Enrollment No:	Exam Seat No:
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C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Automotive Electrical and Electronics

Subject Code: 4TE05AEE1 Branch: B.Tech (Automobile)

Semester: 5 Date: 30/03/2017 Time: 02:30 To 05:30 Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1		Attempt the following questions:	(14)
	a)	Define insulators.	01
	b)	What do you understand by negative earthing for cars?	01
	c)	Which are the current carriers in transistors?	01
	d)	State the requirement of ECU in cars.	01
	e)	State the function of alternator.	01
	f)	What does oxygen sensors do?	01
	g)	Define electrolyte.	01
	h)	Which is the most suitable generator for battery charging?	01
	i)	What is the use of ABS in automobile?	01
	.j)	Define cam angle	01
	k)	Which are the active materials of a Nickel Iron battery?	01
	1)	What is the use of ignition coil?	01
	m)	What is the work of a rectifier?	01
	n)	Define spark plug reach.	01
Attem	pt any f	our questions from Q-2 to Q-8	
Q-2		Attempt all questions	(14)
	a)	Write Short note on Controlled Area Networks (CAN).	07
	b)	Explain Starting system and Ignition system of Vehicle.	07
Q-3		Attempt all questions	(14)
_	a)	Write short note on Adaptive cruise control.	07
	b)	State various battery tests in detail and explain any two	07
Q-4	-	Attempt all questions	(14)
-	a)	What is traction? Explain traction control system in vehicle with neat sketch	07
	b)	List types of CRDI system and explain any one in detail with neat sketch.	07



Q-5		Attempt all questions	(14)
	a)	Give the names of different Types of drive mechanisms. Explain Folo-thru drive	07
		with neat sketch.	
	b)	Explain windscreen wiper.	07
Q-6		Attempt all questions	(14)
	a)	Explain lead acid battery construction with neat sketch.	07
	b)	Explain Function and working of electric horn and its relay.	04
	c)	Explain Centrifugal & vacuum advance mechanism in detail.	03
Q-7		Attempt all questions	(14)
	a)	Explain Ballast Resistance & Cam Angle and Contact Points Gap.	07
	b)	Explain construction details of a Spark Plug with the help of neat sketch.	07
		Differentiate Hot and Cold Spark Plug.	
Q-8		Attempt all questions	(14)
	a)	List types of MPFI system .Explain any one type in detail with neat sketch.	07
	b)	Explain the requirement of sensors in automobiles and explain any two sensors in	07
		detail	

