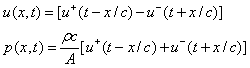
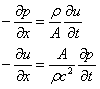
**Assigment-3**

1. Length of a uniform tube is 17 cm and the tube is closed at one end find out the value of the pressure wave in open end.
2. If cross section area of a uniform tube is A, and average atmospheric density is ρ what will be value of acoustic inductance? Where c is the velocity of sound
3. The frequency response of a uniform tube is as given in the following equation (1). The length of the tube l=17.5 cm and speed of sound c=350m/s. Draw the volume velocity vs. Frequency curve for first 4 roots?



1. Time varying glottal resistance and inductance-both functions of glottal opening AG(t). If the glottis is completely closed what will be the value of glottal impedance and volume velocity?
2. By substitution, show that the set of equation as given below are solutions to the partial differential equations as given in equation (1) and (2)





(2)

(1)

1. Consider a Uniform tube of length l is closed at one end with a volume velocity source u(0,t) as in fig. 1

*l*

*x=l*

*x=0*

*U(l,t)*

fig.1



Consider and the velocity and pressure wave solution is as below



1. Find the volume velocity and pressure along the *x* dimension of the tube in terms of source volume velocity
2. Plot the volume velocity and pressure envelop along the tube?