## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-VI (NEW) - EXAMINATION - SUMMER 2016

Subject Code:2162407 Date:09/05/2016

**Subject Name: Electrical Power Utilization & Traction** 

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.

Q.1	(a)	Write a brief note on EMU.	03
	<b>(b)</b>	Describe advantages of electric traction.	04
	(c)	Explain selection of motors for different types of domestic loads	<b>07</b>
Q.2	(a)	Explain electric braking.	03
	<b>(b)</b>	Describe working of AC series motors.	04
	(c)	Write a short note on advantages of electric drives.	<b>07</b>
		OR	
	<b>(c)</b>	Write a brief note on Selection of drive for applications of flywheel.	<b>07</b>
Q.3	<b>(a)</b>	Explain Different type of lamps.	03
	<b>(b)</b>	Write a brief note on LED Lighting in detail.	04
	<b>(c)</b>	Explain Induction heating.	<b>07</b>
		OR	
<b>Q.3</b>	<b>(a)</b>	Describe Advantages of electrical heating.	03
	<b>(b)</b>	Write a brief note on applications of Dielectric heating in various industrial fields.	04
	<b>(c)</b>	Describe Dielectric heating.	<b>07</b>
Q.4	(a)	Explain advantages of electric welding	03
	<b>(b)</b>	Explain principles of resistance welding.	04
	<b>(c)</b>	Explain in detail projection seam and butt, welding	<b>07</b>
		OR	
Q.4	<b>(a)</b>	Comparison between AC and DC arc welding.	03
	<b>(b)</b>	Describe principle of galvanizing and its application	04
	<b>(c)</b>	Explain process of electro-deposition - clearing	07
Q.5	(a)	Explain different systems of electric traction.	03
	<b>(b)</b>	Description of Electrical circuit used in refrigerator.	04
	<b>(c)</b>	Describe block diagram of an electric locomotive with description of various equipment and accessories	07
		OR	
Q.5	(a)	Describe refrigeration cycle.	03
	<b>(b)</b>	Explain principle of air conditioning.	04
	(c)	Explain types of motors used for electric traction	07

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