

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2150208****Date: 12/05/2017****Subject Name: Automative Electrical Systems****Time: 02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	<b>Answer in short.</b>	<b>14</b>
	1 Explain the relation of voltage, current and resistance using ohms law.	
	2 Write the charging discharging equation of lead acid battery.	
	3 Draw the electrical symbol of diode.	
	4 Write the full form of DRL.	
	5 Ignition coil is what type of transformer?	
	6 What is the Color code of wire for earth circuit?	
	7 What is the electrolyte in a lead acid battery?	
	8 At high speed of engine the spark should occur earlier or later?	
	9 Write the drive mechanism used in starter motor.	
	10 To measure current which instrument is used?	
	11 What is the material of brush in generator?	
	12 Write the amount of volts required to generate a spark in spark plug.	
	13 What is the function of condenser?	
	14 Write the name of 3 battery manufacturing company.	
<b>Q.2</b>	(a) Explain various types of wires.	<b>03</b>
	(b) Explain the color coding of wiring system.	<b>04</b>
	(c) Explain battery ratings.	<b>07</b>
	<b>OR</b>	
	(c) Explain lead acid battery construction with neat sketch.	<b>07</b>
<b>Q.3</b>	(a) Explain ballast resistance .	<b>03</b>
	(b) Explain mechanical spark advance mechanism.	<b>04</b>
	(c) Draw the simple coil ignition circuit of a multi cylinder petrol engine.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain hot reach spark plug and cold reach spark plug.	<b>03</b>
	(b) Explain bendix drive mechanism.	<b>04</b>
	(c) Write the working of solenoid switch. Why is it important to be used with starter motor?	<b>07</b>
<b>Q.4</b>	(a) What is diode rectification?	<b>03</b>
	(b) Draw the wiring diagram of car fitted with minimum essential components.	<b>04</b>
	(c) Write the advantage of alternator over dc generator.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain the working of windscreen wiper.	<b>03</b>
	(b) List types of horn and explain any one.	<b>04</b>
	(c) Explain types of reflectors.	<b>07</b>
<b>Q.5</b>	(a) Explain the working of fuel gauge.	<b>03</b>
	(b) Explain the working of odometer.	<b>04</b>

	<b>(c)</b>	Explain the convertible mechanism.	<b>07</b>
		<b>OR</b>	
<b>Q.5</b>	<b>(a)</b>	Explain the working of power windows.	<b>03</b>
	<b>(b)</b>	Explain types of headlamps.	<b>04</b>
	<b>(c)</b>	Draw the instrument cluster panel for a modern car.	<b>07</b>

.....