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reviewer2@nptel.iitm.ac.in ▼

Courses » Basics of Noise and its Measurements

Announcements **Course** Ask a Question Progress

## Unit 5 - Week 4

### Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

- Lecture 19: Classification of Microphones
- Lecture 20: Classification of Microphones- Continuation
- Lecture 21: Classification of Microphones by Application
- Lecture 22: Microphone Sensitivity
- Lecture 23: Microphone Sensitivity- Continuation
- Lecture 24: Selecting the Right Microphone
- Quiz : Week 4: Assignment
- Week 4: Assignment Solution

Week 5

Week 6

Week 7

Week 8

### Week 4: Assignment

The due date for submitting this assignment has passed. **Due on 2017-02-21, 23:59 IST**  
As per our records you have not submitted this assignment.

1) In carbon microphones, variation of \_\_\_\_\_ is correlated to find out sound pressure level (SPL)? **1 point**

- Inductance.
- Resistance.
- Capacitance.
- None of the options are correct.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Resistance.*

2) Variation in \_\_\_\_\_ is used to measure sound pressure level in electrostatic microphones. **1 point**

- Inductance.
- Capacitance.
- Resistance.
- None of the above.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Capacitance.*

3) What is the advantage of electret microphones over DC biased capacitor microphones? **1 point**

- Electret microphones permanently store charge across condenser plates. So there is no requirement of external power supply.
- Electret microphones use graphite particles so that they can produce high level audio signals from low DC voltage.
- Electret microphones use piezoelectric materials so that they can be used in high stress situations.
- Electret microphones use transistor valves which require less power.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Electret microphones permanently store charge across condenser plates. So there is no requirement of external power supply.*

4) \_\_\_\_\_ works on the principle of electro-magnetic induction? **1 point**

- Condenser microphones.

- Piezoelectric microphones.
- Carbon microphones.
- Dynamic microphones.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Dynamic microphones.*

5) Which of the following is true regarding a piezoelectric microphones? 1 point

- Piezoelectric microphones can withstand large forces.
- Piezoelectric microphones are used in contact applications.
- Piezoelectric microphones are not susceptible to external electromagnetic fields.
- All of the options are correct.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*All of the options are correct.*

6) Define grazing incidence. 1 point

- Sound wave incident on a microphone in the direction of microphone axis.
- Sound wave incident on a microphone in the direction perpendicular to the microphone axis.
- Sound wave incident on a microphone from all directions.
- Sound wave incident on a microphone from back side.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Sound wave incident on a microphone in the direction perpendicular to the microphone axis.*

7) Out of the following options which microphone is used to measure sound approaching from all directions. 1 point

- Pressure microphones.
- Free field microphones.
- Diffusive field microphones.
- None of the options are correct.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Diffusive field microphones.*

8) 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.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Sensitivity.*

9) A microphone has sensitivity -20 dB (reference 1 V/Pa). How many volts will it produce corresponding to pressure of 1 Pa? 1 point

- 0.05 V
- 0.01 V
- 0.1 V



0.5 V

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*0.1 V*

10) Relation between voltage produced by microphone and the sound pressure should be \_\_\_\_\_ **1 point**  
for a good microphone.

- Linear.  
 Parabolic.  
 Exponential.  
 Non-Linear.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Linear.*

11) Frequency response curve for a good microphone should be \_\_\_\_\_ **1 point**

- linear in the band width of interest.  
 linear with slope zero in the band width of interest.  
 non linear in the band width of interest.  
 linear with negative slope in the band width of interest.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*linear with slope zero in the band width of interest.*

12) Certain microphones are connected to system (power amplifier or data acquiring device) using the connector shown below. What is the name of the connector? **1 point**

- BNC  
 LEMO  
 Micro USB  
 RJ-52

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*LEMO*

13) Which is the most important feature of IEPE microphone? **1 point**

- Lower power requirement.  
 Can be made in large scale.  
 Preamplifier is integrated with microphone.  
 Lower weight compared to other microphones.

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

*Preamplifier is integrated with microphone.*

Previous Page

End

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