Physics - ICS Part 1 Physics Chapter 1 Short Questions Test

Q1. Define prefixes and write two examples.

Ans 1: Prefixes: Prefixes are the words or letters added before a unit and stand for the multiples or sub-multiples of that unit

Ans 2: Examples: Kilo (k) mega (m), micro (m), milli (m) etc.

Q2. What role SI units have played in the development of science

Ans 1: With the development of science and technology, S.I units fulfill the serious need of for a commonly accept system of unit all over the world.

Q3. Write the main type of error.

Ans 1: There are two types of errors possible I n physical measurements.

1. Random error
2. Systematic error

Q4. Differentiate between Base Units and Derived Units.

Ans 1: Base Units:The units associated with the base quantities are called base units. Other units are derived from base units . There are meter, Kilogram, second, candela, mole, ampere, kelvin.

Derived Units:The units associated with the derived quantities are called derived units. SI units for measuring all other physical quantities are derived from the base and supplementary units. For example , newton, joule,watt and pascal are derived units.

Q5. 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

Q6. Explain " Rounding off numbers ?

Ans 1: The quantities in a measurement are always rounded off to certain level of accuracy. The following rules must be observed while rounding off a number.

1. If the dropping digits is less than "5" then the last retained digit is kept as it is For example 863.73 is rounded to 863.7
2. If the dropping digits is greater than '5' then the last retained digits is increased by '1' for example 9.66 is rounded to 9.7
3. If the dropping digits is '5' and the last retained digit is even then it will be remain uneffected. For example 66.45 is rounded to 66.4
4. If the dropping is '5' and the last retained digit is add, then it will be increases by '1' for example 76.35 is rounded to 76.4

Q7. What is Scientific Notation .Explain ?

Ans 1: Writting number in power of ten or standard from $N=M*10^n$is called scientific Notation.
Explanation: With the help of Scientific Notation, we can express very large number or small number very easily. A large or small number "N" can be expressed in term of a number "M" and a power of '10 '
$N= M * 10^n$----------(1)
In equation 1 "M" represents a number whose first digit is non-zero digit. "n" represents the power of 10, which may be positive or negative
For example 150,000,000,000 m can be expressed in scientific notation as under
150,000,000,000 m = $1.5* 10^{11}$m

Q8. Explain the term " precision" and accuracy ?

Ans 1: The 'Precision represents the magnitude of error in a measurement while the accuracy means to check how the measured values are closer to the actual value. The accuracy represents the relative error. It can be obtained by dividing the error with measured quantity.
The accuracy depends on the error if the error is greater than smaller will be the accuracy of the measurements and vice versa.
The accuracy of the measurements can be increased by taking several readings and take their average.

Q9. How can you define term wave?

Ans 1: A wave is disturbance in the medium which causes the particles of medium to undergovibratory motion

Q10. Are radius and steradian the basic units of SI? Justify your answer?

Ans 1: Radian and steradians are not the basic units of SI. These are the units of purely geometrical quantities i,e plane angle and solid angle respectively. The general conference on weight and measures has not yet classified there units under either base unit or derived units these are called supplementary units.