Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION – SUMMER 2013

•		Code: 150906 Date: 23-05-20	013
-	: 10	Name: Electrical Power Utilization and Traction 0.30 am - 01.00 pm Total Marks: s:	70
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	What is electrical drive? Explain the advantages and disadvantages of electrical drives.	07
	(b)	State the methods of speed control of three phase induction motor and explain speed control of slip ring induction motor with neat diagram.	07
Q.2	(a)	A 250 volt d.c. shunt motor has armature resistance of 0.25 ohm, on load it takes an armature current of 50 Amp and runs at 750 r.p.m. If the flux of motor is reduced by 10% without changing the load torque, find the new speed of the motor.	07
	(b)		07
	(b)		07
Q.3	(a)	Define average speed ,crest speed and schedule speed and discuss the factors which affect schedule speed of a train	07
	(b)	•	07
Q.3	(a)		07
	(b)		07
Q.4	(a) (b)		07 07
Q.4	(a) (b)	Explain fluorescent lamp with diagram.	07 07

(b) The illumination of drawing office $30 \text{ m} \times 10 \text{ m}$ is to have a value of 250 lux and is to be provided by number of 300 watt filament lamps. If the utilization factor is 0.4 and depreciation factor is 0.9, determine the number of lamps required. The efficiency of each lamp is 14 lumens per watt.

OR

Q.5 (a) Explain power supply for electrolysis processes.
(b) Explain induction heating.
07
07
