Seat No.:	Enrolment No.
Jeat 110	

		GUJARAT TECHNOLOGICAL UNIVERSIT	Y
		BE - SEMESTER-VI (NEW) - EXAMINATION - SUMMER	2017
Sub	ject	Code: 2162407 Date	e: 01/05/2017
Sub	ject	Name: Electrical Power Utilization & Traction	
Tim	ie: 10	0:30 AM to 01:00 PM Tot	al Marks: 70
Instr	uction	ns:	
	1.	Attempt all questions.	
		Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	MADIZO
			MARKS
Q.1		Short Questions	14
	1	Which types of traction system is adopting Metadyne control metho	d?
	2	In arc heating, the electrodes used are made up of?	
	3	Which method is used for heating of non-conducting materials?	
	4	What are the properties of heating element?	
	5	Filaments of electric bulbs are made of which material?	
	6	Enlist various specifications of FKW motor.	
	7	In illumination technology total lumens emitted by source / to	otal
		lumens available after waste of light is equal to?	
	8	Unit of luminous intensity is?	
	9	Give differences between direct & indirect type of resistance heating	5 .
	10 11	List out various application of infra red heating. What is TIG & MIG welding?	
	12	Discuss the principle of galvanizing in brief.	
	13	What is eco friendly refrigerator?	
	14	Draw speed time curve of electric traction.	
	17	Draw speed time curve of electric traction.	
Q.2	(a)	Draw & discuss block diagram of electric drive.	03
	(b)	Explain Characteristics of different mechanical loads.	04
	(c)	Discuss different breaking scheme used in electric machine.	07
		OR	
	(c)	What are different criteria to select electric drive for proper operation	on? 07
Q.3	(a)	Discuss working of discharge lamp in brief.	03
	(b)	Explain different lighting scheme in detail	04
	(c)	Discuss operation of induction heating with necessary diagrams. OR	07
0.2	(a)	Define: Illumination & Luminous flux.	02
Q.3	(a) (b)	List out advantages of electric heating.	03 04
	(c)	What are the properties of resistance heating elements?	07
	(0)	what are the properties of resistance heating elements:	U/
Q.4	(a)	Give comparison between AC & DC welding methods.	03
٧.,	(b)	Discuss principals of seam welding with necessary diagrams.	04
	(c)	Explain refrigeration cycle with necessary diagrams.	07

OR

Describe various factors affecting scheduled speed of traction.

What are the types of electric motors used for electric traction

Enlist various factors affecting electro-deposition.

Describe electric circuit used in water cooler.

List out various advantages of electric traction.

Explain principle of arc production.

Q.4

Q.5

(a)

(b)

(c)

(a)

(b)

(c)

1

03

04

07

03

04

OR

Q.5	(a)	Enlist & explain different electric traction system.	03
	(b)	Write a short note on: Metro railways	04
	(c)	Explain electrical block diagram of an electric locomotive with	07
		description of various equipment and accessories.	
