* **Online Materials are provided for the help of understanding more clear idea of physics**

*(For equations and calculations please go through the class lectures)*

* **Chapter 16**

***Wave motion***

* *Lectures: MIT & Caltech*

<https://www.youtube.com/watch?v=OvDePn41fPY>

<https://www.youtube.com/watch?v=HlSCwV8d5qM>

* Short videos:

Mechanical wave:

<https://www.youtube.com/watch?v=w2s2fZr8sqQ>

<https://www.youtube.com/watch?v=997iDD6Fu0A>

Transverse and Longitudinal wave:

<https://www.youtube.com/watch?v=GkNJvZINSEY>

<https://www.youtube.com/watch?v=kIdESF0OwTo>

TSUNAMI: Reflection and transmission of waves

<https://www.youtube.com/watch?v=sBkMLYUyUZg>

<https://www.youtube.com/watch?v=dNmlNzrMF2k>

<https://www.youtube.com/watch?v=jUQkG1A0_Sk>

Speed of wave & wave equation for a string:

<https://www.youtube.com/watch?v=TKF6nFzpHBU>

<https://www.youtube.com/watch?v=5dPXbBqGGXI>

<https://www.youtube.com/watch?v=OCq-YeByeKc>

* String Theory if anybody is interested:

<https://www.youtube.com/watch?v=cCkGD76OEwA>

* **Chapter 17**

***Sound wave***

* Lectures: Caltech, MIT & Macmillan

Please write down “The Mechanical Universe and Beyond 18 Waves” on Youtube for the lecture on Wave (Because the copyright can’t be possible for Caltech video lecture)

<https://www.youtube.com/watch?v=E94h1f73_dM> (You can’t enter by this link, so please follow the above instruction for Caltech videos).

<https://www.youtube.com/watch?v=5wM-5gPHDM4>

<https://www.youtube.com/watch?v=eEdbztoFokg>

* Short videos:

Sound: Encyclopedia Britannica Films

<https://www.youtube.com/watch?v=Nh6Figt5jkI>

<https://www.youtube.com/watch?v=5knDm3WAad4>

<https://www.youtube.com/watch?v=0NHGZy665Ik>

How sound transfer and ear work

<https://www.youtube.com/watch?v=GkNJvZINSEY>

<https://www.youtube.com/watch?v=qgdqp-oPb1Q>

Doppler Effect

<https://www.youtube.com/watch?v=h4OnBYrbCjY>

<https://www.youtube.com/watch?v=dc7l7Qqa8xk>

<https://www.youtube.com/watch?v=yeBwzmMi9M0>

There are many short films of other subjects. If you are interested you may have a look

<https://www.youtube.com/watch?v=Nh6Figt5jkI&index=1&list=PL_hX5wLdhf_JKIMNk88rKCkhpK73_qmHY>