

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2021****Subject Code:2160907****Date:10/08/2021****Subject Name:Utilization of Electrical Energy and Traction****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
Q.1	(a) State advantages of electric heating.	03
	(b) State different method of electric braking. Explain any one in detail.	04
	(c) Explain speed-Time curve of a main line electric traction system.	07
Q.2	(a) State factors governing selection of the drive.	03
	(b) What are the different traction system? What are the requirements of the ideal traction system?	04
	(c) What are the merits and demerits of individual drive and group drive.	07
OR		
Q.3	(c) How selection of a motor is done for a particular application?	07
	(a) Different modes of heat transfer.	03
	(b) Write short note on Dielectric heating.	04
	(c) Explain different types of resistance welding.	07
OR		
Q.3	(a) Classification of electric heating system.	03
	(b) Write short note on induction heating.	04
	(c) Compare arc welding and resistance welding	07
Q.4	(a) Explain the terms: 1) Lumen 2) Luminous flux 3) luminous intensity	03
	(b) What is MIG and TIG welding.	04
	(c) Explain desirable characteristics of traction motor.	07
OR		
Q.4	(a) What are the various applications of electrolysis.	03
	(b) Requirements of good heating element.	04
	(c) What is schedule speed? Also state factors affecting schedule speed.	07
Q.5	(a) What is an electro deposition?	03
	(b) State and explain the inverse square law of illumination. State its limitations.	04
	(c) Explain electric circuit used in refrigeration.	07
OR		
Q.5	(a) What is electroplating?	03
	(b) Write short note on water cooler.	04
	(c) Explain laws of electrolysis.	07
