Seat No.:	Enrolment No.
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Subject Code: 180902

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VIII.EXAMINATION – WINTER 2016

Date: 20/10/2016

	Tim	ject Name: Electrical Power Utilization e: 02:30 PM to 05:00 PM Total Marks: 70 uctions: 1. Attempt all questions.	
		 Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
Q.1	(a)	Define electric drive. Classify it in detail.	07
	(b)	Draw and explain speed time curve for train movement. Also define:1) Crest speed 2) Average speed and 3) Schedule speed.	07
Q.2	(a)	Define electric braking and explain any two methods of it detail.	07
	(b)	The initial temperature of a machine is 45°C.Calculate the temperature of the machine after 1.2 hour if its final steady temperature rise is 85°C and the heating time constant is 2.4hours.The ambient temperature is 25°C.	07
		OR	
	(b)	Draw and explain heating curve of electrical machines.	07
Q.3	(a) (b)	Draw a diagram of A.C. Electric locomotive and explain function of each part of it. What is tractive effort? Explain it with necessary mathematical equations.	07 07
		OR	
Q.3	(a)	Define electric heating and explain advantages of electric heating.	07
	(b)	Write short note on: Arc heating	07
Q.4	(a)	Define Resistance welding and explain its types.	07
	(b)	Write short note on: High frequency eddy current heating.	07
0.4	(.)	OR	05
Q.4	(a) (b)	Explain power supply used for electrolytic process. State and explain Faraday's laws of electrolysis. Also define current efficiency and	07 07
	(6)	energy efficiency.	07
Q.5	(a)	State and explain laws of illumination.	07
	(b)	Explain types of lighting schemes.	07
		OR	
Q.5	(a)	Write short note on: Factory lighting.	07
	(b)	Discuss the factors governing the selection of motors for particular service.	07
