

## MCA104 LAMP AND WEB DESIGNING

L	T	P	Cr
2	0	4	4.0

**Course objective:** To give a brief introduction to the open source technology. Through interactive sessions enabling students to enhance their skills in contributing and implementing their technical knowledge.

**Introduction:** Open Source Definition, Free Software vs. Open Source Software, Public Domain Software, Open Source History, Initiatives, Principle and Methodologies. Open Standards.

**Open Source Development Model Licenses and Patents:** What Is a License, Important FOSS Licenses (Apache, BSD, GPL, LGPL), copyrights and copy lefts, Patents Economics of FOSS: Zero Marginal Cost, Income-generation opportunities, Problems with traditional commercial software, Internationalization.

**Open Source Operating Systems:** Different open source operating systems. Google Chrome OS, BSD, Linux Distributions – Fedora and Ubuntu, Installation, Disk Partitioning, Boot loader. Using Linux – Shell, File system familiarity, Linux Administration – Managing users, services and software, Network Connectivity, Configurations and Security.

**Open Source Web Technologies:** Two Tier and Three Tier Web based Application Architecture. LAMP Terminologies, Advantages . Apache, Web server conceptual working, Web browser, HTTP, Installation and Configuration, httpd.conf file, Logging, Security, Running a website, MySQL, Database management system, ER diagram, Relational database, Installation, Configuration, Administration, Common SQL queries.PHP, Dynamic content, Server side scripting, Installation, Configuration, Administration, Language syntax, Built-in functions, PHP and MySQL connectivity.

**Programming on XHTML and XML:** Editing XHTML, W3C XHTML validation services, designing XHTML by using XHTML tables, frames, forms and other elements. CSS and its types. XML, XML namespaces, DTD, XML schema, XML vocabularies, DOM and its methods, SOAP.

### **Programming on PHP and JavaScript:**

JavaScript: JavaScript variables, control structures, functions, arrays and objects. Cascading Style Sheets, Client Side Scripting - Java Script, PHP: Form processing and business logic, stream processing and regular expressions, viewing client/server environment variables, connecting to database and handling of cookies. SQL, Accessing databases with PHP.

**Open Source Ethics:** Open source vs. closed source Open source government, Open source ethics. Social and Financial impacts of open source technology, Shared software, Shared source.

**Case Studies:** Mozilla (Firefox), Wikipedia, Joomla, Open Office, GCC.

**Laboratory work:** Lab work will primarily focus on installing open source software on different machines. Study and manipulate the source code of different open source OS. To create multimedia using HTML, Explore XHTML, design of XML documents

**Recommended Books:**

1. Ware B., B Lee J., Open Source Development with Lamp: Using Linux, Apache, MySQL, Perl, and PHP; Addison-Wesley Professional.
2. Rosebrock E., Filson E., Setting Up LAMP: Getting Linux, Apache, MySQL, and PHP Working Together, SYBEX Inc.
3. Deitel, "Internet and World wide web, How to program" 4<sup>th</sup> Edition, Prentice Hall