Assignment-11.14.7

EE:1205-Signals and Systems
Indian Institute of Technology, Hyderabad

Md Ayaan Ashraf
EE23BTECH11041

Question

The motion of a particle executing simple harmonic motion is described by the displacement function, $x(t) = A\ cos\ (\omega t + \phi)$. If the initial ($t = 0$) position of the particle is 1 cm and its initial velocity is ω cm/s, what are its amplitude and initial phase angle ? The angular frequency of the particle is πs^{-1}. If instead of the cosine function, we choose the sine function to describe the SHM : $x = B$ sin $(\omega t + \alpha)$, what are the amplitude and initial phase of the particle with the above initial conditions.