**A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)**

**KAKINADA**

**DEPARTMENT OF COMPUTER SCIENCE**

**III YEAR VI SEMESTER**

**Paper-VII: Elective-A**

**Operating Systems**

**UNIT – I :Operating System Introduction:** Operating Systems Objectives and functions, Computer System Architecture, OS Structure, OS Operations, Evolution of Operating Systems - Simple Batch, Multi programmed, time shared, Parallel, Distributed Systems, Real-Time Systems, Operating System services.

**UNIT – II :**Process and CPU Scheduling - Process concepts - The Process, Process State, Process Control Block, Threads, Process Scheduling - Scheduling Queues, Schedulers, Context Switch, Preemptive Scheduling, Dispatcher, Scheduling Criteria, Scheduling algorithms, Case studies: Linux, Windows.

Process Coordination - Process Synchronization, The Critical section Problem, Synchronization Hardware, Semaphores, and Classic Problems of Synchronization, Monitors, Case Studies: Linux, Windows.

**UNIT – III :**Memory Management and Virtual Memory - Logical & physical Address Space, Swapping, Contiguous Allocation, Paging, Structure of Page Table. Segmentation, Segmentation with Paging, Virtual Memory, Demand Paging, Performance of Demanding Paging, Page Replacement Page Replacement Algorithms, Allocation of Frames.

**UNIT – IV :**File System Interface - The Concept of a File, Access methods, Directory Structure, File System Mounting, File Sharing, Protection, File System Structure, Mass Storage Structure - Overview of Mass Storage Structure, Disk Structure, Disk  Attachment, Disk Scheduling.

**UNIT – V:**Deadlocks - System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.

**REFERENCES BOOKS:**

1. Operating System Principles, Abraham Silberchatz, Peter B. Galvin, Greg Gagne 8th Edition, Wiley Student Edition.
2. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press
3. Operating systems - Internals and Design Principles, W. Stallings, 6th Edition, Pearson.
4. Modern Operating Systems, Andrew S Tanenbaum 3rd Edition  PHI.
5. Operating Systems A concept - based Approach, 2nd Edition, D. M. Dhamdhere, TMH.
6. Principles of Operating Systems, B. L. Stuart, Cengage learning, India Edition.Operating Systems, A. S. Godbole, 2nd Edition, TMH

**III YEAR VI SEMESTER**

**Paper-VII: Elective-A**

**Operating Systems Lab**

List of Experiments:

1.Usage of following commands Ls,pwd,tty,cat,who,who am I,rm, mkdir,rmdir,touch,cd

2. Usage of following commands Cal,cat(append),cat(concatenate),mv,cp,man,date.

3. Usage of following commands Chmod,grep,tput(clear,highlight),bc.

4. Write a shell script to check if the number entered at the command line is Prime or not.

5. Write a shell script to modify “cal” command to display calendars of the specified months.

6. Write a shell script to modify “cal” command to display calendars of the

specified range of months.

7. Write a shell script to accept a login name. If not a valid login name display

message “entered login name is invalid”

8. Write a shell script to display date in the mm/dd/yy format.

9. To implement the FCFS Algorithm.

10. To implement the shortest job First Algorithm.

11. To implement the priority algorithm.

12. To implement the round robin Algorithm.

13. To implement the FIFO page replacement algorithm

14.To implement the LRU page replacement Algorithm.

15. To implement the First-Fit, Best-Fit, Worst-Fit Algorithm.

16. To implement the sequential file organization.

**17.** To implement the Random file organization

18. Simulate Page Replacement Algorithms FIFO

19. Simulate Page Replacement Algorithms LRU

21. Simulate Page Replacement Algorithms OPTIMAL

22. Simulate Algorithm For Deadlock Prevention

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**Paper-VII: Elective-B**

**COMPUTER NETWORKS**

**UNIT – I:Introduction:** Uses of Computer Networks, Network Hardware, Network Software, Reference Models, Example Networks.

**The Physical Layer:** The Theoretical Basis for Data Communication, Guided Transmission Media, Wireless transmission, the public switched telephone network

**UNIT – II :The Data Link Layer:** Data Link Layer Design Issues, Error Detection and Correction, Sliding Window Protocols.

**The Medium Access Control Sub-layer:** The channel allocation problem, **Multiple Access Protocols**, **Ethernet,** Data Link Layer Switching.

**UNIT – III :The Network Layer:** Network Layer Design Issues, Routing Algorithms, Congestion control algorithms, Quality of Service.

Internet Working, The Network Layer in the Internet

**UNIT – IV:The Transport Layer:** The Transport Service, Elements of Transport Protocols, Congestion Control Algorithms, The Internet Transport Protocols, The Internet Transport Protocols: TCP, Delay Tolerant Networks.

**UNIT – V: :The Application Layer:** DNS – The Domain Name System, Electronic Mail, The World Wide Web, Real Time Audio & Video, Content Delivery & Peer-to-Peer.

**Reference Books:**

1. Andrew S. Tanenbaum, “Computer Networks”, Fifth Edition, Pearson Education.
2. Bhushan Trivedi, Computer Networks , Oxford University Press
3. James F.Kurose, Keith W.Ross, “Computer Networking”, Third Edition, Pearson Education
4. Behrouz A Forouzan, “Data Communications and Networking”, Fourth Edition, TMH (2007).
5. Kurose & Ross, “***COMPUTER NETWORKS***” – A Top-down approach featuring the Internet”, Pearson Education – Alberto Leon – Garciak.

**III YEAR VI SEMESTER**

**Paper-VII: Elective-B**

**COMPUTER NETWORKS LAB**

**List of Experiments:**

1. Write a program to implement data link layer framing method bit stuffing.

2. Write a program to implement data link layer framing method character stuffing.

3. Write a program to implement data link layer framing method character count.

4. Write a program to implement Cyclic Redundancy Check (CRC 12, CRC 16 and CRC

CCIR) on a data set of characters.

5. Write a program to implement Dijkstra’s algorithm to compute the shortest path through

a graph.

6. Write a program to implement subnet graph with weights indicating delay between

7. Write a program to implement subnet

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**III YEAR VI SEMESTER**

**Paper-VII: Elective-C**

**WEB TECHNOLOGIES**

**Unit I**

Introduction to XHTML , Cascading Style Sheets (CSS) ,JavaScript: Introduction to Scripting ,Control Statements, Functions ,Arrays ,Objects

**Unit II**

Dynamic HTML: Object Model and Collections , Dynamic HTML: Event Model

**Unit III**

XML Representing Web Data, XSL Related Technologies and Case Study

**Unit IV**

Building Ajax-Enabled Web Applications, Web Servers (IIS and Apache)

Ruby and Ruby on Rails

**Unit V**

Java Server Faces Web Applications, Web Services

### References:

1. Harvey M. Deitel and Paul J. Deitel, “Internet & World Wide Web How to Program”, 4/e, Pearson Education.
2. Uttam Kumar Roy, Web Technologies from Oxford University Press

### Jason Cranford Teague “Visual Quick Start Guide CSS, DHTML & AJAX”, 4e, “Pearson Education.

### Tom Nerino Doli smith “JavaScript & AJAX for the web” Pearson Education 2007.

### Joshua Elchorn “Understanding AJAX” Prentice Hall 2006.

### Hal Fulton “The Ruby Way”, 2e, Pearson Education 2007.

### David A. Black “Ruby for rails” Dreamtech Press 2006.

### Bill Dudney, Johathan lehr, Bill Willies, Lery Mattingly “Mastering Java Server Faces” Wiely India 2006.

**Paper-VII : Elective-C**

**Web Technologies Lab**

1. Write a HTML program illustrating text formatting.

**2.** Illustrate font variations in your HTML code.

3. Prepare a sample code to illustrate links between different sections of the page.

4. Create a simple HTML program to illustrate three types of lists.

5. Embed a calendar object in your web page.

6. Create an applet that accepts two numbers and perform all the arithmetic operations

on them.

7. Create nested table to store your curriculum.

8. Create a form that accepts the information from the subscriber of a mailing system.

9. Design the page as follows:

****

**11. Using “table” tag, align the images as follows:**

****

**12. Divide the web page into frames**

**13. Design the page as follows:**

****

**14. Illustrate the horizontal rulers in your page.**

15. Create a help file as follows:



16. Create a form using form tags(assume the form and fields).

17. Create a webpage containing your biodata(assume the form and fields).

18. Write a html program including style sheets.

20. Write a html program to layers of information in web page.

21. Create a static webpage.

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**(Cluster A) Paper-VIII: Elective –A-1**

**Foundations of Data Science**

**UNIT I**

**INTRODUCTION TO DATA SCIENCE :**Data science process – roles, stages in data science project – working with data from files – working with relational databases – exploring data – managing data – cleaning and sampling for modelling and validation – introduction to NoSQL.

**UNIT II**

**MODELING METHODS :**Choosing and evaluating models – mapping problems to machine learning, evaluating clustering models, validating models – cluster analysis – Kmeans algorithm, Naïve Bayes – Memorization Methods – Linear and logistic regression – unsupervised methods.

**UNIT III**

**INTRODUCTION TO R Language:** Reading and getting data into R – ordered and unordered factors – arrays and matrices – lists and data frames – reading data from files.

**UNIT IV**

**PROBABILITY DISTRIBUTIONS** in R - Binomial, Poisson, Normal distributions. - Manipulating objects - data distribution.

**UNIT V**

**DELIVERING RESULTS :**Documentation and deployment – producing effective presentations– Introduction to graphical analysis – plot() function – displaying multivariate data – matrix plots – multiple plots in one window - exporting graph – using graphics parameters in R Language. Case studies.

**Reference Books**

1.Nina Zumel, John Mount, “Practical Data Science with R”, Manning Publications, 2014.

2.Jure Leskovec, Anand Rajaraman, Jeffrey D.Ullman, “Mining of Massive Datasets”,

Cambridge University Press, 2014.

3.Mark Gardener, “Beginning R - The Statistical Programming Language”, John Wiley

& Sons, Inc., 2012.

4.W. N. Venables, D. M. Smith and the R Core Team, “An Introduction to R”, 2013.

5.Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, Abhijit Dasgupta, “Practical Data

Science Cookbook”, Packt Publishing Ltd., 2014.

6.Nathan Yau, “Visualize This: The FlowingData Guide to Design, Visualization,

and Statistics”, Wiley, 2011.

7.Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, “Professional Hadoop

Solutions”, Wiley, ISBN: 9788126551071, 2015.

**(Cluster 1) Paper-VIII: Elective –A-1**

**Foundations of Data Science Lab**

**I.** Installing R and R studio

II. Basic Operations in r

1. Arthematic Operations

2. Comments and spacing

3. Logical Operators - <, <=, >, >=, = , !=, &&, 1

III.

1. Getting data into R, Basic data manipulation

2. Vectors, Materials, operation on vectors and matrices.

IV.

1. Basic Plotting

2. Quantitative data

3. Frequency plots

4. Box plots

5. Scatter plot

6.Categorial data

7. Bar charts

8. Pie charts

V. Loops and functions

1. if, if else, while, for break, next, repeat.

2. Basic functions- Print(), exp( ), Log( ), sqrt( ), abs( ), sin( ), Cos( ), tan( ), factorial( ),

rand ().

**III YEAR VI SEMESTER**

**(Cluster A) Paper-VIII : Elective –A-2**

**BIG DATA TECHNOLOGY**

**UNIT I :**

**INTRODUCTION TO BIG DATA:**Introduction – distributed file system – Big Data and its importance, Four V’s in bigdata, Drivers for Big data, Big data analytics, Big data applications. Algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce.

**UNIT II :**

**INTRODUCTION HADOOP** : Big Data – Apache Hadoop & Hadoop EcoSystem – Moving Data in and out of Hadoop – Understanding inputs and outputs of MapReduce - Data Serialization.

**UNIT- III :**

**HADOOP ARCHITECTURE**: Hadoop Architecture, Hadoop Storage: HDFS, Common Hadoop Shell commands , Anatomy of File Write and Read., NameNode, Secondary NameNode, and DataNode, Hadoop MapReduce paradigm, Map and Reduce tasks, Job, Tasktrackers - Cluster Setup – SSH & Hadoop Configuration – HDFS Administering –Monitoring & Maintenance.

**UNIT-IV :**

**HADOOP ECOSYSTEM AND YARN :**Hadoop ecosystem components - Schedulers - Fair and Capacity, Hadoop 2.0 New Features- NameNode High Availability, HDFS Federation, MRv2, YARN, Running MRv1 in YARN.

**UNIT-V :**

**HIVE AND HIVEQL, HBASE**:-Hive Architecture and Installation, Comparison with Traditional Database, HiveQL - Querying Data - Sorting And Aggregating, Map Reduce Scripts, Joins & Subqueries, HBase concepts- Advanced Usage, Schema Design, Advance Indexing - PIG, Zookeeper - how it helps in monitoring a cluster, HBase uses Zookeeper and how to Build Applications with Zookeeper.

**Reference Books**

1. Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, “Professional Hadoop Solutions”, Wiley, ISBN: 9788126551071, 2015.
2. Chris Eaton, Dirk deroos et al. , “Understanding Big data ”, McGraw Hill, 2012.
3. Tom White, “HADOOP: The definitive Guide” , O Reilly 2012.
4. Vignesh Prajapati, “Big Data Analytics with R and Haoop”, Packet Publishing 2013.
5. Tom Plunkett, Brian Macdonald et al, “Oracle Big Data Handbook”, Oracle Press, 2014.
6. Jy Liebowitz, “Big Data and Business analytics”,CRC press, 2013.

**II YEAR VI SEMESTER**

**(Cluster B) Paper-VIII : Elective –B-1**

**Distributed Systems**

**UNIT I**

Introduction to Distributed Computing Systems, System Models, and Issues in Designing a

Distributed Operating System, Examples of distributed systems.

**UNIT II**

Features of Message Passing System, Synchronization and Buffering, Introduction to RPC

and its models, Transparency of RPC, Implementation Mechanism, Stub Generation and RPC

Messages, Server Management, Call Semantics, Communication Protocols and Client Server

Binding.

**UNIT III**

Introduction, Design and implementation of DSM system, Granularity and Consistency

Model, Advantages of DSM, Clock Synchronization, Event Ordering, Mutual exclusion,

Deadlock, Election Algorithms.

**UNIT IV**

Task Assignment Approach, Load Balancing Approach, Load Sharing Approach, Process

Migration and Threads.

**UNIT V**

File Models, File Accessing Models, File Sharing Semantics, File Caching Schemes, File

Replication, Atomic Transactions, Cryptography, Authentication, Access control and Digital

Signatures.

**Reference Books**

1.Pradeep. K. Sinha: “ Distributed Operating Systems: Concepts and Design ” , PHI, 2007.

2 .George Coulouris, Jean Dollimore, Tim Kindberg: “ Distributed Systems” , Concept and

Design, 3rd Edition, Pearson Education, 2005.

**III YEAR VI SEMESTER**

**(Cluster 2) Paper-VIII : Elective –B-1**

**Distributed Systems Lab**

1. To study client server based program using RPC.

2. To study Client server based program using RMI.

3. To study Implementation of Clock Synchronization (Logical/Psysical)

4. To study Implementation of Election algorithm.

5. To study Implementation of Mutual Exclusion algorithms.

6. To write program multi-threaded client/server processes.

7. To write program to demonstrate process/code migration.

**III YEAR VI SEMESTER**

**(Cluster B ) Paper-VIII : Elective –B-2**

**Cloud Computing**

**Unit 1**

**Cloud Computing Overview** – Origins of Cloud computing – Cloud components - Essential

characteristics – On-demand self-service , Broad network access , Location independent resource pooling , Rapid elasticity , Measured service

**Unit II**

Cloud scenarios – Benefits: scalability , simplicity , vendors ,security. Limitations – Sensitive information - Application development – Security concerns - privacy concern with a third party - security level of third party - security benefits Regularity issues: Government policies

**Unit III**

**Cloud architecture**: Cloud delivery model – SPI framework , SPI evolution , SPI vs. traditional IT Model **Software as a Service** (SaaS): SaaS service providers – Google App Engine, Salesforce.com and google platfrom – Benefits – Operational benefits - Economic benefits – Evaluating SaaS **Platform as a Service** ( PaaS ): PaaS service providers – Right Scale – Salesforce.com – Rackspace – Force.com – Services and Benefits

**Unit IV**

**Infrastructure as a Service** ( IaaS): IaaS service providers – Amazon EC2 , GoGrid – Microsoft soft implementation and support – Amazon EC service level agreement – Recent developments – Benefits

**Cloud deployment model** : Public clouds – Private clouds – Community clouds - Hybrid clouds - Advantages of Cloud computing

**Unit V**

**Virtualization**: Virtualization and cloud computing - Need of virtualization – cost , administration , fast deployment , reduce infrastructure cost - limitations

**Types of hardware virtualization**: Full virtualization - partial virtualization – para virtualization

**Desktop virtualization**: Software virtualization – Memory virtualization – Storage virtualization – Data virtualization – Network virtualization **Microsoft Implementation**:

Microsoft Hyper V – Vmware features and infrastructure – Virtual Box - Thin client

**Reference Books**

1. Cloud computing a practical approach - Anthony T.Velte , Toby J. Velte Robert

Elsenpeter TATA McGraw- Hill , New Delhi - 2010

2. Cloud Computing: Web-Based Applications That Change the Way You Work and

Collaborate Online - Michael Miller - Que 2008

3. Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier.

4. Cloud Computing, A Hands on approach, Arshadeep Bahga, Vijay Madisetti,

University Press

5. Mastering Cloud Computing, Foundations and Application Programming, Raj

Kumar Buyya, Christenvecctiola, S Tammarai selvi, TMH

**III YEAR VI SEMESTER**

**(Cluster B ) Paper-VIII : Elective –B-2**

**Cloud Computing Lab**

1. Introduction to cloud computing.

2. Creating a Warehouse Application in Sales Force.com.

3. Creating an Application in Sales Force.com using Apex programming Language.

4. Implementation of SOAP web services in C#/ JAVA Applications.

5. Implementation of Para- Virtualization using VM ware's workstation/

Oracle's Virtual Box and Guest O.S.

6. Case study: PAAS ( Face book, Google App Engine)

7. Case Study: Amazon web services.

**III YEAR VI SEMESTER**

**(Cluster C) Paper-VIII : Elective –C-1**

**Paper-VIII : PHP & MySQL, WordPress**

**UNIT I**

Installing and Configuring MySQL: Current and Future Versions of MySQl, How to Get MySQL, Installing MySQL on Linux, Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Linux, Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands,

Trouble Shooting. Installing and Configuring PHP: Building PHP on Linux with Apache, Windows, php.ini. Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in

PHP: Switching Flow, Loops, Code Blocks and Browser Output.

**UNIT II**

**Working with Functions:** What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments.

**Working with Arrays:** What are Arrays? Arrays, Some Array-Related Functions.

**Working with Objects:** Creating Objects, Object Instance

**Working with Strings, Dates and Time:** Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

**UNIT III**

**Working with Forms:** Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads.

**Working with Cookies and User Sessions:** Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files

**UNIT IV**

**Introduction to MySQL**

**Understanding the Database Design Process:** The Importance of Good Database Design, Types of Table Relationships, and Understanding Normalization.

**Learning basic SQL Commands:** Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using RELACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL.

**UNIT V**

**Interacting with MySQL using PHP:** MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition

Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Subentities to a Record.

**WordPress:** Introduction to WordPress, servers like wamp, bitnami etc, installing and configuring WordPress, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts. Customizing the site, changing the appearance of

site using CSS.

**REFERENCE BOOKS**

**1. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson**

**Education (2007).**

**2. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming,**

**Thomson (2006).**

**PHP, MySQL & Wordpress LAB**

**MySQL Lab Cycle**

**Cycle -1**

An Enterprise wishes to maintain the details about his suppliers and other corresponding

details. For that he uses the following details.

Suppliers (sid: Integer, sname: string, address: string)

Parts (pid: Integer, pname: string, color: string)

Catalog (sid: integer, pid: integer, cost: real)

**The catalog relation lists the prices charged for parts by suppliers.**

Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.

2. Find the snames of suppliers who supply every part.

3. Find the snames of supplier who supply every red part.

4. Find the pnames of parts supplied by London Supplier abd by no one else.

5. Find the sid’s of suppliers who charge more for some part than the average cost

of that part.

6. For each part, find the sname of the supplier who charges the most for that part.

7. Find the sid’s of suppliers who supply only red parts.

8. Find the sid’s of suppliers who supply a red and a green part.

9. Find the sid’s of suppliers who supply a red or green part.

10. Find the total amount has to pay for that suppler by part located from London

**PHP Lab Cycle**

1. Write a PHP program to Display “Hello”

2. Write a PHP Program to display the today’s date.

3. Write a PHP Program to read the employee details.

4. Write a PHP Program to display the

5. Write a PHP program to prepare the student marks list.

6. Write a PHP program to generate the multiplication of two matrices.

7. Write a PHP Application to perform demonstrate the college website.

8. Write a PHP application to add new Rows in a Table.

9. Write a PHP application to modify the Rows in a Table.

10. Write a PHP application to delete the Rows from a Table.

11. Write a PHP application to fetch the Rows in a Table.

12. Develop an PHP application to make following Operations

i. Registration of Users.

ii. Insert the details of the Users.

iii. Modify the Details.

iv. Transaction Maintenance.

a) No of times Logged in

b) Time Spent on each login.

c) Restrict the user for three trials only.

d) Delete the user if he spent more than 100 Hrs of transaction.

**WordPress Lab**

1. Installation and configuration of word press.

2. Create a site and add a theme to it.

**(Cluster C) Paper-VIII: Elective –C-2**

**Paper-VIII: Advanced Java Script (JQUERY /AJAX / JSON / Angular JS)**

**UNIT I**

**JQuery – Basics**: String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuery – Selectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out

Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.

**UNIT II**

**jQuery – CSS Methods** : Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations

**UNIT III**

**Introduction to jQuery UI**: Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Set, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip. Intro to jQuery validation plug-in, Using jQuery validation plug-in, regular expressions.

**UNIT IV**

**Introduction to AJAX**: Need of AJAX in real web sites, Getting database data using jQuery-AJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX

**Introduction to JSON:** JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

**UNIT V**

**Introduction to AngularJS:** Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validations.

**Reference Books**

1. jQuery UI 1.8: The User Interface Library for jQuery by Dan Wellman

2. jQuery Fundamentals by Rebecca Murphey

3. Ajax: The Complete Reference by Thomas A. Powell

4. Pro AngularJS by Adam Freeman Kindle Edition

**Guidelines and Evaluation pattern of the project of the cluster**

The student who wants to do the project should follow the following.

1. He/She has to select the topic with clear Aim & objectives.

2. He/She has to collect the previous information regarding the topic.

3. He/She has to get the clear idea after getting the reference material ,i.e., how to

proceed and what to do (methodology).

4. before going to discuss the topic, every student has to do at least three Seminars

on his/her chosen topic.

5. Finally he/She has to come with Results &conclusions.

6. Bibliography (Reference Journals/books should be mentioned).