

**1<sup>st</sup> Unit test- (Question Bank )**  
**Class: All branches (First Sem K scheme)**  
**Basic Science (BSC - 311305)**

**Unit I. Units and Measurement**

**2 marks question**

- 1) Define unit and what are the requirements of standard unit?
- 2) Define fundamental and derived quantities. List two supplementary fundamental physical quantities with their unit.
- 3) Define significant figure and Significant digits.
- 4) Define Scalar and vector physical quantity with example.
- 5) Classify the following quantities as fundamental and derived quantities.  
Length, Force, temperature, mass, volume, acceleration, area, distance.
- 6) The mass of object is  $37.6 \pm 0.02$  gm estimate the percentage error in the measurement.
- 7) Who was the Bhaskaracharya and which book he wrote.
- 8) Distinguish between Vernier caliper and Micrometer screw gauge.

**4 marks question**

- 1) Define :- i) Absolute error    ii) Average absolute error    iii) Relative error    iv) Percentage error
- 2) Define Dimensions and State the Dimensions of i) Density ii) Force iii) Pressure iv) Power.
- 3) State the different types of system of units and name fundamental quantities in them with their units?
- 4) State the number of significant figure in the following measurements.  
i) 0.0025    ii) 0.0250    iii) 0.002500    iv)  $5.36 \times 10^{24}$
- 5) Convert the following.  
i) 1500nF to .....F                      ii)  $2.7 \mu\text{m}$  to .....m                      iii) 2000pF to ..... F  
iv) 45GHz to..... Hz                      v) 50MW into .....W                      vii) 25cm to .....m  
vii) 6kg to .....gm                      viii) 1000mm to.....m
- 6) Calculate the percentage error in the measurement of area of the plate. The length and breadth of the plate are given by,  $l = 14.5 \pm 0.1$  cm,     $b = 7.2 \pm 0.1$  cm
- 7) Which of the following is more accurate reading and why?  
i)  $1.75 \pm 0.012$  cm                      ii)  $0.75 \pm 0.007$  cm
- 8) Name the different types of astronomical instruments and write the uses of them.