	National Institute of Technology Meghalaya An Institute of National Importance	CURRICULUM

Programme	**Bachelor of Technology in Computer Science and Engineering**	Academic Year of Regulation	**2018-19**
Department	**Computer Science and Engineering**	Semester	**VII**

Course Code	Course Name	Credit Structure				Marks Distribution			
		L	T	P	C	INT	MID	END	Total
CS425	**Advanced Web Technology**	**3**	**0**	**0**	**3**	**50**	**50**	**100**	**200**

Course Objectives	Course Outcomes	
This course familiarizes web hardware and software architectures, different growth stages of world wide web - web 2.0 and web 3.0 and technologies for web application development.	CO1	**Able to analyze the underlying computing hardware and software architectures for suitability of web application development and deployment.**
This course introduces different distributed object models.	CO2	**Able to compare different distributed object models for proper selection as per need.**
The course introduces different e-commerce models and relevant protocols.	CO3	**Able to design styled HTML web pages using various HTML elements, CSS, XML, XSL and XQuery.**
This course familiarizes the use of HTML, CSS, XML, XSL, XQuery, and client side and server side programming using JavaScript, AJAX, PHP, JSP and Servlets.	CO4	**Able to construct JavaScript and AJAX code for client side scripting.**
	CO5	**Able to construct code for server side programming using PHP, JSP and Servlets.**
	CO6	**Able to propose web application designs for different e-business models.**

No.	COs	Mapping with Program Outcomes (POs)												Mapping with PSOs		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	3	2	1	1	1	0	0	0	0	0	1	0	1	1	0
2	CO2	3	3	2	1	2	1	0	0	0	0	1	0	3	2	1
3	CO3	3	3	3	2	2	1	0	0	1	0	1	0	3	2	1
4	CO4	3	3	3	2	2	1	0	0	1	0	1	0	3	2	1
5	CO5	3	3	3	2	2	1	0	0	1	0	1	1	3	2	1
6	CO6	3	2	2	2	2	1	0	0	1	0	1	1	2	1	1

SYLLABUS

No.	Content	Hours	COs
I	**Introduction; Basics of Internet; Recent Web technologies: A case study on WWW, web 2.0; Client/Server Computing: C/S Computing, Fat client VS Fat Servers, Middleware, N-tiered Software Architecture**	**03**	**CO1**
II	**Protocols: HTTP, FTP, SMTP, POP**	**01**	**CO1**
III	**Web Browser: Browser Architecture, Configuration of Netscape and IE**	**01**	**CO1**
IV	**Apache Tomcat Web Server Architecture: Architecture, Server Features, Configuration of Apache Tomcat**	**02**	**CO1**
V	**Semantic web and supporting technologies**	**02**	**CO1**
VI	**Distributed Object Models: CORBA, DCOM, EJB**	**02**	**CO2**
VII	**Markup Languages and their grammars: SGML, DTD Resources, HTML, CSS, XML, XSL, Query Languages for XML**	**15**	**CO3**
VIII	**Introduction to responsive web design**	**01**	**CO3**
IX	**Client side scripting: JAVASCRIPT, AJAX; Server side programming using PHP, JSP and Servlets**	**06**	**CO4, CO5**
X	**E-business models; E-commerce and WWW; secure electronic payment protocols; e-commerce payment systems; web based marketing** **Search engine and directory registration; e-commerce site designing tools**	**03**	**CO6**
Total Hours		**36**	

Essential Readings

1. Jeffrey C. Jackson, “Web Technologies: A Computer Science Perspective”, Pearson Education India, 1st edition, 2008.
2. Luke Welling, Laura Thomson, “PHP and MySQL Web Development”, Pearson Education India, 5th edition, 2016.

3. Joel Murach, Michael Urban, “Murach's Java Servlets and JSP”, Mike Murach & Associates, 3rd edition, 2014.
4. David Whiteley, “e-Commerce: Strategy, Technologies and Applications”, McGraw Hill Education, 1st edition, 2017.
5. w3schools Tutorials, http://www.w3schools.com/
Supplementary Readings
1. P. Deitel, H. Deitel, A. Deitel, “Internet and World Wide Web: How to Program”, Pearson Education, 5th edition, 2018.
2. Dino Esposito, “Modern Web Development: Understanding Domains, Technologies, And User Experience”, 1st edition, PHI Learning, 2016.
3. Budi Kurniawan, “Servlet & JSP: A Beginner's Tutorial”, Brainy Software, 1st edition, 2016.
4. Uttam K. Roy, “Web Technologies”, Oxford University Press, 1st edition, 2010.