

**Courses » Fundamentals of Acoustics**Announcements **Course** Forum Progress Mentor

Unit 12 - Week 11: Weighting and loudness ✎

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 11 Assignment ✎

The due date for submitting this assignment has passed.

Due on 2017-04-11, 23:59 IST.

Submitted assignment

1) Conversion of continuous signal to a discrete signal is called _____. **1 point**

- sampling.
- resolution.
- padding.
- filtering.

2) What is the resolution of a 2 bit analog to digital converter which has a range of 1V? **1 point**

- 1 V
- 0.5 V
- 0.33 V
- 0.1 V

3) By Nyquist criteria what is the maximum possible frequency that can be extracted by Discrete Fourier Transform? (where, f_s is sampling frequency) **1 point**

- f_s
- $f_s/2$
- $2f_s$
- $f_s/3$

4) Variation in capacitance is used to measure sound pressure level in _____. **1 point**

- Carbon microphones.
- Electrostatic microphones.
- Fiber optics microphones.

**Week 08:
Directivity
and mufflers****Week 09:
Sound in
rooms****Week 10:
Reverb time
and FFT****Week 11:
Weighting
and loudness**

- Lesson 1:
Measuring
Sound
Signals
- Lesson
2:Microphones
- Lesson
3:Microphones
- Lesson
4:Weighting
- Lesson 5:
Loudness
- Lesson
6:Loudness
- Quiz : Week
11
Assignment
- Week 11
assignment
solution

**Week 12:
Miscellaneous
topics and
closure**

- Piezoelectric microphones.

5) _____ microphones are useful for measuring noise close to airplane wings. **1 point**

- Pressure
- Free field
- Random incidence
- Diffusive field

6) Which one of the following options is a quantity that relate voltage produced by the microphone to corresponding sound pressure level? **1 point**

- Sensitivity.
- Bandwidth.
- Signal to noise ratio.
- Resolution.

7) Consider a microphone with sensitivity -20 dB (reference 1V/Pa). How much volts will it produce at a pressure of 1 Pa? **1 point**

- 0.05 V
- 0.01 V
- 0.1 V
- 0.5 V

8) Compensating A-weighting value corresponding to 500 Hz frequency is _____ . **1 point**

- 3.24 dB
- 2.30 dB
- 4.24 dB
- 1.30 dB

9) A microphone produces 0.01 V/Pa. How much peak voltage will it produce at 100 dB of sound pressure in air? **1 point**

- 2 V
- 2.83 V
- 0.01 V
- 1 V

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