Why can't light sources below the threshold frequency produce photoelectrons? - *CORRECT ANSWERS* -The photon energy is less than the work function

How do photons and electrons interact? - *CORRECT ANSWERS* -A single photon can be absorbed/emitted by a single electron which gains/loses the energy of the photon.

What is the effect on an electron of absorbing a photon? - *CORRECT ANSWERS* -The electron gains the energy of the photon

What effect does increasing the frequency of a monotochromatic light source have on photoelectrons produced? **COLOR OF ANSWERS** -Photoelectrons will have a greater maximum kinetic energy

What is the effect of increasing the intensity of a monochromatic light source on photoelectrons produced? - *CORRECT ANSWERS* -More photoelectrons will be produced but they will have the same maximum kinetic energy

Why does the kinetic energy of photoelectrons from monochromatic light vary in the photoelectric effect? - *CORRECT ANSWERS* -The work function is a minimum energy. Some electrons are liberated from deeper into the metal and require more energy to be liberated.

What two factors that determine the maximum kinetic energy of photoelectrons? - *CORRECT ANSWERS* -The frequency of the light and the work function of the metal

What is the value of the prefix m (milli) - CORRECT ANSWERS -10⁻³

What is the value of the prefix μ (micro) - CORRECT ANSWERS -10⁻⁶

What is the value of the prefix n (nano) - CORRECT ANSWERS -10⁻⁹

What is the value of the prefix p (pico) - CORRECT ANSWERS -10⁻¹²

What is the accuracy of measurements? - CORRECT ANSWERS - How close a measurements are to the true value.

What is the precision of measurements? - **FE SANSWERS** - How close to each other repeated measurements **IN**. **What is neasurement** or **FIO A D A D A D A D A D A D A D**

the measured value and the true value of the quantity.

What are random errors? - CORRECT ANSWERS - Measurement errors that occur due to results varying in an unpredictable way.

What is the main method for correcting for random errors? - CORRECT **ANSWERS** -Taking repeated measurements and finding the mean.

What are systematic errors? - CORRECT ANSWERS -A measurement error that causes the measurements to differ from the true value by a consistent amount for each measurement.

As a metal gets hotter what happens to its resitivity? - *CORRECT ANSWERS* -It increases.

What is meant by a negative temperature coefficient component? - *CORRECT* **ANSWERS** - One in which the resistance drops as temperature increases.

Why does resistance of a thermistor fall as temperature increases? - *CORRECT ANSWERS* -The number density of charge carriers increases.

What are thermistors commonly used in? - *CORRECT ANSWERS* -Temperature sensors.

Why does the resistance of an LDR as light etcasity changes? - *CORRECT* ANSWERS -Light increases the number density of change carriers in the LDR.

What are EDRs commonly as 9 in? - *CORRECT ANSWERS* -Light intensity sensors.

What happens to the resistance of an LDR as light intensity increases? - *CORRECT ANSWERS* -It decreases.

What is a kilowatt-hour (kWh)? - *CORRECT ANSWERS* -The energy supplied when 1kW of power is supplied for 1 hour.

How many Joules are equavlent to a kWh - CORRECT ANSWERS -3.6MJ

What is the total resistance of n identical resistors in series? - *CORRECT* ANSWERS -n x R

What is the total resistance of n identical resistors in parallel? - CORRECT ANSWERS -R \div n

How do you calculate the resistance of resistors in parallel? - *CORRECT* ANSWERS -1/RT=1/R1+1/R2...



What is the effect of connecting two identical resistors in parallel? - *CORRECT* **ANSWERS** -Resistance is halved

What is the effect of connecting two identical resistors in series? - *CORRECT ANSWERS* -Resistance is doubled

What is internal resistance? - *CORRECT ANSWERS* -The opposition to current created by the charge carriers having to flow through the source of EMF

What is the displacement of a wave? - *CORRECT ANSWERS* -The distance of a particle in the medium from it's equilibrium position in a particular direction.

What is the equilibrium position in wave motion? - *CORRECT ANSWERS* -The position of the medium when undisturbed by a wave.

What is the amplitude of a wave? - *CORRECT ANSWERS* -Maximum displacement of the medium from the equilibrium position.

What is the frequency of a wave? - *CORRECT ANSWERS* - Then Unber of wave cycles per second OR the number of waves passing a point per unit time

What is the time period of a wave? *OFRES ANSWERS* Time taken for one complete **OCN** ation OR time for whole wavelength to pass a fixed point.

What is the relationship between frequency and time period? - *CORRECT* ANSWERS f = 1/T or inverse proportionality

How many radians of phase are there in one complete wave cycle? - CORRECT ANSWERS -2 π rad

What term describes a phase difference of zero between two points on a wave? - *CORRECT ANSWERS* -In phase

Which way do waves refract when entering a material with a lower refractive index? - *CORRECT ANSWERS* -Away from the normal

What is the angle of refraction at the critical angle? - *CORRECT ANSWERS* - Ninety degrees

What are the conditions required for total internal reflection? - *CORRECT ANSWERS* -"Wave must be travelling in a material with a higher index and meeting a boundary with a material of lower refractive index.

The angle of incidence must be greater than the critical angle." - *CORRECT* ANSWERS -What two phenomena occur when awave goes from a higher to a lower refractive index at an angle of mcidence length an the critical angle? -*CORRECT ANSWERS* The ray is refracted and partially reflected.

What is the principle of superposition - *CORRECT ANSWERS* -When two waves meet at a point the resultant displacement is the (vector) sum of the displacements of the individual waves.

What is constructive interference? - *CORRECT ANSWERS* -When two waves superpose in phase causing an increase amplitude.

What is constructive interference? - *CORRECT ANSWERS* -When two waves superpose in antiphase causing a decreased amplitude.