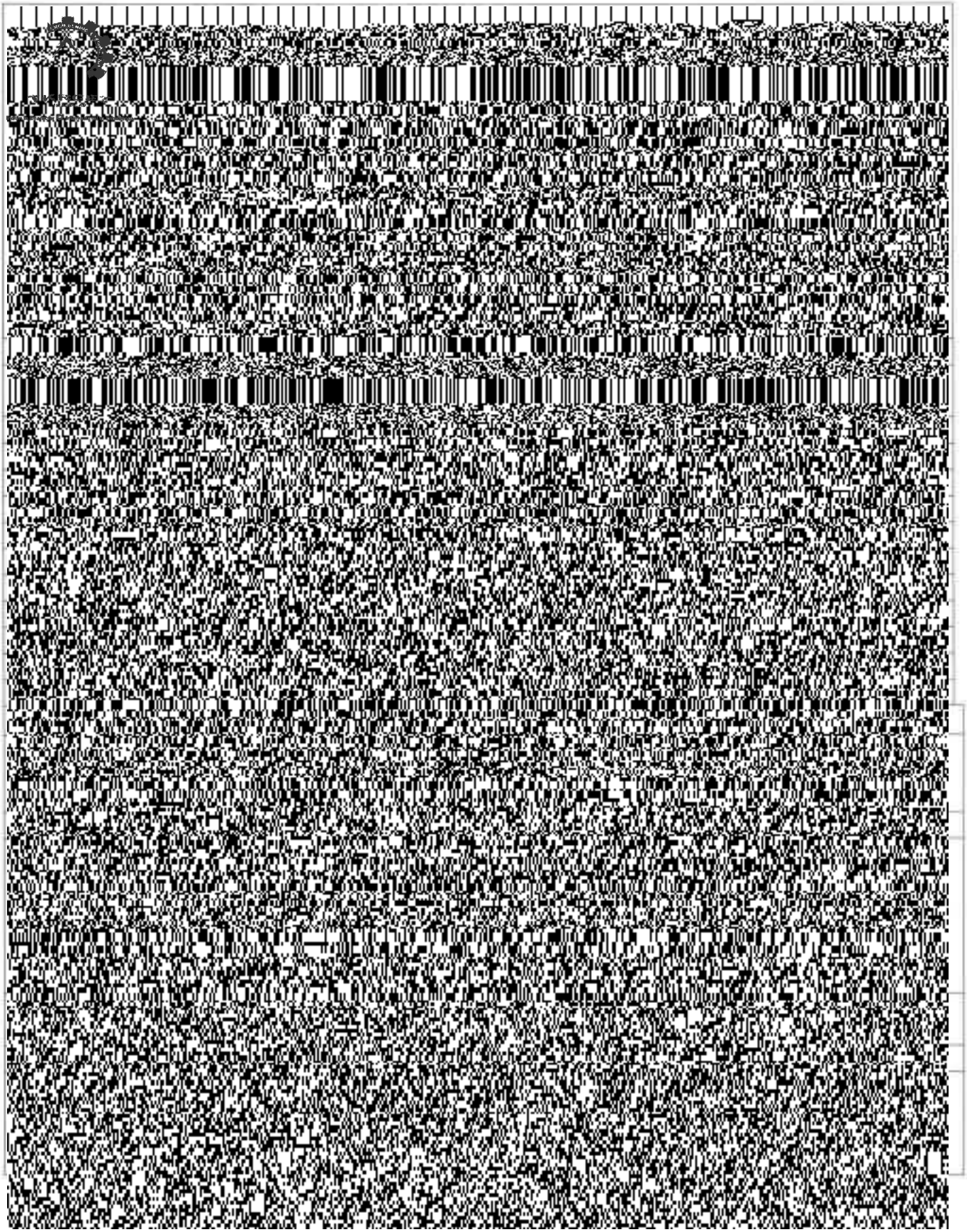

	current. [5M]		
6	A. Explain the operation of transformer on load condition. [5M] B. Derive the condition for maximum efficiency of a transformer? [5M]	3	2 3
	OR		
7	Derive the EMF equation of transformer. [10M]	3	4
8	A. Derive emf equation of a dc generator? [5M] B. Calculate the emf generated by a 6 pole lap wound armature with 65 slots and 12 conductors per slot, when driven at 1000 rpm. The flux per pole is 0.02 Wb. [5M]	4	3 4
	OR		
9	A. Explain working principle of three phase induction motor. [5M] B.A 4 pole, three phase induction motor is supplied from 50 Hz supply. Find it's synchronous speed? On full load its speed is observed to be 1410rpm. Find it's full load slip? [5M]	4	2 4
10	A. Explain voltage operated ELCB. [5M] B. Explain different types of cables. [5M]	5	2 2
	OR		
11	A. State the various types of batteries and their applications. [5M] B. What is battery backup device? Explain it's need. [5M]	5	2 2