

## BCA/5 Years Integrated M.C.A. (4<sup>th</sup> Semester)

### Teaching Schedule

030010410/060060407: CC11 Open Source Web Based Programming

**Objective:** To provide knowledge of creating dynamic web pages, interaction between those pages and database operations using open source web based scripting language.

**Course Outcomes:** Upon completion of the course, students shall be able to

C01: Determine the basic concepts of programming with open source technology.

C02: Validate data and manage state of web pages.

C03: Create and use user-defined functions for data and file management.

C04: Implement object oriented concepts for web based programming.

C05: Develop an application that interacts with database and XML files.

Unit	Sub Unit	No. of Lecture (s)	Topics	Reference Chapter/Additional Reading	Teaching Methodology to be used	Active Learning Activities	Evaluation Parameters
Unit 1 : Introduction							
	1.1	1	Basics	SH#1 – Page no. 6-18, 24 -25,	Presentation		
	1.2		Data types, Variables, Constants and Operators	SH#1 Page no. 26 - 30, 33 - 39, SH #2 Page no. 41 - 55, 59 - 62, 66 - 67 <a href="http://php.net/manual/en/language.variables.php">http://php.net/manual/en/language.variables.php</a> ,	Chalk and Talk		
	1.3	1	Strings	SH#1 Page no. 31 – 33	Chalk and Talk		
	1.4		Control Structures	SH#2 Page no. 55 – 80 <a href="http://php.net/manual/en/language.control-structures.php">http://php.net/manual/en/language.control-structures.php</a> , <a href="http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/If%2BStatement/English/">http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/If%2BStatement/English/</a>	Chalk and Talk		
	1.5	2	Errors and Exceptions	<a href="http://php.net/manual/en/language.errors.basics.php">http://php.net/manual/en/language.errors.basics.php</a> , <a href="http://php.net/manual/en/language.exceptions.php">http://php.net/manual/en/language.exceptions.php</a>	Chalk and Talk		
	1.6	3	Single and Multi Dimension Array	SH#3 Page no. 92 – 99, 112 – 115 , <a href="http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/Multi%2BDimensional%2BA">http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/Multi%2BDimensional%2BA</a>	Chalk and Talk	For weak learners exercise shall be given to improve	

				rrays/English/		their logical skill	
<b>Unit 2 : Working with Data and State Management</b>							
2.1	1	FORM Element, INPUT Element	SH#5 Page no. 161 - 182	Chalk and Talk		Quiz	
2.2	2	User input validation	SH #6 Page no. 221 - 230	Chalk and Talk			
2.3	2	Data flow between pages	SH#5 Page no. 195 - 201, SH #6 Page no. 215 - 220	Chalk and Talk			
2.5	2	Cookie Management	SH#11 Page no. 395 - 401, <a href="http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Cookies%2BPart%2B1/English/">http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Cookies%2BPart%2B1/English/</a>	Chalk and Talk and Demonstration			
2.4	2	Session Management	SH#11 Page no. 425 - 431, <a href="http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Sessions/English/">http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Sessions/English/</a>	Chalk and Talk and Demonstration			
<b>Unit 3: Functions</b>							
3.1	2	String functions	SH#3 Page no. 81 - 86, <a href="http://spokentutorial.org/watch/PHP%2Band%2BMySQL/PHP%2BString%2BFunctions%2BPart%2B1/English/">http://spokentutorial.org/watch/PHP%2Band%2BMySQL/PHP%2BString%2BFunctions%2BPart%2B1/English/</a>	Chalk and Talk, Topic Slides		Unit Test-1	
3.2	2	Array functions	SH#3 Page no. 104 - 110	Chalk and Talk, Topic Slides			
3.3	1	Math functions	SH#2 Page no. 43 - 46	Chalk and Talk, Topic Slides			
3.4	1	Date functions	<a href="http://php.net/manual/en/ref.datetime.php">http://php.net/manual/en/ref.datetime.php</a>	Chalk and Talk, Topic Slides			
3.5	2	User Defined Functions: define and call of functions	SH#4 Page no. 123 - 139, <a href="http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Functions%2BBasic/English/">http://spokentutorial.org/watch/PHP%2Band%2BMySQL/Functions%2BBasic/English/</a>	Chalk and Talk, Topic Slides			
<b>Unit 4 : File Handling</b>							
4.1	2	File Handling Functions	SH#9 Page no. 319 - 347, 352 - 356	Chalk and Talk, Topic Slides			
4.2	1	Single file upload	SH#5 Page no. 187 - 191, <a href="http://spokentutorial.org/watch/PHP%2Band%2BMySQL/File%2BUpload%2BPart%2B1/English/">http://spokentutorial.org/watch/PHP%2Band%2BMySQL/File%2BUpload%2BPart%2B1/English/</a>	Chalk and Talk, Demonstration	For advanced learner: Exercise shall be given on		

	4.3	2	Multiple file upload	<a href="http://php.net/manual/en/features.file-upload.multiple.php">http://php.net/manual/en/features.file-upload.multiple.php</a>		file uploading with server side validation.	
Unit 5 : Object Oriented Concepts							
	5.1	1	Class and Object	SH#7 Page no. 246 - 257	Chalk and Talk		Unit Test-2
	5.2	2	Constructor and Destructor	SH#7 Page no. 257 - 261	Chalk and Talk		
	5.3	2	Inheritance	SH#7 Page no. 262 - 271	Chalk and Talk		
	5.4	3	Define and use of namespace	<a href="http://php.net/manual/en/language.namespaces.php">http://php.net/manual/en/language.namespaces.php</a>	Chalk and Talk		
Unit 6 : Database Operations							
	6.1	2	Connect to database	SH#10 Page no. 371 - 374, 376 - 380 <a href="http://php.net/manual/en/book.mysql.php">http://php.net/manual/en/book.mysql.php</a> ,  <a href="http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B2/English/">http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B2/English/</a>	Chalk and Talk		Internal
	6.2	3	Query execution	SH#10 Page no. 380 - 388, <a href="http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B6/English/">http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B6/English/</a>	Chalk and Talk		
	6.3	3	Query Result Management	SH#10 Page no. 374 - 376	Chalk and Talk and Hands on	For all: Class activity to prepare reports using web form and database.	
	6.4	3	XML documents Management	SH#15 Page no. 537-539, 544-552	Chalk and Talk and Hands on		

	<p>Text Book:</p> <ol style="list-style-type: none"> <li>1. PHP Documentation from <a href="http://php.net/manual/en/">http://php.net/manual/en/</a></li> </ol> <p>References :</p> <ol style="list-style-type: none"> <li>2. Steven Holzner, The Complete Reference PHP, McGraw Hill [SH]</li> <li>3. Hugh E. Williams, PHP and MySQL, O'Reilly [HW]</li> <li>4. Steve Suehring, Tim Converse and Joyce Park, PHP6 and MySQL, Wiley India Pvt. Ltd. [SS]</li> <li>5. Julie Meloni, Matt Telles ,PHP 6 [JM]</li> </ol> <p>Note: # denotes chapter number.</p>
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**Course objectives and Course outcomes mapping:**

- To provide knowledge of creating dynamic web pages: CO1,CO2
- Interaction between dynamic pages: CO1,CO2,CO3,CO4,CO5
- Database operations using open source web based scripting: CO4, CO5

**Course units and Course outcomes mapping:**

Unit No.	Unit Name	Course Outcomes				
		CO1	CO2	CO3	CO4	CO5
1	Introduction	✓				
2	Working with Data and State Management		✓			
3	Functions			✓		
4	File Handling			✓		✓
5	Object Oriented Concepts				✓	✓
6	Database Operations				✓	✓

**Programme Outcomes:**

- PO1: Proficiency in and ability to identify problems related to computer science as well as design and apply computational knowledge to solve them.
- PO2: Ability to design, develop, test and maintain system, component, product or process as per needs and specification.
- PO3: Understanding of professional and ethical role and responsibility.
- PO4: Recognition of the need for and ability towards life-long learning.
- PO5: Knowledge of programming languages, database systems, operating systems, software engineering, Web & Mobile technology and relevant modern issues alongwith strong project development skill.

PO6: Ability to demonstrate the use of modern tools, models and languages to solve problems related to software development.

PO7: An ability to communicate effectively with a range of audiences.

**Course outcomes and Programme outcomes mapping:**

Programme Outcome	Course Outcomes				
	CO1	CO2	CO3	CO4	CO5
P01	✓	✓	✓	✓	✓
P02	✓	✓	✓	✓	✓
P03					
P04	✓			✓	✓
P05	✓	✓	✓	✓	✓
P06	✓	✓	✓	✓	✓
P07					

**Computing Environment:**

A student must have the following computing environment in laboratory and/or on his/her laptop.

- WAMP/LAMP 3.0.6.
- NetBeans IDE 8.2 with PHP package

**Number of Practical Problems in Journal: 17**

**Total sets to be developed for each division: 2**

Unit Number	Number of Questions	Time required to implement and debug the question (in hours)	Minimum required of Journal Certification
Unit 1 and 2	5	13	5
Unit 3	2	5	2
Unit 4	3	9	3
Unit 5	3	9	3
Unit 6	4	12	3
<b>TOTAL</b>	17	48	16

**Concept Linkage:**

<b>Unit/ Sub-Unit</b>	<b>Prior concept linkage</b>	<b>Post concept linkage</b>
1: Introduction	060060111 -Fundamentals of Programming 060060306 -Java Programming	060060508- DSE6 Fundamentals of Web Application Development 060060701/040010312 - Framework based Web Application Development
2 : Working with Data and State Management (2.1 & 2.2)	060060307 - CC8 Advanced Web Design	
3: Functions 4: File Handling (4.1) 5 : Object Oriented Concepts (5.1, 5.2 & 5.3)	060060111 -Fundamentals of Programming 060060206-CC4 Object Oriented Programming 060060306 -Java Programming	