

TED (21) 2032
(Revision-2021)

A23 – 2106220071

Reg.No.....
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**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2023**

ELEMENTARY CONCEPTS OF ELECTRICAL SYSTEMS

[Maximum marks: 75]

(Time: 3 Hours)

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define Electric shock	M1.01	R
2	Name two equipment for protection against overload.	M1.02	R
3	List any two materials used for making filament.	M2.01	R
4	List two advantages of electric heating.	M2.02	R
5	State Faradays first law of electrolysis.	M2.04	R
6	Define watt-hour efficiency of battery.	M3.01	R
7	List two examples of paramagnetic materials.	M3.04	U
8	State Lenz's Law.	M4.02	R
9	Formula for energy stored in a capacitor is.....	M4.04	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

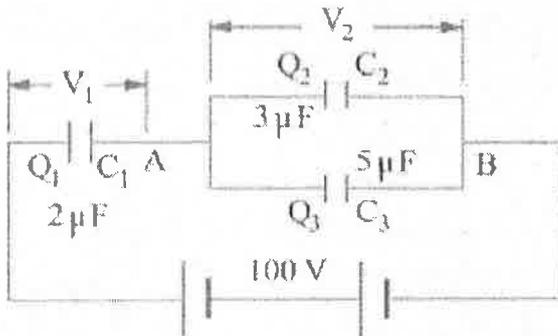
		Module outcome	Cognitive level
1	List any six precautions taken against electric shock.	M1.01	R
2	Illustrate the schematic diagram of ELCB	M1.02	U
3	Write six electrical equipment that comes under mandatory star labelling program.	M1.04	R
4	Explain indirect resistance heating with schematic diagram	M2.03	U
5	Define electroplating. Mention 4 applications of electroplating.	M2.04	R
6	Write any three comparisons of primary and secondary batteries.	M3.01	U
7	Summarize the charging indications of a fully charged Lead acid cell.	M3.02	U
8	Illustrate the series connection of battery. Also write the emf and current equations.	M3.03	U
9	State Faraday's law of electromagnetic induction	M4.02	R
10	Explain the term electric field intensity	M4.03	U

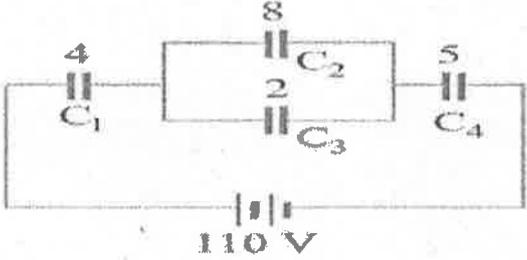
PART C

Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Calculate the electricity bill amount for a month of April, if 4 bulbs of 40W for 5 hours, 4 tube lights of 60W for 5 hours, TV of 100W for 6 hours, Washing machine of 400W for 3 hours per day. The cost electricity is Rs.1.80	M1.03	A
IV	OR Illustrate BEE star labeling and identify various descriptions.	M1.04	U
V	Illustrate the working of Fluorescent lamp with a neat sketch. OR	M2.01	U
VI	Summarize any seven requirements of good heating material	M2.02	U
VII	Illustrate the working of Sodium Vapour Lamp with neat diagram OR	M2.01	U
VIII	State the principle of induction heating and explain with figure the core type induction heating..	M2.03	U
IX	Explain the instructions followed in the care and maintenance of Lead acid battery. OR	M3.02	U
X	Classify insulators based on temperature	M3.04	U
XI	Compare Electric and magnetic circuits.	M4.02	U
XII	OR Find the charges on capacitors shown in figure and the p.d. across them.	M4.04	A



XIII	<p>Solve the equivalent capacitance when capacitors connected in parallel</p> <p style="text-align: center;">OR</p>	M4.04	A
XIV	<p>In the circuit shown find</p> <div style="text-align: center;">  </div> <p>(1)Equivalent capacitance (2) Drop across each capacitor (3)Charge on each capacitor. All capacitances values are in μF</p>	M4.04	A
