PESIT- Bangalore South Campus
Hosur Road (1km Before Electronic city)
Bangalore – 560 100

Department of MCA

COURSE INFORMATION SHEET

Advanced Web Programming (17MCA42)

1. GENERAL INFORMATION

Academic Year: 2018   **Semester(s):** IV

Title	Code	Duration (hrs)	
Advanced Web Programming	**17MCA42**	**Lectures**	**52 Hrs**

2. COURSE PRE-REQUISITE STATEMENT

Student should know the basics of Internet, HTML and some knowledge about OOPs concept.

3. COURSE OBJECTIVES

This course provides the students with a comprehensive introduction to programming tools and skills required to build and maintain server sites on the Web. It also provides background in programming in some language that supports object-oriented programming.

4. COURSE OUTCOMES

Students will be able to

1) Acquire knowledge of
   - Build the Web Applications using JQuery, PHP, Ruby and D3.js.
   - Model-View-Controller (MVC) Architecture.
2) Design the Web Pages using Ruby, Rails and Layouts.
3) Apply the knowledge gained in the Building a web portal.
4) Evaluate web site performance against user acceptance testing.

5. FACULTY DETAILS

	Details
Name	Jeny Jijo
Department	MCA
Room Number	518
Phone No.	9739024993
E-mail address	jenyjijo@pes.edu
Contact Hours	Office Hours

6. VENUE AND HOURS/WEEK

All lectures will normally be held in Vth or VIth floor.

Lecture Hours/week: 4Hrs

All the laboratory sessions will be held in Room Nos. 500 & 506, V Floor.

Laboratory Hours/week: 2Hrs

7. MODULE MAP

Class	Module	Topics	% portions covered	
			Chapter wise	**cumulative**
1	**Introduction to jQuery**	Introducing jQuery	**10**	**20**
2		jQuery fundamentals		
3		Creating the wrapped element set		
4		Bringing pages to life with jQuery		
5		Understanding the browser event models		
6		The jQuery Event Model		
7		Sprucing up with animations and effects.		
8		contd		
9		contd		
10		revision		
11	**Introduction to PHP and Building Web applications with PHP**	Origins and uses of PHP	**10**	**40**
12		Overview of PHP, General syntactic characteristics		
13		Primitives, operations		
14		expressions,		
15		Output, Control statements		
16		Arrays, Functions		
17		Pattern matching,		
18		Form handling, Files, Tracking users		
19		cookies, sessions,		
20		Using databases, Handling XML		
21	**Introduction to Ruby and Introduction to Rails**	Origins and uses of Ruby	**10**	**60**
22		Scalar types and their operations,		
23		Simple input and output,		
24		Control statements, Arrays,		
25		Hashes, Methods		
26		Classes, Code blocks		
27		and iterates, Pattern matching. Overview of Rails		
28		Document requests, Processing forms		
29		Rails applications with Databases.		
30		Rails applications with Databases.		
31	**Web 2.0 and Web Services**	What is Web 2.0?, Folksonomies and Web 2.0	**10**	**80**
32		Software As a Service (SaaS), Data and Web 2.0, Convergence		
33		Iterative development, Rich User experience		
34		Multiple Delivery Channels, Social Networking.		
35		Web Services: SOAP, RPC Style SOAP		
36		Document style SOAP. WSDL		
37		REST services,		
38		JSON format, What is JSON? Array literals		
39		Object literals, Mixing literals, JSON Syntax, JSON Encoding and Decoding		
40		JSON versus XML		

41		Introduction to D3		
42		Building a Simple Subway Train Status Board,		
43		Graphing Mean Daily Plaza Traffic		
44	**D3.js (Data Driven Documents): Data visualization tool for web apps**	Scales, Axes	**10**	**100**
45		Lines,		
46		Graphing Turnstile Traffic		
47		Interaction and Transitions,		
48		Subway Connectivity		
49		Scheduled Wait Time Distribution		
50		Scheduled Wait Time Distribution		

8. <u>RECOMMENDED BOOKS/JOURNALS/WEBSITES</u>

<u>Text Books:</u>
1. Chris Bates: Web Programming Building Internet Applications, 3rd Edn, Wiley India, 06 hapter 10,11,13)

2. Robert W. Sebesta: Programming the World Wide Web, 4th Edition, Pearson Education, 2008. (Chapters 8,11,13, 14, 15)

3. Francis Shanahan: Mashups, Wiley India 2007(Chapters 1, 6)

<u>Reference Books:</u>

1. M. Deitel, P.J. Deitel, A. B. Goldberg: Internet & World Wide Web How to H program, 3rdEdition, Pearson Education / PHI, 2004.

2. Xue Bai et al: The Web Warrior Guide to Web Programming, Thomson, 2003.

8. **Joel Murach's PHP and MySQL. Mauch's Publications, First Edition**

9. THEORY ASSESSMENT

A. WRITTEN EXAMINATION

Paper Structure			
No. Of Questions	10 Main Questions	No. of questions to be answered	5
Exams date		Paper Duration	3 Hrs
Total Marks	100	Pass Marks	40

B. CONTINUOUS ASSESSMENT

Parameters	Weighting (%)
Assignment +Attendance	5 marks
Test(s):	15 Marks
Total Marks:	20 Marks

10. ASSIGNMENTS:

5) Implement Client/Server architecture (server responding to multiple clients) using Java Streams.

6) Implement Producer/Consumer problem with multiple Queues using Multi-Threading.

7) Develop a JAVA application using Swings / Applets for a bank. The bank database should have all the mandatory fields. The application should perform the following operations: Deposit, withdrawal and checking balance. Generate a mini statement for the transaction done.

11. QUESTION BANK

1) iframe in HTML is used to display a web page within a web page -True
   -False

2) An HTML file written in notepad can be saved with an extension: -.htm
   -.html
   -Any of the above
   - None of the above.

3) The href attribute in the link tag specifies the: -Destination of a link.
   -Link. -
   Hypertex
   t
   -None of the above

4) HTML Event Attributes onunload fires - when the browser window has been closed - when the browser window is minimized
   -when the browser window has changed focus to other window. -After the page is finished loading

5) What is cell padding?
   -Used to separate cell walls from their

contents. -Used to set space between cells
-Both a and b above
-Used to provide width to a cell

6) What are meta tags used for?

-To store information usually relevant to browsers and search engines.
-To only store information usually relevant to browsers

-To only store information about search engines.
- To store information about external links

7) What is the difference between XML and HTML? -
HTML is used for exchanging data, XML is not. -
XML is used for exchanging data, HTML is not. -
HTML can have user defined tags, XML cannot

8) DOM stands for -
Document object model
-Data object model
-Document Oriented model
-Data oriented model

9) Which HTML attribute is used to define inline
styles? -font
-class
-styles
-style

10) Which is the correct CSS syntax?

-body:color=black -
{body;color:black} -
{body:color=black(body}
-body {color: black}

11) What is the difference between Client side JavaScript and Server side   JavaScript.

12) What is the difference between a web-garden and a web-farm?

13) .How to Access Elements using javascript?

14) Methods GET vs. POST in HTML forms.

15) What are windows object and navigator object in JavaScript?

16) How to set a HTML document's background color in JavaScript?

17) Is a javascript script faster than an ASP script?

18) What does isNaN function do?

19) How do you create a new object in JavaScript?

20) What boolean operators does JavaScript support?

21) What is negative infinity?

22) What is the difference between undefined value and null value?

23) **What is the difference between "==" and "==="?**

24) **Differentiate between "var a=2" and "a =2"**

25) What is Javascript namespacing? How and where is it used?

26) Are javascript and jQuery different?

27) What is event bubbling?

28) Difference between window.onload and onDocumentReady?

29) How do you change the style/class on any element?

30) How to get value from dropdown (select) control?

31) List the rules to be followed by an XML document.

32) Define DTD (Document Type definition).

33) What is a CDATA section in XML?

34) What is XSL?

35) What is XMLA ?

36) What is XML Namespace?

37) What is XML data binding?

38) What is XML Serialization and Binary Serialization?

39) What is the purpose of FOR XML in SQL Server?

40) What is the difference between SAX parser and DOM parser?

41) Which of these is a difference between C++ and Perl?

42) How to open and read data files with Perl

43) How do you generate a list of all .html files in a directory?

44) What happens when you return a reference to a private variable?

46) How to turn on Perl warnings? Why is that important?

47) What are scalar data and scalar variables?

48)   What   is   the   output   of   the   following   Perl   program?

```
1$p1="prog1.java";
2$p1=~s/(.*)\.java/$1.cpp/;
3 print "$p1\n";
```

49) How do I do < fill-in-the-blank > for each element in a hash?