Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

PDDC - SEMESTER-V EXAMINATION - WINTER 2015

Subject Code:X50901			Date:10/12/2015	
Tiı	•	<ul><li>Attempt all questions.</li><li>Make suitable assumptions wherever necessary.</li></ul>	: 70	
Q.1	(a) (b)	Explain different types of resistance welding. What is power factor? Explain methods of power factor improvement.	07 07	
Q.2	(a) (b)	Explain following terms.  (i) Demand factor (ii) Load factor (iii) Diversity factor (iv) Load curve (v) Load duration curve (vi) Base load and peak load What is tariff? Explain types of tariff.	07	
	<b>(b)</b>	OR State and explain laws of illumination.	07	
Q.3	(a) (b)	What is depreciation? Explain methods to find out the depreciation.  A distribution transformer costs Rs. 2,00,000 and has a useful life of 20 years. If the salvage value is Rs. 10,000 and rate of annual compound interest is 8%. Calculate the amount to be saved annually for replacement of the transformer after the end of 20 years by sinking fund method.  OR	07 07	
Q.3	(a) (b)	Explain dielectric heating. Also write its advantages and applications.  What are the various applications of electrolysis? Explain extraction of metals.	07 07	
Q.4	(a) (b)	Explain economics choice of equipment with suitable example.  A synchronous motor improves the power factor of a load of 200 kW from 0.8 lagging to 0.9 lagging. Simultaneously the motor carries a load of 80 kW. Find (i) the leading kVAR supplied by the motor (ii) kVA rating of the motor and (iii) power factor at which the motor operates.  OR	07 07	
Q.4	(a) (b)	Explain polar curve. Draw the polar curve for different type of light fixture. Discuss the comparison between arc welding and resistance welding. Also write types of arc welding.	07 07	
Q.5	(a) (b)	Explain Faraday's laws of electrolysis.  Discuss different lighting schemes and methods of lighting.  OR	07 07	
Q.5	(a) (b)	Write technical note on sodium vapour lamp Explain direct and indirect heating using arc furnace.	07 07	
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