Sea	t No.:	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER II (OLD) – • EXAMINATION – SUMMER 2016	
	•	Code: 1720711 Date:21/05/20	16
Tir	ne:10 cructio 1. 2.	Name: Electrical Power Utilization 0:30 am to 01:00 pm Total Marks: ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	70
Q.1	(a) (b)	What do you mean by Hybrid Electrical Vehicle? Explain the technology of Hybrid electric vehicles. Explain basics of Air-conditioning. Explain in detail the function of complete air conditioning system.	07 07
Q.2	(a)(b)	Draw the typical speed-time curve for main line service and explain its different parts. Define Electric braking. Explain different types of Electric braking. OR	07 07
	(b)	Define electric traction. Enlist requirements of ideal traction system.	07
Q.3	(a) (b)	A train between two stations 1.6 km apart is running at an average speed of 30 kmph, assumes to follow simple quadrilateral speed-time curve. If maximum speed 64 kmph, acceleration to 2 kmphps, coasting and braking retardation 0.16 kmphps and 3.2 kmphps respectively. Find out duration of acceleration, coasting and braking periods. Define Tractive Effort. Derive equation for total Tractive effort for train moving down gradient.	07
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Q.3	(a) (b)	Explain Ajax Wyatt type induction furnace with diagram. Explain applications of high frequency eddy current.	07 07
Q.4	(a) (b)	State and explain laws of illumination. Define: Illumination, MHCP, MSCP, MHSCP, Lux, Glare, Lumen. OR	07 07
Q.4	(a) (b)	What is electric welding? Explain resistance and arc electric welding. Explain construction and working of HPMV lamp.	07 07
Q.5	(a)	Explain electro deposition processes and discuss various factors governing the electro deposition processes.	07
	(b)	Explain construction and working of washing machine.	07

(a) Explain construction and working of microwave oven.(b) State and explain faraday's law of electrolysis.

Q.5

OR

07 07