Physics - ICS Part 1 Physics Chapter 1 Short Questions Test

Q1. Define the term error, uncertainty precision and accuracy in measurements?

Ans 1: **Errors:** The difference between measured value and actual value of a quantity is known as Error.
Uncertainty: An estimate of the possible range of an error is known as uncertainty. (OR)
The error which arises due to natural imperfections of the experimenter, the limitations of the apparatus and the changes in the environment during the measurement is known as uncertainty.
Precision: The measure of the consistency of measurements is known as precision. It requirements the magnitude of error in measurements.
Accuracy: The measure of correctness of a measurements is known as accuracy"
The Accuracy means to check how the measure values is closer to the actual value It is a relative is closer to the actual value.It is a relative error. it can be obtained by dividing the error with measured quantity The accuracy depends on the error is greater than smaller will be the accuracy of the measurement can be increased by taking several reading and then take their average

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Q2. Define meter and Kelvin.

Ans 1: Meter: One meter is the distance travelled by light in vacuum during a time of 1 /299, 792,458 seconds.
Kelvin: One kelvin is the fraction 1/273.16 of the thermodynamic temperature the triple point of water.

Q3. Define anhydrobiosis with an example

Ans 1: The ability to tolerate dehydration this process is called anhydrobiosis for example kangaroo rat a desert animal can tolerate dehydration without drinking water by feeding desert plants containing more carbohydrates which produce water of metabolism

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Q4. How the distance between interference fringes will be affected if the distance between the slits in Young 's experiment is doubled.?

Ans 1:

Q5. Deduce the dimensions of gravitational constant ?

Ans 1:

Q6. An old saying is that " A chain is only as strong as its weakest link , " What analogous statement can you make regarding measurement ?

Ans 1: The analogous statement is that the result of an experimental data which is as accurate as measurements can be used in the computation.

Q7. which base quantities has units mole and kelvin

Ans 1: Mole: Mole is unit of base quantity "Amount of a substance"

Ans 2: Kelin: Kelvin is unit of base quantity "Temperature"

Q8. Does dimensional analysis give any information on constant of proportionality that may appear in algebraic expression? Explain.

Ans 1: Dimensional analysis does not give any information about constant of proportionality in any expression.This constant can be determined by experiments.

Q9. Define system of units ? Give the name of various system of unit?

Ans 1: **System Units:**A complete set of unit for all physical quantities is known as system of units .
Explanation: There are several system of unit For example
Foot - pound - system (FPS)
Meter - kilogram -second system (MKS)
Centimetre - gram - second system (CGS)
But the most popular system id the system international (SI)
System International(SI): In 1960 on international committee agreed on a set of definitions and standards to describe the physical quantities. The system that was established is called system international (SI)
The system international is used throughout the world. Its unit are convenient for daily use .
The system international is build-up from three kinds of unit

- Base Unit
- Derived Units
- Supplementary Units

Q10. Add the mass given in kg up to appropriate precision: 2.189,0.089,11.8 and 5.32.

Ans 1: As m= 2.189+0.089 +11.8+5.32+19.398 kg
By appropriate precision m= 19.4kg
