B. C. A (4th Semester)

Teaching Schedule

030010410: 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

CO1: Implement object oriented concepts for web based programming.

CO2: Validate data and manage state of web pages.

CO3: Create user-defined functions for data and file management.

CO4: 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	Evaluation Parameters
Unit 1 : Introduction						
	1.1	1	Basics	SH#1 – Page no. 6-18, 24 -25,	Presentation	
	1.2	1	Data types, Variables, Constants and Operators	SH#1 Page no. 26 - 30, 33 - 39, SH #2 Page no. 41 - 55, 59 - 62, 66 – 67http://php.net/manual/en/language.variables.php,	Chalk and Talk	
	1.3	1	Strings	SH#1 Page no. 31 – 33	Chalk and Talk	
	1.4	2	Control Structures	SH#2 Page no. 55 – 80 http://php.net/manual/en/language.control-structures.php, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/If%2BStatement/English/	Chalk and Talk and Audio-visual	
	1.5	1	Errors and Exceptions	http://php.net/manual/en/language.errors.basics.php , http://php.net/manual/en/language.exceptions.php	Chalk and Talk, Demonstration	
	1.6	1	Single and Multi Dimension Array	SH#3 Page no. 92 – 99, 112 – 115, http://spoken-	Chalk and Talk, Demonstration	

				tutorial.org/watch/PHP%2Band%2BMySQL/Multi%2BDimensional%2BArrays/English/		
Unit 2 : Working with Data and State Management						
	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	Demonstration	
	2.3	2	Data flow between pages	SH#5 Page no. 195 - 201, SH #6 Page no. 215 - 220	Chalk and Talk and Demonstration	
	2.4	2	Session Management	SH#11 Page no. 425 – 431, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/Sessions/English/	Presentation and Demonstration	
	2.5	2	Cookie Management	SH#11 Page no. 395 – 401, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/Cookies%2BPart%2B1/English/	Presentation and Demonstration	
Unit 3: Functions						
	3.1	1	String functions	SH#3 Page no. 81 – 86, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/PHP%2BString%2BFunctions%2BPart%2B1/English/	Presentation and Audio-visual	Theory and Practical Unit Test-1
	3.2	2	Array functions	SH#3 Page no. 104 - 110	Presentation	
	3.3	1	Math functions	SH#2 Page no. 43 - 46	Presentation	
	3.4	1	Date functions	http://php.net/manual/en/ref.datetime.php	Presentation	
	3.5	3	User Defined Functions: define and call of functions	SH#4 Page no. 123 – 139, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/Functions%2BBasic/English/	Presentation and Audio-visual	
Unit 4 : File Handling						

	4.1	2	File Handling Functions	SH#9 Page no. 319 – 347, 352 – 356	Presentation	
	4.2	1	Single file upload	SH#5 Page no. 187 – 191, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/File%2BUpload%2BPart%2B1/English/	Chalk and Talk, Demonstration	
	4.3	2	Multiple file upload	http://php.net/manual/en/features.file-upload.multiple.php	Chalk and Talk, Demonstration	Open Book Test
Unit 5 : Object Oriented Concepts						
	5.1	1	Class and Object	SH#7 Page no. 246 - 257	Chalk and Talk	
	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	http://php.net/manual/en/language.namespaces.php	Chalk and Talk	
Unit 6 : Database Operations						
	6.1	2	Connect to database	SH#10 Page no. 371 – 374, 376 - 380 http://php.net/manual/en/book.mysqli.php, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B2/English/	Chalk and Talk, Demonstration	Theory and Practical Unit Test-2
	6.2	3	Query execution	SH#10 Page no. 380 – 388, http://spoken-tutorial.org/watch/PHP%2Band%2BMySQL/MySQL%2BPart%2B6/English/	Chalk and Talk and Hands on	Theory and Practical Internal
	6.3	3	Query Result Management	SH#10 Page no. 374 – 376	Chalk and Talk and Hands on	
	6.4	3	XML documents Management	SH#15 Page no. 537-539, 544-552	Chalk and Talk and Hands on	

Text Book:

1. PHP Documentation from http://php.net/manual/en/

References :

1. Steven Holzner, The Complete Reference PHP, McGraw Hill [SH]
2. Hugh E. Williams, PHP and MySQL, O'Reilly [HW]
3. Steve Suehring, Tim Converse and Joyce Park, PHP6 and MySQL, Wiley India Pvt. Ltd. [SS]
4. Julie Meloni, Matt Telles ,PHP 6 [JM]

Note: # denotes chapter number.

Course objectives and Course outcomes mapping:

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

Course units and Course outcomes mapping:

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

Programme Outcomes:

PO1: Ability to understand the concepts of key areas in computer science.
PO2: Ability to design and develop system, component or process as well as test and maintain it so as to provide promising solutions to industry and society.
PO3: Effective communication and presentation skill.
PO4: Ability to understand professional and ethical responsibility.
PO5: Recognition of the need for life-long learning.

Course outcomes and Programme outcomes mapping:

Programme Outcome	Course Outcomes			
	CO1	CO2	CO3	CO4
PO1	✓	✓	✓	✓
PO2	✓	✓	✓	✓
PO3				
PO4		✓		✓
PO5	✓	✓	✓	✓

Computing Environment:

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

- Latest version of WAMP/LAMP
- NetBeans IDE 8.2 with PHP package

Modes of Transaction (Delivery):

Unit No	Topic Detail	Teaching Approach	PO mapped
2	2.1 Form Element, Input Element	Self-Study	PO1,PO2,PO4,PO5
3	3.1 String functions 3.3 Math functions	Self-Study	
6	6.1. Connect to database 6.2. Query execution 6.3. Query Result Management 6.4. XML documents Management	Hands on	

Activities/Practicum:

The following activities shall be carried out by the students.

1. Study the IIS and Apache web Server.
2. Study handling of XML.
3. Study Automatic PDF generation through PHP.

The following activities shall be carried out by the teacher.

Learner	Activities to be done	PO mapped
For slow learners	Assignment questions after completion of every unit and Viva	PO1,PO2,PO3,PO5
For advanced learners	Giving them different and unique practical task	PO1,PO2,PO4,PO5
For all	Discussion and Demonstration on PHP framework	PO1,PO2,PO5

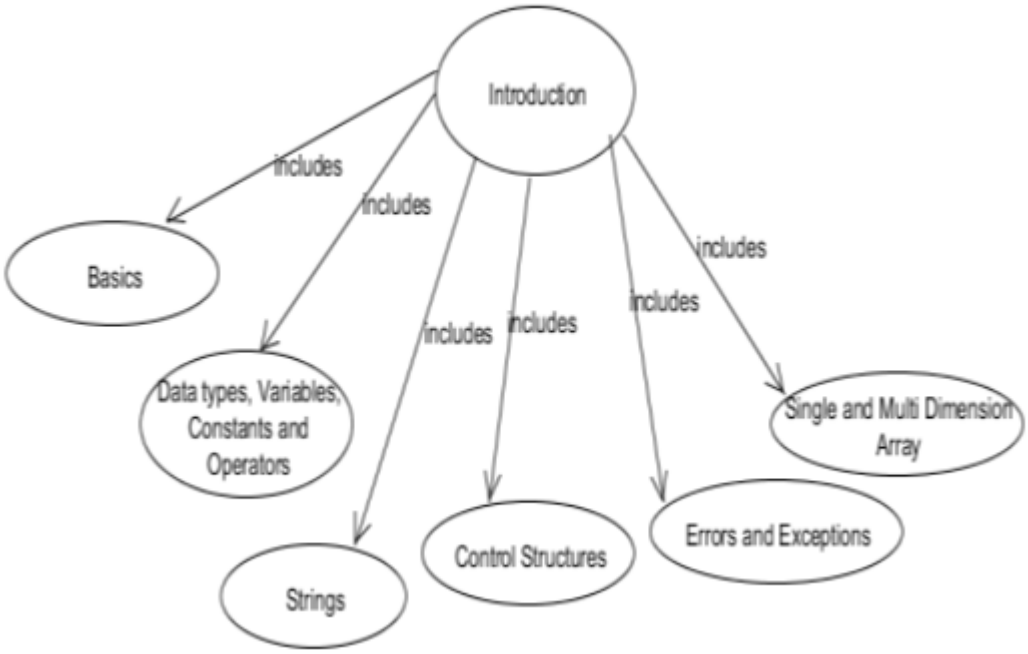
Number of Practical Problems in Journal: 17

Total sets to be developed for each division: 02

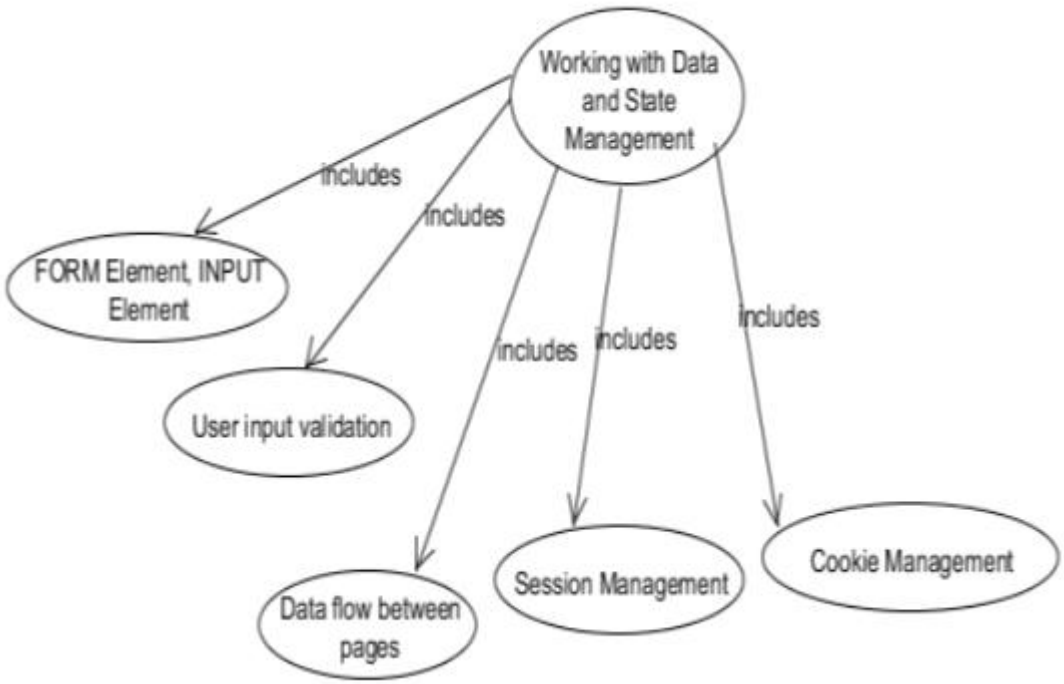
Unit Number	Number of Questions	Time required to implement and debug the question (in hours)	Minimum required of Journal Certification
Unit 1	2	6	2
Unit 2	3	9	3
Unit 3	2	6	2
Unit 4	3	10	3
Unit 5	3	10	3
Unit 6	4	14	3
TOTAL	17	55	16

Concept map:

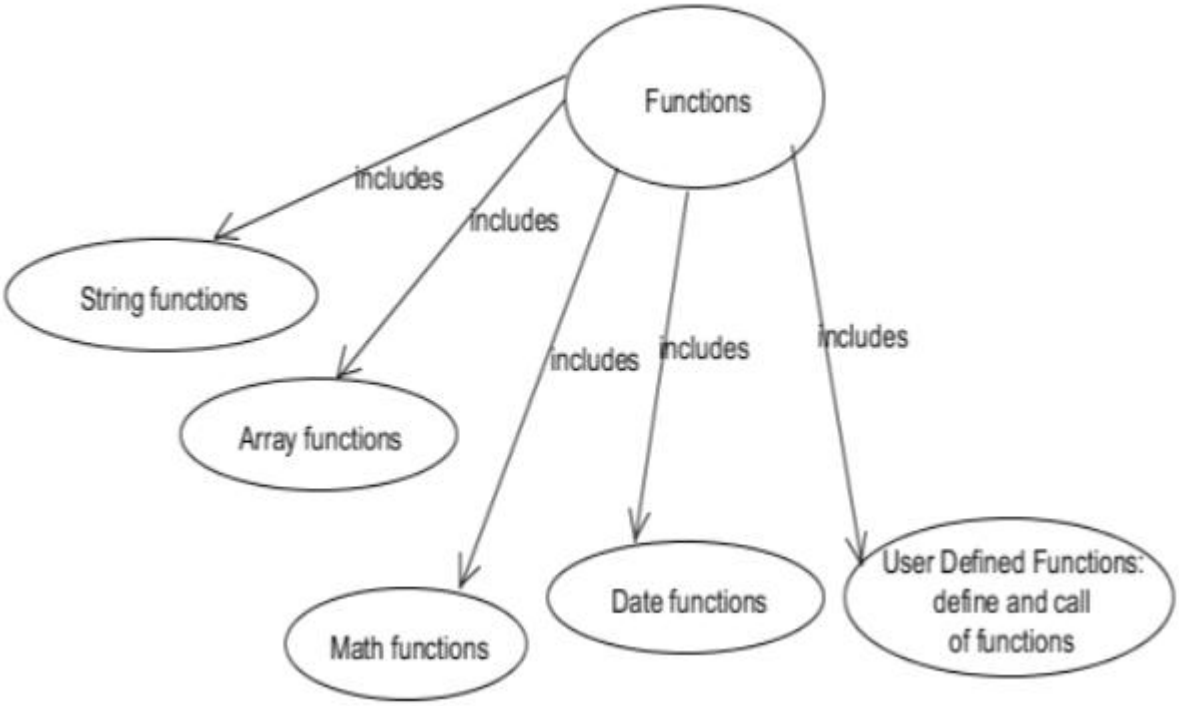
Unit – 1



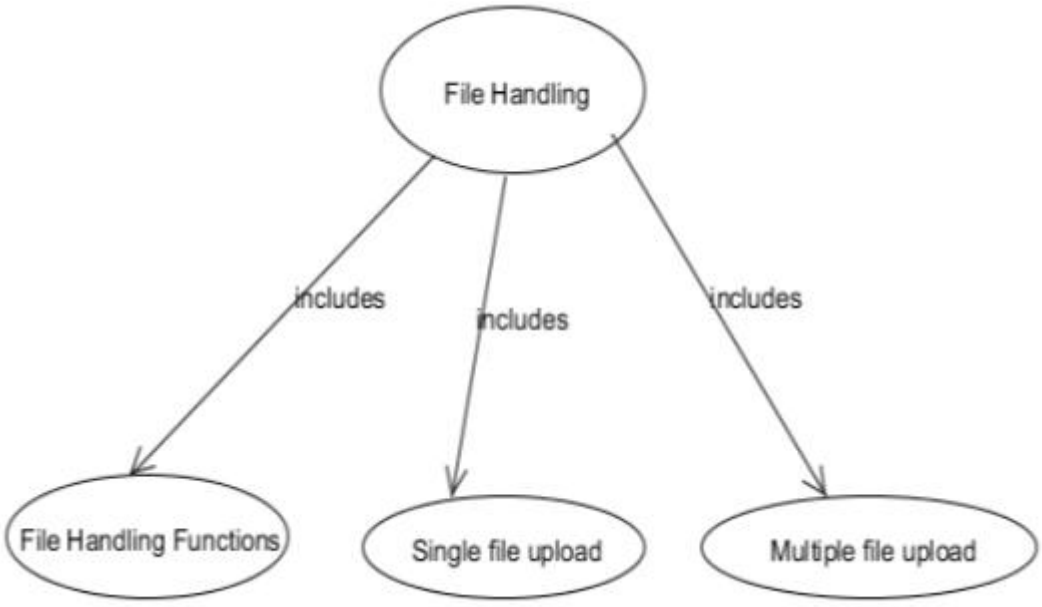
Unit – 2



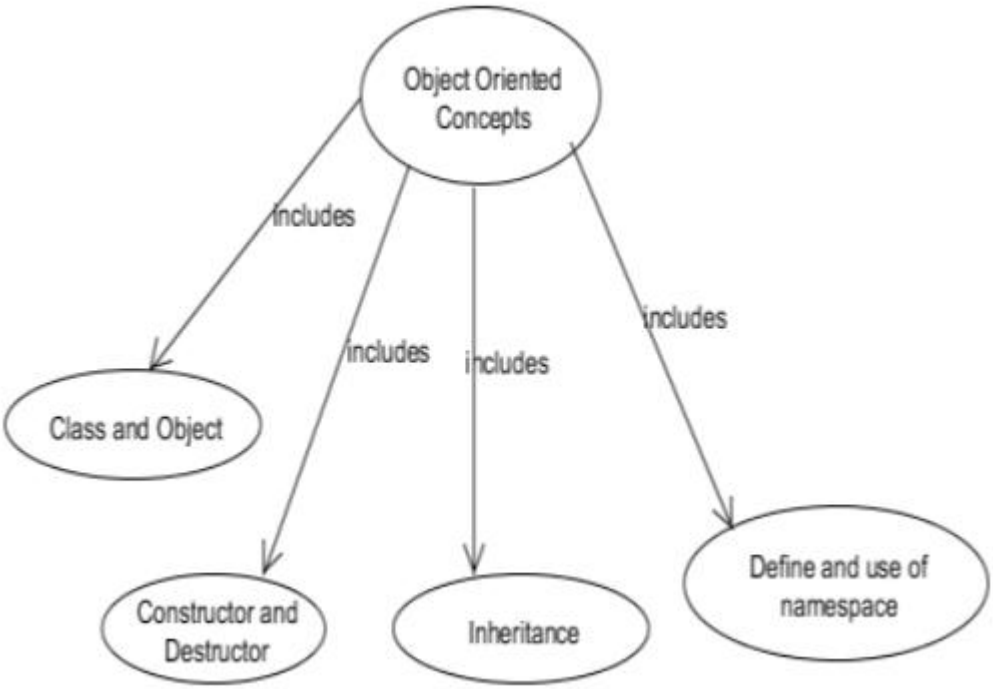
Unit – 3


Functions
includes
includes
includes
includes
includes
String functions
Array functions
Math functions
Date functions
User Defined Functions: define and call of functions

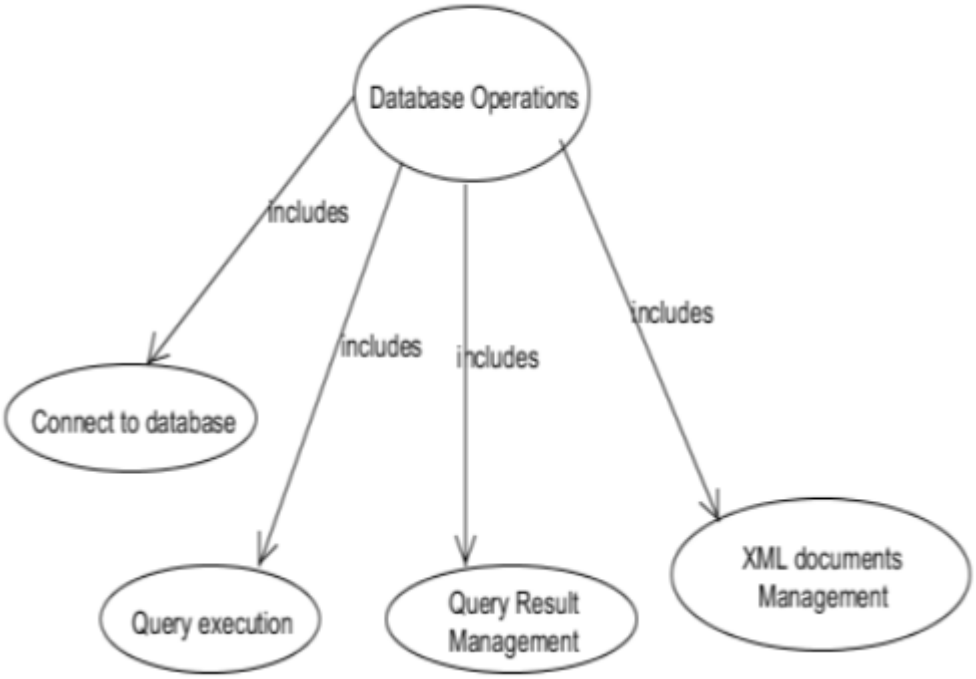
Unit – 4


File Handling
includes
includes
includes
File Handling Functions
Single file upload
Multiple file upload

Unit – 5


Object Oriented Concepts
includes
includes
includes
includes
Class and Object
Constructor and Destructor
Inheritance
Define and use of namespace

Unit – 6


Database Operations
includes
includes
includes
includes
Connect to database
Query execution
Query Result Management
XML documents Management