

Example:

<style type="text/css">
A:link {text-decoration: none}
A:visited {text-decoration: none}
A:active {text-decoration: none}
A:hover {text-decoration: underline, color: red,}
</style>

5) Work with layers:

For example:

LAYER 1 ON TOP:

```
<div style="position:relative, font-size:50px, z-index:2,">LAYER 1</div>        <div
style="position:relative, top:-50, left:5, color:red, font-size:80px, z-
index:1">LAYER 2</div>
```

LAYER 2 ON TOP:

```
<div style="position:relative, font-size:50px, z-index:3,">LAYER 1</div>        <div
style="position:relative, top:-50, left:5, color:red, font-size:80px, z-
index:4">LAYER 2</div>
```

6) Add a customized cursor:

Selector {cursor:value}

For example:

```
<html>
<head>
<style type="text/css">
.xlink {cursor:crosshair}
.hlink{cursor:help}
</style>
</head>

<body>
<b>
<a href="mypage.htm" class="xlink">CROSS LINK</a>
<br>
<a href="mypage.htm" class="hlink">HELP LINK</a>
</b>
</body>
</html>
```

Week-5:

Write an XML file which will display the Book information which includes the following:

1) Title of the book
2) Author Name
3) ISBN number
4) Publisher name
5) Edition
6) Price

Write a Document Type Definition (DTD) to validate the above XML file.

Display the XML file as follows.
The contents should be displayed in a table. The header of the table should be in color GREY. And the Author names column should be displayed in one color and should be capitalized and in bold. Use your own colors for remaining columns.
Use XML schemas XSL and CSS for the above purpose.
Note: Give at least for 4 books. It should be valid syntactically.
Hint: You can use some xml editors like XML-spy

Week-6:
VISUAL BEANS:
Create a simple visual bean with a area filled with a color.
The shape of the area depends on the property shape. If it is set to true then the shape of the area is Square and it is Circle, if it is false.
The color of the area should be changed dynamically for every mouse click. The color should also be changed if we change the color in the "property window ".

Week-7:

1) Install IIS web server and APACHE.
   While installation assign port number 4040 to IIS and 8080 to APACHE. Make sure that these ports are available i.e., no other process is using this port.
2) Access the above developed static web pages for books web site, using these servers by putting the web pages developed in week-1 and week-2 in the document root.

Access the pages by using the urls : http://localhost:4040/rama/books.html (for tomcat)
http://localhost:8080/books.html (for Apache)

Week-8:

User Authentication :
Assume four users user1,user2,user3 and user4 having the passwords pwd1,pwd2,pwd3 and pwd4 respectively. Write a PHP for doing the following.
1. Create a Cookie and add these four user id's and passwords to this Cookie.
2. Read the user id and passwords entered in the Login form (week1) and authenticate with the values (user id and passwords) available in the cookies.
If he is a valid user(i.e., user-name and password match) you should welcome him by name(user-name) else you should display " You are not an authenticated user ''.
Use init-parameters to do this.

Week-9:
Install a database(Mysql or Oracle).
Create a table which should contain at least the following fields: name, password, email-id, phone number(these should hold the data from the registration form).
Write a PHP program to connect to that database and extract data from the tables and display them. Experiment with various SQL queries.
Insert the details of the users who register with the web site, whenever a new user clicks the submit button in the registration page (week2).
Week-10:
Write a PHP which does the following job:
Insert the details of the 3 or 4 users who register with the web site (week9) by using registration form. Authenticate the user when he submits the login form using the user name and password from the database (similar to week8 instead of cookies).

Week-11:
Create tables in the database which contain the details of items (books in our case like Book name , Price, Quantity, Amount) of each category. Modify your catalogue page (week 2)in such a way that

you should connect to the database and extract data from the tables and display them in the catalogue page using PHP

Week-12:

HTTP is a stateless protocol. Session is required to maintain the state.

The user may add some items to cart from the catalog page. He can check the cart page for the selected items. He may visit the catalogue again and select some more items. Here our interest is the selected items should be added to the old cart rather than a new cart. Multiple users can do the same thing at a time (i.e., from different systems in the LAN using the ip-address instead of localhost). This can be achieved through the use of sessions. Every user will have his own session which will be created after his successful login to the website. When the user logs out his session should get invalidated (by using the method session.invalidate()).

Modify your catalogue and cart PHP pages to achieve the above mentioned functionality using sessions.