

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160209****Date:04-07-2023****Subject Name:Automotive Electricals and Electronics****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed

MARKS

Q.1	(a) Explain the need of charging circuit?	03
	(b) Discuss cable color code used for wiring in an Automobile	04
	(c) Explain basic wiring Diagram layout of Four wheeler electrical system with neat sketch.	07
Q.2	(a) Explain the different types of Automotive batteries.	03
	(b) Explain the working of cut out relay with neat sketch.	04
	(c) Explain Designation and Rating of Batteries.	07
	OR	
	(c) Write Short Note on Power windows and Side Indicator Lamp with circuit diagram.	07
Q.3	(a) Explain working Fuel Gauge.	03
	(b) Discuss Glow plug and choke.	04
	(c) Write short note on Bendix Drive Mechanism of Starting System of Automobile.	07
	OR	
Q.3	(a) Explain Multi point Fuel Injection system.	03
	(b) Explain the hydrometer test for battery.	04
	(c) Write short note on Battery or Coil ignition system with neat sketch.	07
Q.4	(a) Explain Ignition Coil Tester.	03
	(b) Discuss vehicle speed sensor.	04
	(c) Explain the working of On Board Diagnostic Systems in Automobile and Also Compare OBD I with OBD II.	07
	OR	
Q.4	(a) Explain Series and Parallel circuit.	03
	(b) Discuss Knock/Detonation Sensors.	04
	(c) Explain different electrical system used in vehicle with neat sketch.	07
Q.5	(a) Explain the balancing type fuel gauge	03
	(b) Describe Crank Angle Position Sensors with Neat Sketch.	04
	(c) Enlist the various Components of Automotive relay and explain the working of Automotive relays.	07
	OR	
Q.5	(a) Explain Oil pressure warning light.	03
	(b) Explain Capacitance discharge ignition system.	04
	(c) Discuss recent trend on automotive electronic engine management system.	07
