4MCAEC12: OPEN SOURCE TECHNOLOGIES

Total No. of Hours: 52   **Hours/Week: 04**

Course Objective: To develop the skills in Open Source Technology, which will enable the students to acquire the skills in Linux, Apache Server, MySQL and specially PHP.

Unit I	**Overview of Open Source Software**: Introduction: Open Software, Free Software, Need of Open Source, Applications, FOSS, Free Software Movement, Commercial Aspect of Open Source Management, Licensing – Certification – Open Source Software Development Model – Comparison with close source/Proprietary software - Widely used open source software license :Apache License, BSD license, GNU General Public License, GNU Lesser General Public License, MIT License, Eclipse Public License and Mozilla Public License	8 hrs
Unit II	**Linux Operating System**: Linux Operating System concepts and Architecture, Overview of Linux Kernel, User space, Kernel Space, Processes and Daemons, Process Control, Overview of Linux Administration, Linux File System, User, Group Management; Configuration Files overview; File System permissions, Access Permissions and Security, Common File System Commands, Recursion Option in Commands, Find, Grep, Cat, More, Less and Sort commands.	8 hrs
Unit III	**Apache Web Server**: Linux Distribution Apache Installation, Starting and Stopping Web Server. Apache Configuration Files, Apache Directives – Server Configuration, Directory level configuration: htaccess and <Directory>, Access Control, URL Pathnames, MIME Types, CGI Files, Automatic Directory Indexing, Authentication, Log Files, Virtual Hosting – IP Address Virtual Host, Name based Virtual Host, Dynamic Virtual Hosting, Apache GUI Configuration Tools, Web Server Security, Apache Web Server Configuration Files.	11 hrs
Unit IV	**PHP**: Introduction - How web works - Setting up the environment(LAMP/WAMP server) -Introduction to Server side Programming, Introduction to PHP, PHP and HTML, Variables, Strings and its Manipulations, Arrays, Array – Key pair value, Control and Looping statements, User Defined Functions, global variable, default value, GET and POST method, URL encoding, HTML Encoding, Cookies, Sessions, File:Read and Write from file.	12 hrs
Unit V	**Database Connectivity**: Establishing connectivity with MySQL database. Creating MySQL Databases with PHP, Manipulating MySQL data with PHP.	13 hrs

REFERENCE BOOKS

[1] Richard Peterson, "*Open Source Development with LAMP: Using Linux, Apache, MySQL, Perl and PHP*", Pearson Education Asia

[2] Mathew Moodie, "*Pro Apache Tomcat 6*", Apress / Wiley

[3] Matt Doyle ,"*Beginning PHP 5.3*", Willey Publishing, 2010

[4]Sheldon, Moes, "*Beginning MySQL*", Wiley Wrox

[5] Richard Peterson, "*Linux: The Complete Reference*", TMGH Publishers

[6] Mike Mcgrath, "*PHP & MySQL in easy Steps*", Tata McGraw Hill, 2012