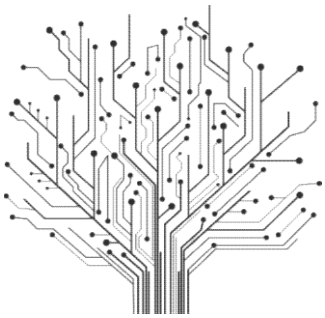
Name: Class:

Total Possible Marks: 23

Circuits Current and PD



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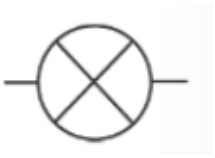
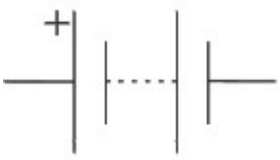
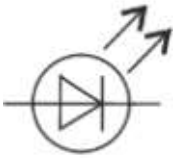
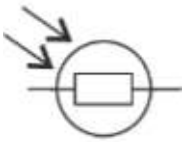
1. Match the circuit symbol with its short description:

a.	LED (light emitting diode)	a.	
b.	Diode	b.	
c.	LDR (light dependent resistor)	c.	
d.	Filament lamp (or bulb)	d.	
e.	Battery	e.	

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2. An electric (a)_____ is a (b)_____ of electric (c)_____. (d)_____ (and other power supplies) always have a (e)_____ terminal (the (f)_____ line) and a (g)_____ terminal (the (h)_____ line). Current (i)_____ from positive to negative (j)_____ a circuit.

charge *shorter* *positive* *around* *Cells* *longer*
flows *flow* *current* *negative*

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3. Look at the statements which follow, and decide whether or not the statement is true or false.

a. (T) (F) A voltmeter measures current. It is always connected across a component, this is known as "connected in parallel".

b. (T) (F) An ammeter measures current. It is always connected in line with a component, this is known as being "connected in series.

c. (T) (F) Potential difference is a measure of the rate of flow of charge.

d. (T) (F) Electrical charge will only flow around a complete circuit if there is a potential difference.

e. (T) (F) Potential difference is the "driving force" which pushes the charge around the circuit, it is measured in amperes.

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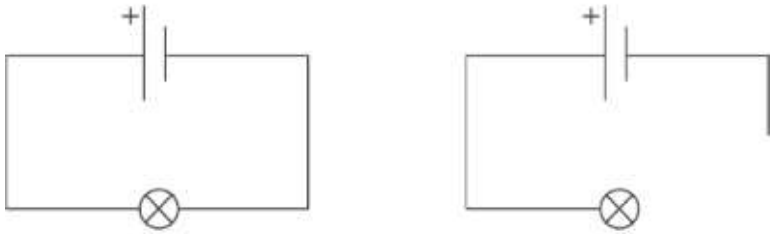
4.



The diagram shows two circuits. In one of the circuits the filament bulb will be lit and in the other it will not be. In a few lines explain why this is.

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5. The electric current is a flow of electric charge. The size of the current is the rate of flow of charge and is measured in amperes (or amps) denoted A. When current flows past a point in the circuit for a length of time, and the charge that is passed is given by the formula:

$$Q = I \times t$$

Where Q is the charge flow in Coulomb
t is the time in seconds
I current in amperes

___ 2 a. A battery charger passes a current of 2.5 A through a cell over a period of exactly 4 hours. How much charge does the charger transfer to the cell altogether?

___ 2 b. The current through a lamp is 0.2 A. Calculate the time taken for 50 C of charge to pass through the lamp

___ 2 c. A cell has a charge of 102 C passing through it every minute. Calculate the current flowing through the cell.