



GOVERNMENT OF TAMILNADU
DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI
STATE PROJECT COORDINATION UNIT
(Established under Canada India Institutional Cooperation Project)

CURRICULUM

Course Name	Angular 9
Course Code	CSE/2020/029
Course Duration	80 Hours
Minimum Eligibility Criteria and Pre-requisites(if any)	ITI/10 th /+2/Diploma/Graduates Basic knowledge of HTML, CSS, and java script
Course Objectives	Training module has been designed to <ul style="list-style-type: none"> • Create device-independent Angular applications • Modularize applications with the Component Router • Know about Data binding • Learn about Directives
Course Outcomes	The student will able to <ul style="list-style-type: none"> • Create device-independent Angular applications • Develop Components using Templates • Modularize applications with the Component Router • Gain experience building components, creating directives, modularizing applications, and building template-driven forms.
Expected Job Roles	<ul style="list-style-type: none"> • Angular 9 Developer

TEACHING AND SCHEME OF EXAMINATION

Course Code	Course Name	Hours	Assessment Marks		Duration of Examination
			Min	Max	
CSE/2020/029	Angular 9	Theory	30	10	3 Hours
		Practical	50	40	
		Total	80	50	

CSE/2020/029 - ANGULAR 9**DETAILED SYLLABUS**

UNIT NO	MODULES	NO.OF.HOURS THEORY
I	INTRODUCTION TO ANGULAR 9	
	Angular overview- Comparison Between Angular vs Angular 2 vs Angular 9 - Angular CLI Project Setup - Typescript Introduction- Project Setup Bootstrap for Angular App Styling- Angular Module Introduction- How Angular Application works	6
II	ANGULAR COMPONENTS	
	Creation of New Component - Role of Application module and component declaration- Creating Custom Component- Creating component with CLI & Nesting components- Working with Component Templates	6
III	DATABINDING	
	String Interpolation- Property Binding- Property Binding vs String Interpolation- Event Binding- Bindable Properties and Events- Understanding View Encapsulation- Using local preferences in template- viewchild() in angular8- Passing and Using Data with Event Binding- Two-Way-Data binding	6
IV	DIRECTIVES [ATTRIBUTE, STRUCTURAL, CUSTOM DIRECTIVE]	
	Using ngIf to Output Data Conditionally- Enhancing ngIf with an Else Condition- Styling Elements Dynamically with ngStyle- Applying CSS Classes Dynamically with ngClass- Outputting Lists with ngFor	6
V	ROUTING	
	Adding Navigation to the app- Marking Active Routes- Adding Child Router- Configuring Router Parameters- Parametrizing pipes- Chaining multiple pipe- Creating Custom pipe- Pure and Impure Pipe- async Pipe	6
Total Theory Hours		30
Total Practical Hours		50
Total Hours		80

PRACTICAL (50 HOURS)

1. Installation and Configure Angular 9
2. Create the basic Application using Component with Templates.
3. Create the forms in Angular with Data Binding.
4. Develop the task using ngIf, ngIf...Else, ngFor Statements.
5. Develop the task using ngSwitchcase Statement.
6. Generate an Angular Services by using basic commands.
7. Implement Recipe Model with Routing Parameters.
8. Implement Passing and retrieving query parameters.
9. Add and Configure Child Router.
10. Create a custom pipe to transform Data.

HARDWARE REQUIREMENT

S.NO	LIST OF TOOLS /EQUIPMENTS
1	Desktop /Laptop computers

SOFTWARE REQUIREMENT

S.NO	LIST OF SOFTWARE
1	NODE JS
2	ANGULAR 9.0 WITH NPM

ASSESSMENT AND CERTIFICATION

S.No	Criteria for assessment
1.	A trainee will be assessed based on the performance in End Examination for Theory and Practical conducted internally in the Project Polytechnic College for a duration of 3 hours
2.	A trainee must have 75% of attendance to appear for End examination in Theory and Practical.
3.	The assessment for theory part will be based on the marks scored in the end examination on the knowledge bank of questions (1 word/objective type questions)
4.	The assessment for practical part will be based on the marks scored in the end examination conducted by the Project Polytechnic and assessed by the Examiners approved by Strategic Plan Implementation Committee (SPIC) of the project polytechnic.
5.	The criteria for successful completion of training is every trainee should score 50% of marks in theory and practical examination.
6.	On successful completion of training , Certificate will be issued to the participants by the Directorate of Technical Education through the Project Polytechnic.

END EXAMINATION

ALLOCATION OF MARKS

S.No	Description	Max.Marks
1.	Theory Examination	20
2.	Practical Examination	
	a)Procedure	10
	b)Execution	30
	c)Output	20
	d)Record	20
Total Marks		100

THEORY MODEL QUESTION PAPER

CSE/2020/029 – ANGULAR 9

(Maximum Marks : 20)

(N.B: Answer any **twenty** questions)

20 x 1 = 20 Marks

1. What is Angular ?
2. What are the advantages of using Angular 9?
3. List the features of Angular 9.
4. What is CLI in Angular?
5. What is Angular module?
6. What does AOT stands for?
7. What is databinding?
8. Does Angular 9 supports Two-way Databinding?
9. Give the types of Databinding?
10. Which character is used for chaining multiple pipes?
11. What is ngStyle directive used for?
12. Give the syntax for ngClass.
13. Which operator is used for pipe?
14. Give the difference between pure and impure pipe.
15. Which pipe type is used to format a date?
16. RxJs can be used for.
17. What is .Subscribe?
18. Router is a part of @angular/core? Yes or No.
19. What is the use of HttpClient?
20. Give the syntax to install cookies.
21. Why Routing is used in Angular ?
22. What command will create a new Angular app with a root routing module?
23. What is a routerOutlet?
24. What is Pure function in Angular?
25. Why Async pipe is impure?