

**B.C.A - 3<sup>rd</sup> semester**

**Teaching Schedule**

**030010311-CC8 : Advanced Web Design**

**Objective:** To provide knowledge of advanced features of hypertext mark-up language in conjunction with client side framework to make interactive website by using jQuery and eXtensible Markup Language.

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

CO1: Summarize and use advanced elements and attributes of HTML using document structure.

CO2: Paraphrase the concept and uses of jQuery with client side framework.

CO3: Use of jQuery to manipulate HTML elements, CSS properties, showing effects and handle events.

CO4: Summarize XML document structure with its features and concept of entity, XML parser and namespaces.

CO5: Validating XML document using XML Schema.

CO6: Format and transform XML document using XSLT.

CO7: Recognize concept of XPath, XLink and XPointer.

Unit	Sub Unit	No. of Lecture(s)	Topics	Reference Chapter/Additional Reading	Teaching Methodology to be used	Evaluation Parameters
<b>Unit 1 : Advanced Elements of Hypertext Markup Language (07 hours)</b>						
1	1.1	1	Overview of advanced features	BB #1 – Page no.- 8-20 <a href="https://www.w3schools.com/">https://www.w3schools.com/</a>	Presentation, Discussion	
	1.2	1	Document Structure: Overview of DOCTYPE element, charset attribute	BB #1 – Page no.- 20 -23, <a href="http://www.w3schools.com/html/html_charset.asp">http://www.w3schools.com/html/html_charset.asp</a>	Presentation, Demonstration	

	1.3	2	Semantic/Structural Elements: <article>, <aside>, <details>, <figcaption>, <figure>, <footer>, <header>, <mark>, <nav>, <section>, <summary> and <time>	BB #1 – Page no.- 8-9, 41-43, BB #2 – Page no.- 64,71 BB #3 – Page no.- 92-93, 110 BB #9 – Page no.- 234,237,242 BB #10 – Page no.- 252, 263 <a href="https://channel9.msdn.com/Series/HTML5-CSS3Fundamentals-Developmentfor-AbsoluteBeginners/Creating-YourFirst-HTML5-Web-Page-02">https://channel9.msdn.com/Series/HTML5-CSS3Fundamentals-Developmentfor-AbsoluteBeginners/Creating-YourFirst-HTML5-Web-Page-02</a>	Chalk and Talk	
	1.4	1	Graphics Elements: <canvas> and <svg>	BB #1 – Page no.- 9, 175, 187,188 <a href="http://www.w3schools.com/svg/default.asp">http://www.w3schools.com/svg/default.asp</a>	Demonstration	
	1.5	1	Multimedia Elements: <audio>, <embed>, <source>, <track> and <video>	BB #1 – Page no.- 9,13-14, BB #10 – Page no.- 249-251, 253-259 <a href="http://www.w3schools.com/tags/tag_source.asp">http://www.w3schools.com/tags/tag_source.asp</a> , <a href="http://www.w3schools.com/tags/tag_track.asp">http://www.w3schools.com/tags/tag_track.asp</a>	Audio-Visual Tool	
	1.6	1	Form Elements: <datalist>, <keygen> and <output>	BB #1 – Page no.- 9, BB #8 – Page no.- 200 – 201, 224-229 <a href="http://www.w3schools.com/">http://www.w3schools.com/</a>	Chalk and Talk and Demonstration	
<b>Unit 2 : Advanced Attributes of Hypertext Markup Language (10 hours)</b>						
2	2.1	1	Content editable and spelling mistake Attributes: contenteditable, spellcheck	BB #1 – Page no.- 10, e BB #27 – Page no.- 714-715, 730-733 <a href="http://www.w3schools.com/">http://www.w3schools.com/</a>	Presentation	Quiz
	2.2	2	Microdata Attributes: itemid, itemprop, itemref, itemscope, itemtype	BB #1 – Page no.- 10-11, BB #27 – Page no.- 715-718 <a href="http://www.w3schools.co">http://www.w3schools.co</a>		

				<a href="#">m/</a>		
	2.3	1	<FORM> Element Attributes: autocomplete, novalidate	BB #1 – Page no.- 12, BB #8- Page no. 190-191, <a href="http://www.w3schools.com/html/html_form_attributes.asp">http://www.w3schools.com/html/html_form_attributes.asp</a>	Presentation and Discussion	
	2.4	3	<INPUT> Element Attributes: autocomplete, autofocus, form, formaction, formenctype, formmethod, formnovalidate, formtarget, height, width, list, min, max, step, multiple, pattern, placeholder and required	BB #1– Page no.- 12-13, <a href="http://www.w3schools.com/html/html_form_attributes.asp">http://www.w3schools.com/html/html_form_attributes.asp</a>	Demonstration	
	2.5	2	Types of the <INPUT> Element: datetime, datetime- local, date, month, week, time, number, range, file, email and url	BB #8– Page no.- 191-194 <a href="http://www.w3schools.com/">http://www.w3schools.com/</a>	Chalk and Talk	
	2.6	1	Drag and Drop Attributes: draggable and dropzone	BB #1– Page no.- 19 <a href="http://www.w3schools.com/">http://www.w3schools.com/</a>	Presentation	

**Unit 3 : Fundamentals of jQuery (07 hours)**

3	3.1	1	Introduction	BB #39– Page no.- 1088, RY #1- Page no.-3-8 <a href="https://channel9.msdn.com/Series/Introduction-tojQuery/02">https://channel9.msdn.com/Series/Introduction-tojQuery/02</a>	Presentation	<b>Unit test 1 , Practical Unit test 1</b>
	3.2		Common in JavaScript and jQuery		Demonstration	
	3.3	0.5	Load and Use	BB #39– Page no.- 1091	Presentation	
	3.4	0.5	Library files	BB #39– Page no.- 1091-1092		
	3.5	1	Selectors: Searching within	BB #39– Page no.- 1093-	Chalk and talk	

			the selectors using find( )	1094, RY #2- Page no.-38-39		
	3.6	2	Methods to access HTML Attributes: attr( ), removeAttr( ), addClass( ), removeClass( ), html( ) and text( )	BB #39- Page no.- 1095-1096 RY #2 – Page No. - 95-11	Chalk and Talk, Demonstration	
	3.7	2	Methods for traversing: Finding an element's siblings using siblings( ), Searching Ancestors Using the parent( ) and parents( ), Selecting children element	BB #39- Page no.- 1097, RY #2- Page no.-39-49		
<b>Unit 4 : jQuery Manipulator, Events and Effects (09 hours)</b>						
4	4.1	2	Methods to manipulate HTML elements: after( ), append( ), before( ), clone( ), empty( ), html( ) and hasClass( )	BB #39- Page no.- 1097, 1098, RY #4 – Page no. – 154162	Chalk and Talk	
	4.2	2	Methods to manipulate CSS properties: css( ), height( ), position( ), scrollLeft( ), scrollTop( ) and width( )	BB #39- Page no.- 1098, 1099, RY #6 – Page No. – 207208	Discussion and Chalk and talk	
	4.3	1	Form elements and web page events: blur, change, focus, load, resize, scroll, select, submit and unload	BB #39- Page no.- 1099-1101	Presentation	<b>Open Book</b>
	4.4	2	Mouse operation and Keyboard events: mousedown, mousemove, mouseout, mouseover, mouseup, click, dbclick, keydown, keypress and keyup	BB #39- Page no.- 1099-1101	Audio - Visual Tool	

	4.5	1	Overview of Effects	BB #39- Page no.-1101	Presentation	
	4.6	1	Methods to create effects: animate( ), delay( ), fadeIn( ), fadeOut( ), fadeTo( ), hide( ), show( ), stop( ) and toggle( )	BB #39- Page no.- 1101, 1102 RY #8 Page No. – 277283	Discussion and Demonstration	
<b>Unit 5 : eXtensible Markup Language (07 hours)</b>						
5	5.1	0.5	Introduction and Features	BB #28- Page no.- 762-764	Presentation	
	5.2	0.5	Advantages and disadvantages	BB #28- Page no.- 764		
	5.3	2	XML document: declaration, elements, attributes, tree and comments	BB #28- Page no.- 765-768, 774-778	Demonstration	
	5.4	1	Entity References	BB #28- Page no.- 768, 779	Discussion	
	5.5	1	XML Parser	BB #28- Page no.- 768-769, 779-781	Chalk and talk	
	5.6	2	Overview of XML namespaces	BB #29- Page no.- 762- 788790	Presentation	<b>Unit-Test 2, Practical Unit Test- 2</b>
<b>Unit 6 : Validating and Transforming XML Document (08 hours)</b>						
6	6.1	1	XML Schema Structure	BB #29- Page no.- 792-793	Presentation, Chalk and talk	
	6.2	2	Simple type Element and Complex type Elements	BB #29- Page no.- 793-799		
	6.3	1	XML Schema Data types	BB #29- Page no.- 799-801		
	6.4	2	XSLT Elements: apply- templates, attributes, choose, for-each, if, number, sort, stylesheet, value-of and when	BB #31- Page no.- 848, 850-856, 863-865, 871-875	Demonstration	
	6.5	2	Overview of XPath, XLink and XPointer	BB #32- Page no.- 880-881, 885-887	Presentation	<b>Internal Exam Practical Internal</b>

TextBook :

1. HTML5 covers CSS3 JavaScript XML XHTML AJAX PHP and jQuery – Black Book, Dreamtech Press [BB]

References :

1. Rechar Y., JavaScript and CSS Development using jQuery, Wrox [RY]
2. Richard Clark, Oli S. - Christopher M., Divya M. - Beginning HTML5 and CSS3 - Apress

Note: # denotes chapter number.

**Course objectives and Course outcomes mapping:**

- To provide knowledge of advanced features of hypertext mark-up language : CO1
- To make interactive website by using jQuery: CO2, CO3
- To make interactive website by using eXtensible Markup Language: CO4,CO5, CO6, CO7

**Course units and Course outcome mapping:**

Unit No.	Unit Name	Course Outcomes						
		CO1	CO2	CO3	CO4	CO5	CO6	CO7
1.	Advanced Elements of Hypertext Markup Language	✓						
2.	Advanced Attributes of Hypertext Markup Language	✓						
3.	Fundamental of jQuery		✓					
4.	jQuery Manipulator, Events and Effects			✓				
5.	eXtensible Markup Language				✓			
6.	Validating and Transforming XML Document					✓	✓	✓

**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.

**Programme Outcomes and Course Outcomes mapping:**

Programme Outcome	Course Outcomes						
	CO1	CO2	CO3	CO4	CO5	CO6	CO7
P01	✓	✓	✓	✓	✓	✓	✓
P02	✓	✓	✓	✓	✓	✓	✓
P03	✓	✓	✓	✓	✓	✓	✓
P04							
P05	✓	✓	✓	✓	✓	✓	✓

**Computing Environment:**

- A student must have the following computing environment in laboratory and or on his/her laptop.
- NetBeans 7.4 and above or Text Editor.

**Modes of Transaction (Delivery):**

Unit No	Topic Detail	Teaching Approach	PO mapped
1	Advanced Elements of HTML5	One minute game (Students have to pick one chit on the spot and have to give some explanation on the element which is written on the chit within one minute. )	PO1, PO2, PO5
2, 3 & 4	HTML5 and jQuery	Code arrangement (Students have to arrange scattered designing code of webpage.)	PO3, PO4, PO5

**Activities/Practicum:**

The following activities shall be carried out by the students:

- Study of JavaScript scripting language functions like getElementByName(), getElementById(), object.
- Study history of HTML5.

The following activities shall be carried out by the teacher:

Learner	Activities to be done	PO mapped
<b>For slow learners</b>	Students have to solve question on black board which are assigned to them.	PO1, PO2, PO5
<b>For advanced learners</b>	Extraordinary question solving assign by subject teacher.	PO1,PO2,PO3,PO4,PO5
<b>For all</b>	Assign 2 or 3 questions after the end of each lecture, and students have to write in their note book.	PO1,PO2,PO4,PO5

**Number of Practical Problems in Journal: 18**

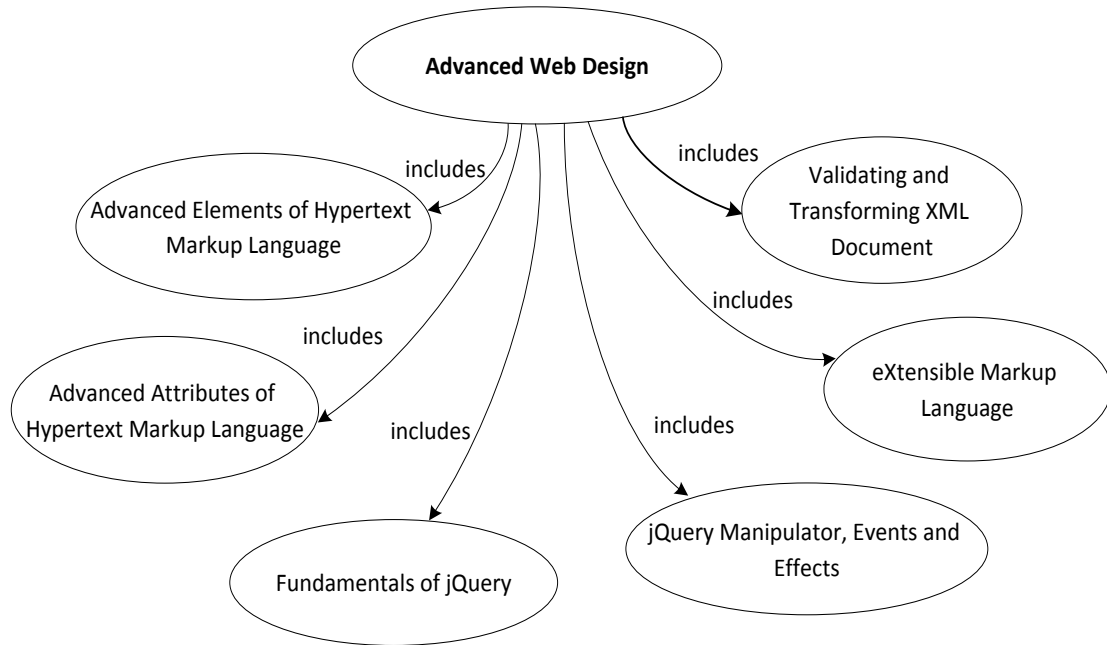
**Total sets to be developed : 2**

Unit Number	Number of Questions	Time required to implement and debug the question (in hours)	Minimum required of Journal Certification
1	2	4	2
2	3	10	3
3	3	10	3
4	4	16	3
5	3	10	2
6	3	10	2
<b>TOTAL</b>	18	60	15

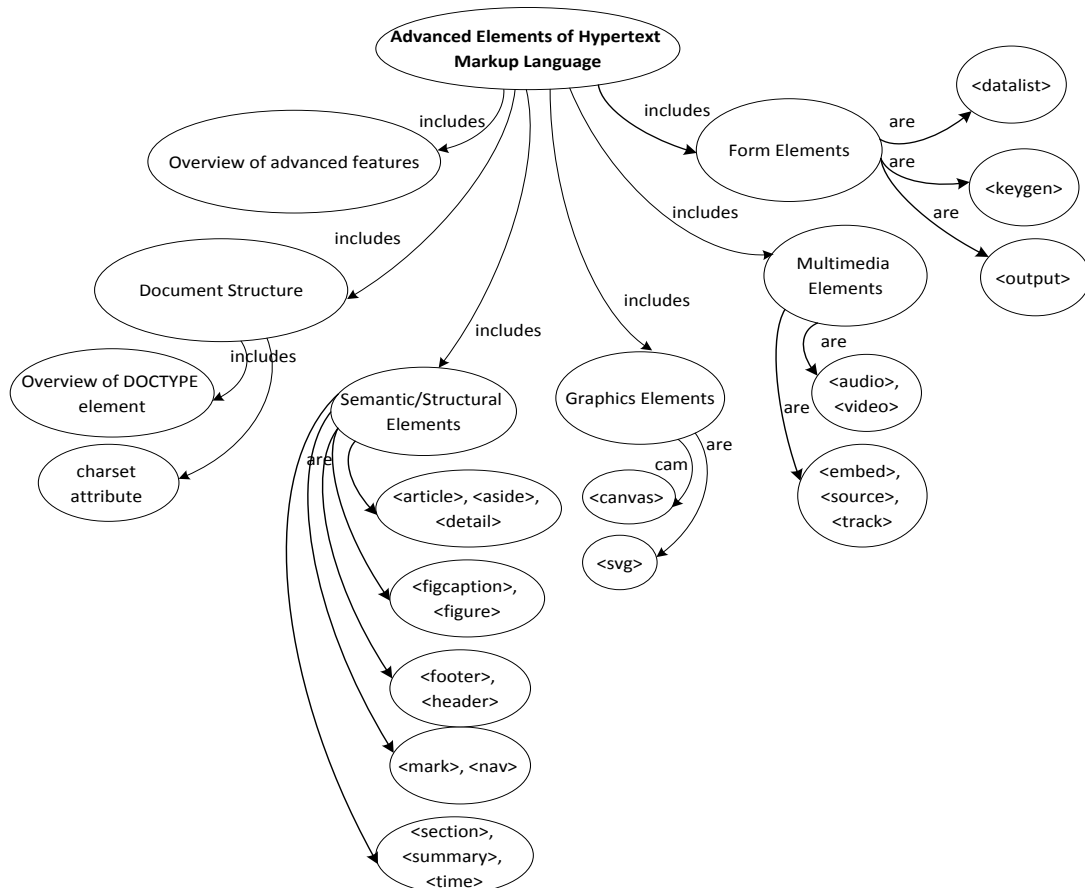


Concept map:

Concept map:



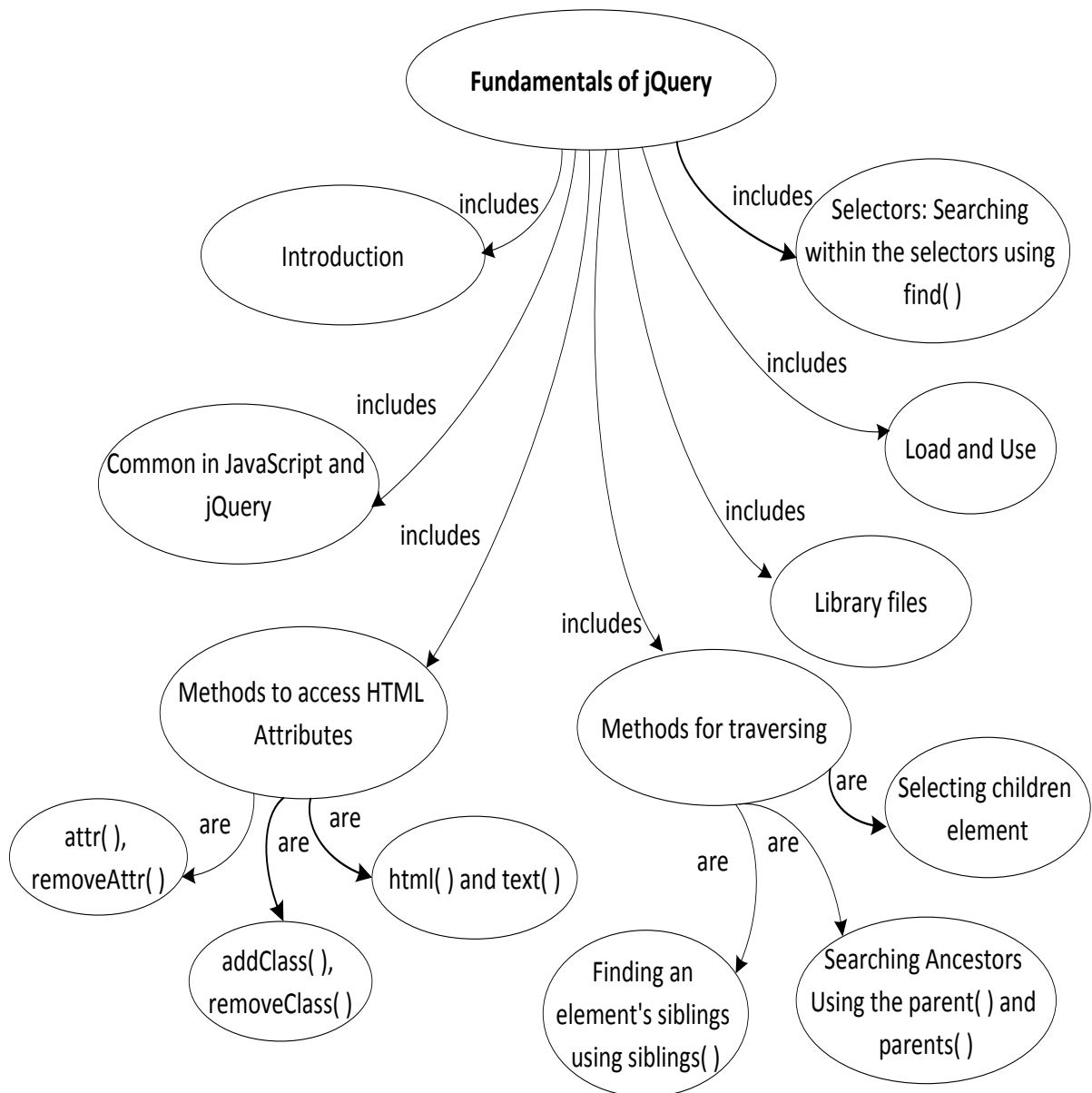
**Unit - 1 Advanced Elements of Hypertext Markup Language**



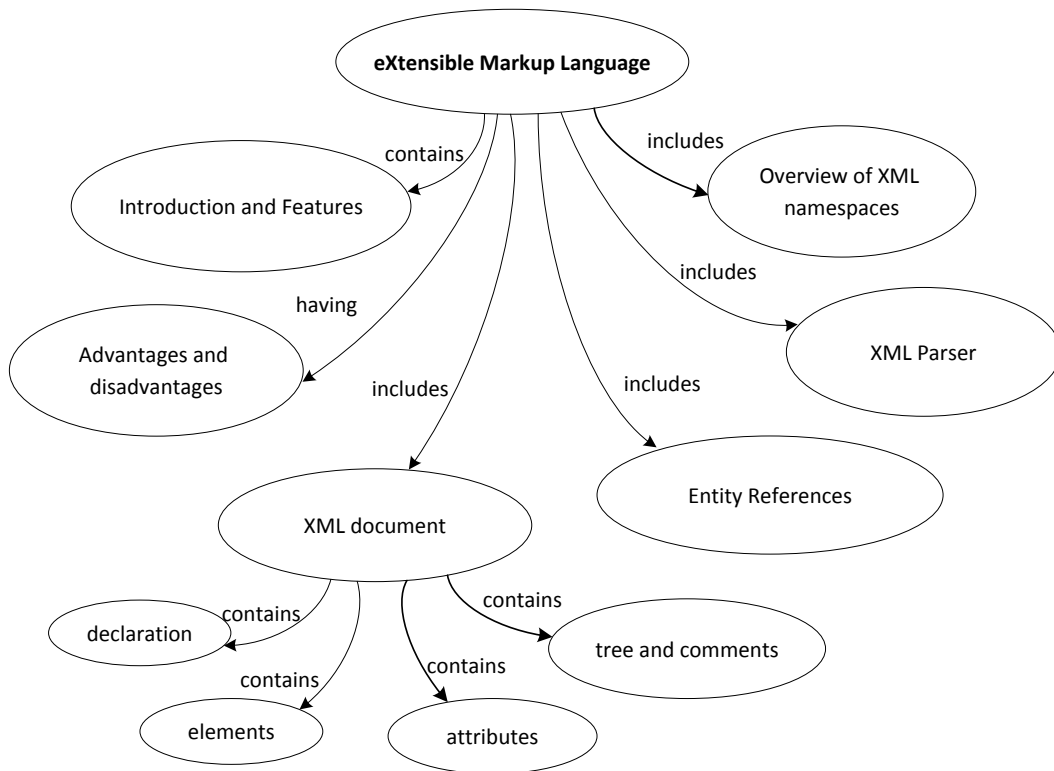
Unit - 2 Advanced Attributes of Hypertext Markup Language



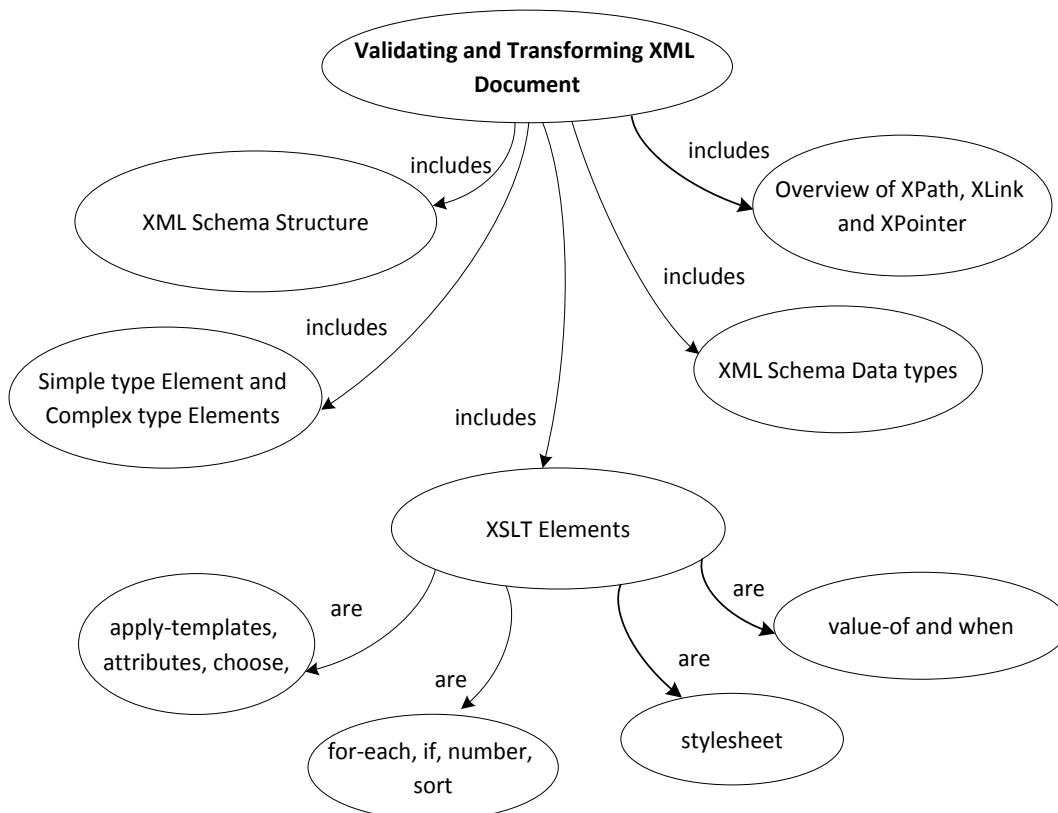
Unit - 3 Fundamentals of jQuery



Unit - 4 jQuery Manipulator, Events and Effects



**Unit - 5 eXtensible Markup Language**



**Unit 6 : Validating and Transforming XML Document**

