

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3152410****Date:01/02/2021****Subject Name:Power Electronics in Consumer Products****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Define Power Electronics. With the help of block-diagram explain power electronic system.	03
	(b) Enlist any four important applications of power electronics in daily life.	04
	(c) Enumerate universal advantages and disadvantages of power electronic products.	07
Q.2	(a) Write a short note on CFL lamp.	03
	(b) Compare LED based tube light with conventional tube light.	04
	(c) Draw and explain the block diagram of IOT based controllable / dimmable lights.	07
Q.3	(a) Discuss power electronic converter used in washing machine.	03
	(b) Distinguish Inverter based Air Conditioner with conventional Air Conditioner.	04
	(c) Explain inverter based Air Conditioner. How it censors the bill?	07
Q.4	(a) Give a technical note on Vacuum cleaner with specification.	03
	(b) Discuss BLDC fan. Enlist the disadvantages of BLDC fan.	04
	(c) Explain power electronics circuits used in Elevator. Enumerate the advantages of PE based Elevators over conventional Elevators.	07
Q.5	(a) Write the specification of mobile charger and compare it with Tablets Charger.	03
	(b) Discuss regulated power supply used for internet Routers / Switches.	04
	(c) Draw and explain regulated power supply applicable to LED TV.	07
Q.6	(a) Discuss Induction Cooker.	03
	(b) Explain Induction cook tops & plats.	04
	(c) Draw and explain power electronic converter used in Induction water heater. Enlist its advantages over conventional water heater.	07
Q.7	(a) Write short notes on UPS.	03
	(b) Discuss types & role of converters in solar based agricultural pump.	04
	(c) Illustrate power electronics converter used in small roof top Solar Power Plant.	07
Q.8	(a) Write role of power electronics in Advertising Display Unit.	03
	(b) Discuss on charger for electric vehicle.	04
	(c) Draw and explain basic block diagram of ELCB.	07
