NIRMA UNIVERSITY
SCHOOL OF TECHNOLOGY, INSTITUTE OF TECHNOLOGY
Course Syllabus
Master of Computer Application (2-Years Programme) Semester-II
Department Elective-I

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Course Code	6CS162
Course Name	Open Source Technology

Course Outcomes:

At the end of the course, students will be able to –

1. describe and interpret the basics of PHP technologies.
2. design and develop the web applications using databases
3. access data from relational databases through a PHP application
4. apply modern tools and frameworks for designing and developing web applications and web services.

Syllabus:

Teaching hours:45

Unit I **2**

Introduction to Dynamic Web Content: web server, Hyper Text Transfer Protocol (HTTP), request/response cycle, installing PHP and SQL : XAMPP/LAMP/MAMP

Unit II **12**

PHP: What is PHP, OOP in PHP, LAMP/WAMP installation, starting with PHP Programming: overview, basic syntax and commands, PHP operators, conditional statements, loops, arrays, new features of PHP7, PHP unit test cases, autoloader for classes, functions, global variables, displaying information about PHP, exception handling, session handling, PHP CLI scripts, composer usage for any 3rd party libs

Unit III **9**

Database Connection: introduction of MySQL and its features, logging on to MySQL, understanding MySQL Commands, PHP and MySQL all combined for accessing database, MySQL, database connection through PHP, data objects (PDO), handling errors in MySQL connectivity and transaction management, web performance profiling with any tool, URL rewrites, PHP unit test-case

Unit IV **6**

AJAX and Event Streaming: overview, limitations of traditional web applications, AJAX basics, items for implementing AJAX, steps to place asynchronous request to the server, accessing form elements, server – sent event for event-streaming

Unit V **8**

Receiving XML and JSON: types of response data, receiving extensible markup language (XML) response, display contents of all types nodes, overview of JavaScript object notation (JSON), installing JSON, receiving data in JSON format, accessing the JSON

response through iteration. using the library for encoding, convert user data into JSON format, accessing data and displaying in JSON format

Unit VI **8**

Introduction to Web Services: overview of web service, methods of producing and consuming of web services, overview of representational state transfer (REST) , tools for adding SOAP functionality to PHP, web service description language(WSDL), (Universal Description Discovery and Integration(UDDI), web services accessing the database, dealing with complex type, consume any available API like google drive, facebook or twitter, GraphQL as a service and Introduction to Node.JS.

Self-Study:

The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Laboratory Work:

Laboratory work will be based on above syllabus with minimum 8 experiments to be incorporated that will be considered for evaluation.

Suggested Readings ^:

1. B M Harwani ,Developing Web Applications in PHP and AJAX,, Mc Graw Hill
2. Kogent, Java Server Programming EE6 Black Book, Dreamtech
3. Ed Lecky-Thompson, Heow Eide-Goodman, Steven D. Nowicki and Alec Cove Professional PHP5 (Programmer to Programmer) , Wrox publisher
4. Hayder, Hasin ,Object-Oriented Programming with Php5, Packt Publishing, Limited
5. David Sklar, Learning PHP 5, Oreilly & Associates Inc
6. Mark Dexter, Louis Landry, Joomla! TM Programming , Joomla!TM Press
7. Davey Shafik with Ben Ramsey , ZEND PHP5 Certification : Study Guide , nbTM php architecht nanobooks

L=Lecture, T=Tutorial, P=Practical, C=Credit

^this is not an exhaustive list