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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI (NEW) EXAMINATION – WINTER 2018

Subject Code:2162407   **Date:20/11/2018**

Subject Name:Electrical Power Utilization & 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.**

Q.1	**(a)**	Explain refrigeration cycle with the help of neat diagram.	03
	(b)	Draw the electrical circuit of a refrigerator and explain in brief.	04
	(c)	Write a technical note on : Incandescent Lamp.	07
Q.2	**(a)**	Explain Plugging of a DC motor.	03
	(b)	List advantages of electric drives.	04
	(c)	Explain the application of flywheel in load equalization with necessary diagram and equations.	07
		OR	
	(c)	List and explain factors governing selection of electric motor for a particular service.	07
Q.3	**(a)**	List the properties of resistance heating element.	03
	(b)	Explain infrared heating in brief.	04
	(c)	Explain Ajax Wyatt vertical core type induction furnace.	07
		OR	
Q.3	**(a)**	List advantages of electric heating.	03
	(b)	Explain direct arc furnace.	04
	(c)	Explain Dielectric heating. List its advantages and applications.	07
Q.4	**(a)**	Explain Faraday's law of Electrodeposition.	03
	(b)	Explain production of chemicals by electrolytic process.	04
	(c)	List types of Resistance welding. Explain Butt welding in detail.	07
		OR	
Q.4	**(a)**	Explain the factors affecting scheduled speed in traction.	03
	(b)	Explain speed time curve for main line service.	04
	(c)	Write a technical note on : Electroplating.	07
Q.5	**(a)**	List advantages and disadvantages of welding.	03
	(b)	Explain metal arc welding in brief.	04
	(c)	Write a technical note on : Pantograph collector.	07
		OR	
Q.5	**(a)**	Draw the block diagram of electric locomotive.	03
	(b)	List advantages of electric traction.	04
	(c)	Compare DC arc welding and AC arc welding.	07

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