



NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY  
SERGARH-756060, BALASORE (ODISHA)  
(Approved by AICTE& affiliated to SCTE&VT, Odisha)



## **LESSON PLAN**

**SUBJECT: Th-3 ( AUTOMOBILE ELECTRICITY )**

### **CHAPTER WISE DISTRIBUTION OF PERIODS**

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Storage battery	6	7
2	Starting System	6	6
3	Generating System	10	10
4	Alternator	5	5
5	Ignition System	15	16
6	Light	6	7
7	Accessories &Control	6	6
8	Wiring System	6	7
	Total Period:	60	64

Discipline: AUTOMOBILE ENGINEERING	Semester: 5th	Name of the Teaching Faculty: Er. Nihar Ranjan Sahoo & Er. Bijaya Kumar Behera	
		SESSION : 2023-24	EXAMINATION : 2023 (W)
Week	Class Day	Theory / Practical Topics	
1 <sup>st</sup>	1 <sup>st</sup>	Introduction to Automobile Electricity.	
	2 <sup>nd</sup>	<b>1. Storage Battery</b> 1.1 Purpose and types of battery.	
	3 <sup>rd</sup>	1.1 Purpose and types of battery.	
	4 <sup>th</sup>	1.2 Construction capacity and charging of battery.	
2 <sup>nd</sup>	1 <sup>st</sup>	1.2 Construction capacity and charging of battery.	
	2 <sup>nd</sup>	1.2 Construction capacity and charging of battery.	
	3 <sup>rd</sup>	1.3 Testing servicing and maintenance of battery.	
	4 <sup>th</sup>	1.3 Testing servicing and maintenance of battery.	
3 <sup>rd</sup>	1 <sup>st</sup>	<b>2. Starting System</b> 2.1 Principle and construction of starter motor.	
	2 <sup>nd</sup>	2.1 Principle and construction of starter motor.	
	3 <sup>rd</sup>	2.2 Drive arrangement and control.	
	4 <sup>th</sup>	2.2 Drive arrangement and control.	
4 <sup>th</sup>	1 <sup>st</sup>	2.3 Servicing and maintenance of starter motor.	
	2 <sup>nd</sup>	2.3 Servicing and maintenance of starter motor.	
	3 <sup>rd</sup>	<b>3. Generating system</b> 3.1 Flemings right hand rule and Lenz's law.	
	4 <sup>th</sup>	3.1 Flemings right hand rule and Lenz's law.	
5 <sup>th</sup>	1 <sup>st</sup>	3.2 Principle and constructional details of generator.	
	2 <sup>nd</sup>	3.2 Principle and constructional details of generator.	
	3 <sup>rd</sup>	3.2 Principle and constructional details of generator.	
	4 <sup>th</sup>	3.2 Principle and constructional details of generator.	
6 <sup>th</sup>	1 <sup>st</sup>	3.3 Current and voltage regulator.	
	2 <sup>nd</sup>	3.3 Current and voltage regulator.	
	3 <sup>rd</sup>	3.4 Cut-out relay, routine maintenance of generator.	

6 <sup>th</sup>	4 <sup>th</sup>	3.4 Cut-out relay, routine maintenance of generator.
7 <sup>th</sup>	1 <sup>st</sup>	<b>4. Alternator</b> 4.1 Principle and construction of alternator.
	2 <sup>nd</sup>	4.1 Principle and construction of alternator.
	3 <sup>rd</sup>	4.2 Maximum R.M.S. and average value.
	4 <sup>th</sup>	4.2 Maximum R.M.S. and average value.
8 <sup>th</sup>	1 <sup>st</sup>	4.3 Maintenance of alternator.
	2 <sup>nd</sup>	<b>5. Ignition System</b> 5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
	3 <sup>rd</sup>	5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
	4 <sup>th</sup>	5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
9 <sup>th</sup>	1 <sup>st</sup>	5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
	2 <sup>nd</sup>	5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
	3 <sup>rd</sup>	5.1 Principle and components (induction coil, contact breaker, spark plug, distributor and condenser) of spark ignition system.
	4 <sup>th</sup>	5.2 Electronics spark timing computer controlled coil ignition system operation
10 <sup>th</sup>	1 <sup>st</sup>	5.2 Electronics spark timing computer controlled coil ignition system operation
	2 <sup>nd</sup>	5.3 Electronics ignition system with distributor/distributer less.
	3 <sup>rd</sup>	5.3 Electronics ignition system with distributor/distributer less.
	4 <sup>th</sup>	5.4 Types of ignition system such as:- Coil ignition system
11 <sup>th</sup>	1 <sup>st</sup>	<b>INTERNAL ASSESMENT</b>
	2 <sup>nd</sup>	<b>INTERNAL ASSESMENT</b>
	3 <sup>rd</sup>	Magnet ignition system
	4 <sup>th</sup>	Electronics ignition system,
12 <sup>th</sup>	1 <sup>st</sup>	Transistorized ignition system.
	2 <sup>nd</sup>	5.5 Ignition system servicing and fault diagnosis.
	3 <sup>rd</sup>	5.5 Ignition system servicing and fault diagnosis.
	4 <sup>th</sup>	<b>6. Light</b> 6.1 Setting of headlights.

<b>13<sup>th</sup></b>	<b>1<sup>st</sup></b>	6.1 Setting of headlights.
	<b>2<sup>nd</sup></b>	6.2 Tail and stoplights.
	<b>3<sup>rd</sup></b>	6.2 Tail and stoplights.
	<b>4<sup>th</sup></b>	6.2 Tail and stoplights.
<b>14<sup>th</sup></b>	<b>1<sup>st</sup></b>	6.3 Indicator and dim deeper mechanism.
	<b>2<sup>nd</sup></b>	6.3 Indicator and dim deeper mechanism.
	<b>3<sup>rd</sup></b>	<b>7. Accessories &amp; Control</b> 7.1 Electric horn and screen wiper.
	<b>4<sup>th</sup></b>	7.1 Electric horn and screen wiper.
<b>15<sup>th</sup></b>	<b>1<sup>st</sup></b>	7.1 Electric horn and screen wiper.
	<b>2<sup>nd</sup></b>	7.2 Fuel gauge oil pressure gauge and water temperature gauge.
	<b>3<sup>rd</sup></b>	7.2 Fuel gauge oil pressure gauge and water temperature gauge.
	<b>4<sup>th</sup></b>	7.2 Fuel gauge oil pressure gauge and water temperature gauge.
<b>16<sup>th</sup></b>	<b>1<sup>st</sup></b>	<b>8. Wiring system</b> 8.1 Types of wiring such as:- Earth returns and insulated return system.
	<b>2<sup>nd</sup></b>	8.1 Types of wiring such as:- Earth returns and insulated return system.
	<b>3<sup>rd</sup></b>	8.2 Wiring diagram of four wheelers and two wheelers.
	<b>4<sup>th</sup></b>	8.2 Wiring diagram of four wheelers and two wheelers.
<b>17<sup>th</sup></b>	<b>1<sup>st</sup></b>	8.3 Elective wiring layout in a four wheeler.
	<b>2<sup>nd</sup></b>	8.3 Elective wiring layout in a four wheeler.
	<b>3<sup>rd</sup></b>	8.4 Inspection and maintenance of electrical systems.
	<b>4<sup>th</sup></b>	Revision .