

X

NPTEL

noc17-me13@nptel.iitm.ac.in ▼

Courses » Fundamentals of Acoustics

Announcements **Course** Forum Progress Mentor

Unit 9 - Week 08: Directivity and mufflers ✎

Course outline

How to access the portal?

Week 01:
Introduction and Terminology

Week 02:
Concept Review

Week 03:
Wave equation

Week 04:
Transmission line equations

Week 05: 1-D Waves

Week 06:
Power and spherical waves

Week 07:
Spherical waves and interference

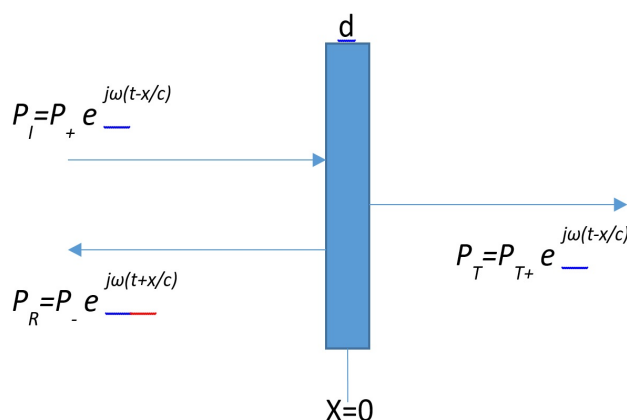
Week 8 assignment ✎

The due date for submitting this assignment has passed.

Due on 2017-03-21, 23:59 IST.

Submitted assignment

1) The reflected (PR) and transmitted (PT) waves produced due to normal incident (PI) of sound wave on an infinitely deep barrier, are shown in figure below. The thickness of barrier is d and wavelength of incident wave inside the wall material is λ . If $d = \lambda/400$ then the phase difference of incident (PI) and transmitted (PT) waves will be: **1 point**



- 0.005 π radians
- 0.05 π radians
- 0.5 π radians
- 5 π radians

2) Sound pressure level heard by a listener when there is a wall between a source and the listener is 76 dB. If the wall attenuates sound by 10 dB, what is the actual sound level produced by the source? **1 point**

Week 08: Directivity and mufflers

- Lesson 1:
Noise
reduction -
Mass
Attenuation
Method
- Lesson 2:
Noise
Reduction -
Pressure
Ratio
- Lesson 3:
Noise
Reduction -
Velocity of
Wall
- Lesson 4: 3
Media
Problem -
Introduction
- Lesson 5: 3
Media
Problem -
Apply
Boundary
Conditions
- Lesson 6: 3
Media
Problem -
Special
cases
- Quiz: Week
8
assignment
- Week 8
assignment
solutions

Week 09: Sound in rooms

Week 10: Reverb time and FFT

Week 11: Weighting and loudness

- 43 dB
- 66 dB
- 86 dB
- 76 dB

3) For an incident sound wave on a 20 mm thick wall, the sound transmission loss at extremely low frequencies _____ with increasing the mass of wall. **1 point**

- Increases
- Decreases
- Does not change
- None of the options are correct

4) Sound transmission through a wall barrier depends upon _____. **1 point**

- Mass of the wall barrier
- Characteristics impedance of media of propagation
- Frequency of incident sound
- All of the above

5) In _____ mufflers, sound is attenuated only by reflection and cancellation of sound waves. **1 point**

- Reactive
- Absorptive
- Combination of reactive and absorptive
- None of the options are correct.

6) For a 1-D planar sound wave propagation through three media _____ at the interface of boundaries. **1 point**

- Pressure continuous and velocity non-continuous
- Pressure and velocity both continuous
- Pressure and velocity both non-continuous
- Pressure non-continuous and velocity continuous

7) For a 2-media sound propagation, if the characteristic impedances of incident and transmitted media matches with each other then transmission loss will be _____ **1 point**

- zero
- infinite
- Insufficient information
- None of the options are correct


8) Transducers used for sound generation in submarines have a coating of _____ on their radiating surface to improve transmission properties. **1 point**

- Butyl rubber
- Synthetic rubber
- Nitrile rubber
- Rho-C rubber

**Week 12:
Miscellaneous
topics and
closure**

Previous Page

End

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -  

A project of



In association with



Funded by

Government of India
Ministry of Human Resource Development

Powered by

