

Course Code	PIT21S301J	Course Name	WEB DEVELOPMENT USING ANGULARJS AND MONGO	Course Category	S	Skill Enhancement Courses	L	T	P	C
							3	0	2	4

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Science	Data Book / Codes/Standards	Nil		

Course Learning Rationale (CLR):	The purpose of learning this course is to:	Learning	Program Learning Outcomes (PLO)
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CLR-1 :	Create single page applications and understand the functional behavior of dynamic web pages	1	2	3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-2 :	Understand presentation components that look like HTML elements																			
CLR-3 :	Build corner to corner interactive components in dynamic web pages																			
CLR-4 :	Understand MVC framework/architecture of web programming/client-server architecture																			
CLR-5 :	Build synchronized objects across view and model components																			
CLR-6 :	Understanding JSON in DBs, helps building applications for large scale data storage																			

Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)		Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO - 3
CLO-1 :	Make use of expressions, do data binding with external components	3	90	90		H	L	M	M	H	-	-	-	-	-	-	-	M	M	H
CLO-2 :	Distinguish the role of MVC in creating dynamic web applications	3	90	90		H	M	M	M	H	-	-	-	-	-	-	-	M	M	H
CLO-3 :	Understand the role of reusability and data encapsulation in the form of objects	3	85	85		H	M	M	M	H	-	-	-	-	-	-	-	M	M	H
CLO-4 :	Distinguish RDBMS and schema design of MongoDB	4	90	90		H	M	M	M	H	-	-	-	-	-	-	-	M	M	H
CLO-5 :	Perform query operations using MongoDB	3	90	90		H	M	M	M	H	-	-	-	-	-	-	-	M	M	H
CLO-6 :	Understand and build logical relationships between documents using MongoDB	4	85	85		H	H	H	H	H	-	-	-	-	-	-	-	M	M	H

Duration (Hour)		15	15	15	15	15
S-1	SLO-1	Introduction of	Array Methods :indexOf, join	Angular JS	Angular JS Scope	Document with different types of values
	SLO-2	Need of Scripting Language	Array Methods: lastIndexOf, toString	Arrays	Angular JS Scope	i) <i>Document with Scalar Values</i>
S-2	SLO-1	Difference between client and server side scripting Script tag in HTML	Array Methods: reduce, reverse, Function Definition	Angular JS Expressions Modules	Understanding the scope Angular JS Filters	ii) Document with Documents as values iii) <i>Document with Array as values</i>
	SLO-2	client and server side scripting Java Script declaration	Array Methods: slice, some, sort Function Parameters	vs Java Script Expressions Creating a Module	Understanding the scope Adding Filters to Directives	ii) <i>Document with Documents</i> CRUD operation : Insert Operation i) <i>insertOne()</i> and ii) <i>insertMany()</i> with examples
S-3	SLO-1	Java script statements	Calling a Function	Adding a Controller	The filter Filter	Perform Query Operation for the following situations i) <i>Query on nested documents</i> ii) <i>Query an array</i>
	SLO-2	Comments and Variables	Return Statements	Adding a Directive	Filter an Array Based on User Input	ii) <i>Query an array of nested documents</i> iv) <i>Geospatial Queries</i> <i>Query Operation Examples</i>
S4-5	SLO-1	Laboratory 1: Java Script Input and Output	Laboratory 4 : Functions	Laboratory 7: Modules in Files	Laboratory 10: Sorting an Array based on Userinput	Laboratory 13: Update Operation: <i>updateOne(), updateMany()</i>
	SLO-2					
S-6	SLO-1	Java script Operators - Logical	Angular Environment set up – windows	Controllers in Files	using filters	<i>Working with CURD operations</i>
	SLO-2	Bitwise Arithmetic	Angular JS Framework	Using controllers	Custom Filters	<i>replaceOne(), findAndModify()</i> Update operation : Examples
S-7	SLO-1	Assignment operators	Angular JS Framework	controllers	Filters	Insert

	SLO-2	Java Script	Angular JS with HTML	Directives	Angular Service	Query
S-8	SLO-1	Datatypes	Angular JS with HTML	Angular JS Directives	Angular Service \$http Service, \$timeout Service, \$interval service	Delete Operation: deleteMany(), deleteOne()
	SLO-2	Conditional statements	Angular ng directives	Data Binding	Creating own services	iii)findOneAndDelete() Delete operation Examples
S9-10	SLO-1	Laboratory 2 : Java Script Operators and Conditions	Laboratory 5: Angular ng directives	Laboratory 8: data binding	Laboratory 11 : location service and timeout service	Laboratory 14: Aggregation in Mongoddb: i)aggregate() method Aggregate expressions: i) \$sum ii) \$avg iii) \$min iv) \$max
	SLO-2					
S-11	SLO-1	Array Properties : index, input length	Angular JS Strings	AngularJS Controller	Introduction to entities of MongoDB: i)Databases i)Collections	Monitoring Deployment using Mongoddb: i)mongostat,
	SLO-2	Array Methods :concat, every	Angular JS Objects	Controller Methods	Database: i)createDatabase()method with example	iii)serverStatus, dbStats
S-12	SLO-1	Array Properties : prototype	Strings	Controller	Introduction to entities of MongoDB: iii)Documents	Monitoring Deployment using Mongoddb: <i>mongotop</i>
	SLO-2	Array Methods forEach	Objects	Methods	Database: example	collStats
S-13	SLO-1	Looping Statements	Manipulating strings	Data binding: controllers	creating dbs	Creating different types of indexes ii) Perform Mongoddb data <i>Export</i>
	SLO-2	Looping Statements	Manipulating numbers	external files	creating dbs	<i>Import</i> using shell as well as mongo compass
S14-15	SLO-1	Laboratory 3 : Looping Statements	Laboratory 6: Manipulating strings and	Laboratory 9: Data binding: controllers and external files	Laboratory 12: creating dbs	Laboratory 15:Creating different types of indexes ii) Perform Mongoddb data <i>Export</i> and <i>Import</i> using shell as well as mongo compass.
	SLO-2					

Learning Resources	1. Ken Williamson (2015), "Learning AngularJS: A Guide to AngularJS Development", O'REILLY						1. URL: https://docs.AngularJS.org/api 2.URL: https://docs.mongodb.com/manual/tutorial/				
Learning Assessment											
Bloom's Level of Thinking		Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4 (10%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember Understand	20%	20%	15%	15%	15%	15%	15%	15%	15%	15%
Level 2	Apply Analyze	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Level 3	Evaluate Create	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%
	Total	100 %		100 %		100 %		100 %		100%	

CLA – 4 can be from any combination of these: Assignments, Seminars, Short Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
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