

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER- VII EXAMINATION – SUMMER 2026****Subject Code:3170920****Date:08-06-2026****Subject Name:Industrial Electrical Systems****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.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain factors to be considered for the selection of cables.	03
	(b) Write a technical note on: Earthing design	04
	(c) Draw and explain single line diagram of a house wiring system.	07
Q.2	(a) Explain requirements of commercial installation of electrical system.	03
	(b) Explain conduit wiring system.	04
	(c) Explain procedure for deciding type and numbers of luminaries for a specific application.	07
	OR	
	(c) Explain different types of internal wiring.	07
Q.3	(a) Explain need of UPS system.	03
	(b) Write a technical note on: CFL	04
	(c) Define lightning and explain lightning strokes.	07
	OR	
Q.3	(a) Explain electrical system for elevators.	03
	(b) Define: i) Luminous flux ii) Glare iii) Illumination iv) Waste light factor.	04
	(c) Explain PCC and MCC panels.	07
Q.4	(a) Explain steps for energy saving in illumination systems.	03
	(b) Explain Law of inverse square in reference to illumination.	04
	(c) Write a technical note on : DG systems	07
	OR	
Q.4	(a) Explain Incandescent lamp with a neat diagram.	03
	(b) Write a technical note on: Flood lighting.	04
	(c) Explain concept of industrial load and its categories.	07
Q.5	(a) Explain Cleat wiring.	03
	(b) List advantages of process automation in manufacturing industry.	04
	(c) Draw and explain PLC based control system design.	07
	OR	
Q.5	(a) Explain rules for executing electrical wiring work.	03
	(b) Explain role of automation and its applications.	04
	(c) Explain SCADA for distribution automation system.	07
