**Gulistan Academy**

Physics (11th) Max.Marks = 40

Chapter No.1 (Measurements) Pass Marks = 20

Time Allowed = 1 Hour

**Question No.1: Give short answers. (2x12 = 24)**

1. *What is Physics? Write some of its Interdisciplinary Areas.*
2. *Define Nuclear Physics and Solid State Physics.*
3. *Define Radian & Steradian.*
4. *Write the following in Scientific Notation:*
5. *0.0023 m* ***(b)*** *134.7 s* ***(c)****3 80 000 000 m* ***(d)*** *0.090 s*
6. *What is Systematic Error? How can it be corrected?*
7. *What is the number of significant figures in the following measurements?*
8. *1.009* ***m******2-*** *0.00450* ***kg*** ***3-*** *1.66 x 10-27* ***kg******4-*** *2016* ***s***
9. *How can you find the total uncertainty in the average value of many measurements?*
10. *Check the correctness of the relation* *where* ***v*** *is the speed of transverse wave on a stretched string of tension* ***F****, length* ***l*** *and mass* ***m****.*
11. *Give the drawbacks to use the period of a pendulum as a time standard.*
12. *Does a dimensional analysis give any information about the constant of proportionality? Explain.*
13. *Write the dimensions of* ***(i)*** *Pressure* ***(ii)*** *Density.*
14. *A light year is the distance light travels in one year. How many meters are there in one light year?*

**Question No.2: (5+3 = 8)**

1. *What do you mean by Precision and Accuracy in a measurement? How they are related to each other. Explain with suitable examples?*
2. *Show that the expression* *is dimensionally correct, where is the velocity at , a is acceleration and is the velocity at time t.*

**Question No.3: (5+3 = 8)**

1. *Describe “Dimensions of Physical Quantities” thoroughly.*
2. *Suppose, we are told that the acceleration of a particle moving in a circle of* ***radius r*** *with uniform* ***speed v*** *is proportional to some power of r, say, and some power of v, say, determine the powers of r and v?*

***Best of luck***