

Tutorial 1: PHY101  
(MONSOON 2023)

**Q1.** If E, M, J, and G denote energy, mass, angular momentum, and gravitational constant respectively, then  $\frac{EJ^2}{M^5G^2}$  has the dimension of

- a) Length
- b) mass
- c) time
- d) angle

**Q 2.**

The frequency of oscillation of a string depends on its length L, the force applied to its ends T, and the linear mass density Using dimensional analysis, find this dependence.

**Q 3.** Convert (-1, -1) into polar coordinates.

**Q 4.**

Convert the Cylindrical coordinates for  $(2, 0.345, -3)$  into Spherical coordinates.