

Notes for lecture 6

1. Date: May 19th.
2. The lecture (see SampleProblems6.pdf and Sample Problems in Chapter2.7.pdf files) consider computation of velocity and acceleration of a particle in cylindrical and spherical coordinates.
 - a. Cylindrical coordinates.
 - i The position of a particle is measured by r and θ (as in polar coordinates) together with height z .
 - ii Velocity and acceleration vectors are represented with respect to some moving (changing) coordinate system ($\mathbf{e}_r, \mathbf{e}_\theta, \mathbf{e}_z$).
 - b. Spherical coordinates.
 - i The position of a particle is now measured not by x, y, z , but by the radial distance r and two angles θ and φ .
 - ii Velocity and acceleration vectors are represented with respect to some moving (changing) coordinate system ($\mathbf{e}_r, \mathbf{e}_\theta, \mathbf{e}_\varphi$).
3. The deadline for submitting assignment (see Assignment6.pdf) is May 26.