

ATTINGAL EDUCATIONAL DISTRICT

WORK SHEET NO.1

STANDARD 10

PHYSICS (EM)

UNIT:-EFFECTS OF ELECTRIC CURRENT

1. Complete the table

Sl.No.	Device	Energy change
1	Electric Bulb	Electrical Energy \longrightarrow Light energy
2	Storage Battery (while charging)	-----
3	Mixie	-----
4	Electric oven	-----
5	Electric iron	-----

2. Match the following

A	B	C
Electric current(I)	QV	Watt(W)
Work done(W)	W/t	Ampere(A)
Power (P)	Q/t	Joule(J)

3. Select the correct forms of Joules law

$H=Vit$

$H = \frac{V^2}{R} t$

$H = \frac{V^2}{I} t$

$H = I^2 Rt$

$H = V^2 Rt$

4. Complete the table

Sl.No	Resistances of Conductor R(Ω)	Intensity of current I(A)	Time for which current flows t (s)	Heat generated I^2Rt (J)	Change in Heat (H)
1	2R	I	t	$2I^2Rt$	Twice(2H)
2	R	2I	t		
3	R/2	I	t		
4	R	I/2	t		
5	R	I	2t		
6	R	I	t/2		

5. Based on the above table which among the following is the most important factor

which influence the heat developed in a conductor

(1)resistance (2)Current (3) time

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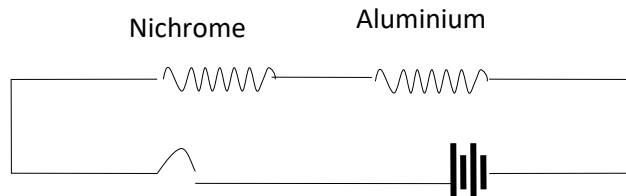
WORK SHEET NO.2

STANDARD 10

PHYSICS (EM)

UNIT:-EFFECTS OF ELECTRIC CURRENT

1. A Nichrome wire and Aluminium wire of same length and cross section are connected in series



- (a) Which wire generate more heat when switched on the circuit, why?
 (b) What are the factors on which the heat developed in a conductor depends?
 (c) State the law that connects the above factors and write its equation?

2. Complete the table

Mode of connection of resistances in Ω	Voltage obtained in resistance (V)			Current in resistance (I)			Effective resistance (by analysing the current)
	2Ω V_1	1Ω V_2	Effective Voltage	2Ω I_1	1Ω I_2	A I	
2Ω 1Ω 	4	2	--	--	--	2	increases/decreases
2Ω 1Ω	--	--	6	3	6	--	increases/decreases

3. Analyse the table and \checkmark the best suited

Mode of connection of the resistances	Effective resistance	Voltage obtained in Each Resistance	Current through each resistance
2Ω 1Ω 	increases/decreases	Same /different	Same /different
2Ω 1Ω	increases/decreases	Same /different	Same /different

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WORK SHEET NO.3

STANDARD 10

PHYSICS (EM)

UNIT:-EFFECTS OF ELECTRIC CURRENT



Fig.1

Fig.2

Fig.3

1. Identify the appliances in the figure; write the energy conversions taking place in this appliance
2. (a) Name the part in which electrical energy changes into heat energy?
(b) Which material is used to make it?
3. What are the peculiarities of heating coil?
4. Nichrome is the alloy of Nickel,-----and-----
5. How does a safety fuse work?
6. What are the precautions to be taken when a fuse wire is included in a circuit?
7. Distinguish between short circuit and over loading?
8. Which are the circumstances that cause the high electric current leading to danger?
9. When heat is generated, why does the fuse wire melt?
10. Amperage is the ratio of -----and -----