Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2162407 **Date: 24/10/2016**

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)**	Discuss Advantages of Electrical Drives in detail	**07**
	(b)	Classify electric drives and state the factors affecting selection of drive.	**07**
Q.2	**(a)**	Discuss the Advantage of Electrical Heating in detail.	**07**
	(b)	Explain different types of Electric breaking for Electric motor drives.	**07**
		OR	
	(b)	Explain eddy current heating and its application.	**07**
Q.3	**(a)**	State and explain laws of illumination	**07**
	(b)	Explain principle of operation of a sodium vapor lamp giving its neat sketch	**07**
		OR	
Q.3	**(a)**	An electric toaster consists of two resistance elements each of 100 ohms. Calculate the power drawn from 250 volts ac single phase supply, when the elements are connected in (i) parallel (ii) series.	**07**
	(b)	Explain flux control method for speed control of d.c. shunt motor.	**07**
Q.4	**(a)**	Explain different types of resistance welding.	**07**
	(b)	State and explain faraday's laws of electrolysis.	**07**
Q.4	**(a)**	Explain process of electroplating.	**07**
	(b)	Explain dielectric heating and give its applications.	**07**
Q.5	**(a)**	Using the simplified trapezoidal speed time curve derive an expression for the maximum speed in terms of acceleration, retardation, distance between stops and actual time of run between stops.	**07**
	(b)	Discuss the role of Air Conditioning in our day to day life.	**07**
Q.5	**(a)**	Explain clearly speed time curves for different services.	**07**
	(b)	Suggests suitable A.C. and D.C. drives for following applications. Give reasons for same (i) Lifts (ii) Lathe (iii) Blower (iv) Rolling mills.	**07**

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