

**GOVT. POLYTECHNIC BOLANGIR**  
**LESSON PLAN**

<b>Discipline : AUTOMOBILE</b>	<b>Semester: 6TH</b>	<b>Name of the Teaching Faculty : KUMAR GYANDEEP</b>
<b>Subject : AUTOMOTIVE SYSTEM &amp; HEAVY EQUIPMENTS</b>	<b>No. of Days / per week class allotted :</b>	<b>Semester From date : 14.02.2023 To Date : 23.05.2023 No. of Weesks : 13</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>
<b>3RD FEB</b>	1st	FRONT AXLE - Introduction & study of front axle assemblies
	2nd	Front axle function, construction
	3rd	Types of stub axle
	4th	Front wheel assembly
<b>4TH FEB</b>	1st	STEERING & STEERING GEOMETRY - Introduction of steering system, function of steering
	2nd	Principle of correct steering & Components of steering system
	3rd	Types of steering gear.
	4th	Steering geometry i.e. camber, caster, king-pin,
<b>1ST MAR</b>	1st	king-pin Inclination, understeer,
	2nd	oversteer, combined angle
	3rd	Toe-in Toe-out, wheel alignment
	4th	Effects of incorrect wheel alignment, steering turning angle and turning radius
<b>2ND MAR</b>	1st	SUSPENSION SYSTEM Introduction & function & requirement of suspension system
	2nd	Types of suspension spring like leaf spring, coil spring,
	3rd	rubber torsion unit, Torsion bar
	4th	Types of suspension system
<b>3RD MAR</b>	1st	independent suspension system, rigid axle
	2nd	Suspension system,
	3rd	its advantages and disadvantages.
	4th	Stabilizer bar & shock absorber.
<b>4TH MAR</b>	1st	BRAKE SYSTEM Introduction, Principle of operation and requirements of brakes
	2nd	Types of brakes such as drum brakes and its leading & trailing shoes
	3rd	Disc brakes
	4th	Brake fade

<b>1ST APRIL</b>	1st	Hydraulic brakes and its components like master cylinder,
	2nd	tandem master cylinder, wheel cylinder,
	3rd	brake fluid and brake fluid grades.
	4th	Advantages and disadvantages of hydraulic brakes
<b>2ND APRIL</b>	1st	Power brake types,
	2nd	working and construction of air brake
	3rd	Handbrake
	4th	Adjustment and bleeding of brake
<b>3RD APRIL</b>	1st	Question Answer Discussion
	2nd	Common brake problems
	3rd	Anti-lock braking system
	4th	WHEEL & TYRES - Introduction
<b>4TH APRIL</b>	1st	<b>Internal Assement</b>
	2nd	Basic construction of a tyre
	3rd	Tyre dimension
	4th	Classification of tyre, advantages and disadvantages of radial ply tyres over cross ply tyre. Tyre size designation
<b>1ST MAY</b>	1st	Different types of tyre damages
	2nd	Wheel, and its type
	3rd	Wheel dimensions
	4th	Wheel designation
<b>2ND MAY</b>	1st	CHASSIS & HEAVY EQUIPMENTS - Introduction
	2nd	lay out of chassis showing its main components
	3rd	Types of chassis, frame and important chassis layouts
	4th	Types of chassis, frame and important chassis layouts
<b>3RD MAY</b>	1st	Tractor and its construction,
	2nd	Classification, construction and description of dump truck
	3rd	grader, road roller, dozer, loader, cranes, scraper
	4th	Revision