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Courses » Machinery Fault Diagnosis And Signal Processing

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## Unit 9 - Week 7

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### Course outline

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## Assignment 7

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2019-03-20, 23:59 IST**

1) **1 point**  
The purpose of charge amplifier is to convert the high-impedance output of the piezoelectric accelerometers into a low-impedance voltage signal

- a. True
- b. False

- (a)  
 (b)

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
(a)

2) The following is (are) true for piezoelectric accelerometer **1 point**

- a. It uses piezoelectric crystals as sensing element
- b. It requires power supply
- c. It generates voltage
- d. All of the above

- (a)  
 (b)  
 (c)  
 (d)

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
(a)

3) What are the predominant sources of noise in a charge type accelerometer? **1 point**

- a. Triboelectric noise cable
- b. Ground loop noise

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(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

4) The reference level for sound intensity measurement in dB is

1 point

- a.  $10^{12}$  W/m<sup>2</sup>
- b.  $10^{-12}$  W/m<sup>2</sup>
- c.  $10^2$  W/m<sup>2</sup>
- d.  $10^{-2}$  W/m<sup>2</sup>

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b)

5)

The reference pressure level for the calculation of sound pressure level in dB is

1 point

- a. 2  $\mu$ Pa
- b. 1  $\mu$ Pa
- c. 20  $\mu$ Pa
- d. 10  $\mu$ Pa

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

6) Select the instruments which are used to measure rotational speed

1 point

- a. Stroboscope
- b. Inductive probe
- c. Optical tachometer
- d. Accelerometer

(a)

(b)

(c)

(d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

(b)

(c)

7)

1 point

In the free-field region it is assumed that for a point spherical source, the sound pressure reduces by \_\_\_ dB for every doubling of the distance from the source.

- a. 2
- b. 3
- c. 6
- d. 12

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

8) The following is (are) true for a reverberant chamber?

1 point

- a. Sound waves have multiple reflections
- b. Sound level is almost same at every location
- c. Both a. and b.
- d. None of these

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

9) In vibration level standard (ISO-10816), which mode of vibration is given

1 point

- a. Displacement
- b. Velocity
- c. Acceleration
- d. Angular velocity

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b)

10)

1 point

Select the transducer which is a non-contact type

- a. Linear variable displacement transducer
- b. Piezo-electric accelerometer
- c. Strain gauge
- d. Eddy current proximity probe

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

11)

1 point

What would be the center frequency of a pass-band filter if lower frequency and upper frequency are  $f_l$  and  $f_u$ , respectively

- a.  $\frac{f_l + f_u}{2}$
- b.  $\frac{f_u - f_l}{2}$
- c.  $\sqrt{f_l f_u}$
- d.  $\frac{\sqrt{f_l f_u}}{2}$

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

12)

1 point

Calculate the sum of two sound pressure levels 30 dB and 32 dB

- a. 32 dB
- b. 34.12 dB
- c. 35.25 dB
- d. 30 dB

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b)

13)

1 point

Calculate the lower frequency of a 1/3rd octave filter if the center frequency is 31.25 Hz

- a. 27.84 Hz
- b. 25.62 Hz
- c. 26.25 Hz
- d. 28 Hz

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

14)

A-weighting is done to account for relative loudness perceived by the human ear

1 point

- a. True
- b. False

- (a)
- (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

15)

The phon is a unit of loudness and it represents sound pressure level in dB at \_\_\_\_ Hz.

1 point

- a. 100 Hz
- b. 500 Hz
- c. 1000 Hz
- d. 2000 Hz

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

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