



- Q1) Cohesive force is the forces acting
- Between molecules of different materials
  - Between molecules of same materials
  - Between molecules of water and glass tube
  - Due to gravity.

B

Q2) Find the pressure on a fish , which is 4 m below the surface of water.  $P_{atm} = 100$  kPa. Density of water is  $1000 \text{ kg/m}^3$ ,  $g = 10$ .

- $1.4 \times 10^5$  Pa
- $2.1 \times 10^5$  Pa
- $1.2 \times 10^5$  Pa
- $2.2 \times 10^5$  Pa

A

Q3) For a liquid, which is rising in a capillary tube, the angle of contact is

- $90^\circ$
- $180^\circ$
- Acute
- Obtuse

C

Q4) Pressure applied at any point of a liquid enclosed in a container, is transmitted without loss to all other parts of liquid is called

- Newton's Law
- Archimedes Law
- Einstien Law
- Pascal's Law

D

Q5) pressure on the fluid depend on

- depth below the surface
- density of fluid
- the value of g
- all of above

D

### Quiz 4.1

Q1. The U-shaped manometer is used for measuring:

- a. Blood pressures,
- b. Liquid pressures
- c. Gas pressures
- d. None of the above

Q2. The pressure below a column of liquid does not depend on:

- a. The acceleration of gravity.
- b. The density of the liquid.
- c. The height of the liquid.
- d. The area of the liquid surface

Q3. Considering that the shown water container is opened to the air and full of water of height 15cm, the pressure at the bottom is equal to (in Pascal) [ $P_{atm} = 100 \text{ KPa}$ ,  $\rho_w = 1000 \text{ kgm}^{-3}$ ]



- a.  $1.015 \times 10^5$
- b.  $1.015 \times 10^4$
- c.  $1.015 \times 10^3$
- d.  $10.15 \times 10^5$

Q4. The pressure applied to an enclosed fluid in a container is transmitted undiminished to every part of the fluid as well as the walls of the container. This principle is called:

- a. Pascal's principle.
- b. Pressure's principle.
- c. Enclosed Fluid's principle.
- d. Container's principle.

Q5. The force per unit area can be measured in:

- a. Pascals.
- b. Newtons.
- c. Newtons per meters.
- d. Both a and c

Q1) What sort of waves exhibits the Doppler Effect?

- E. Light wave
- F. Water wave
- G. Sound wave
- H. All of above

Q2) Find the <sup>2</sup>second harmonic for an open pipe. If the length of the pipe is  <sup>$\times 10^{-2}$</sup>  60 cm, the frequency of the sound wave resonating inside the pipe is. Value of  $c = 344$  m/s.

- I. 600 Hz
- J. 780 Hz
- K. 573.33 Hz
- L. 980 Hz

$$f = \frac{nc}{2L} = \frac{2 \times 344}{2(60 \times 10^{-2})}$$

Q3) Loudness depend upon

- E. Amplitude
- F. Intensity
- G. Pressure
- H. All of above


Q4) A siren emitting sound of frequency  $f$  800 Hz is going away from a static listener with a speed of 30 m/s. The frequency of sound to be heard by the listener is (Take velocity of sound as 330 m/s)

- E. 733.3 Hz
- F. 600 Hz
- G. 798.3 Hz
- H. 856.3 Hz

Q5) If fundamental frequency is 50 and next successive frequencies are 150 and 250, then it is

- A. Pipe closed at both ends
- B. A pipe closed at one end
- C. An open pipe
- D. A stretched string


If the person rise hand center of gravity is?

1)up 

2)down

3)at center

Oil float over water due to ?

1) Density 

2) cohesive

3) surface tension

A class 1 lever has - - - in the middle

(a) effort

(b) fulcrum

(c) load

(d) none of the above



University of Hail

Department of Basic Sciences

QUIZ 3 Phys\_121

(Second Semester/ Year: 2017-2018)

Section: M53

Student-name#..... ID-number#; .....

Q1) What are the uses of ultrasound:

- A. Diagnose kidney
- B. Diagnose heart
- C. Diagnose lever
- D. All of above

D

Q2) Speed of ultrasound depends upon

- A. medium
- B. amplitude
- C. Wavelength
- D. None of above

A

Q3) A sound wave which has frequency higher than upper limit of human hearing is

- A. infra sonic
- B. ultrasound
- C. supersonic
- D. megasonic

B

Q4) What is ultrasound?

- A. A sound with a frequency we can hear
- B. A sound with a higher frequency than we can hear
- C. A sound with a lower frequency than we can hear
- D. None of above

B

... is 780 Hz. Find the length of the pipe.



Q1) What is ultrasound?

**B**

- A. A sound with a frequency we can hear
- B. A sound with a higher frequency than we can hear
- C. A sound with a lower frequency than we can hear
- D. None of above

Q2) With a high pitched sound, you hear a high sound because of

**A**

- A. High frequency
- B. High amplitude
- C. High intensity
- D. None of above

Q3) Loudness depend upon

**D**

- A. Amplitude
- B. Intensity
- C. Pressure
- D. All of above

Q4) How does the pitch of the sound wave received by a person standing on the side of the road change as a car honking its horn approaches him?

**B**

- A. It decreases gradually
- B. It increases gradually
- C. It does not change
- D. It decreases to zero

Q5) If fundamental frequency is 100 and next successive frequencies are 200 and 300, then it is

**C**

- A. pipe closed at both ends
- B. A pipe closed at one end
- C. An open pipe
- D. A stretched string





University of Hail

Department of Basic Sciences  
QUIZ 3 Phys\_121  
(First Semester/ Year: 2017-2018)

Sect: M55

Student name: .....

ID-number: .....

1) Sound wave will have highest speed in

Solid > liquid > fluid > gas.  
Metal > H<sub>2</sub>O > blood > air

- A. Metal
- B. Air
- C. Water
- D. Space

2) Sound waves are mechanical in nature because

- A. They require medium for propagation
- B. They don't require medium for propagation
- C. They are electromagnetic
- D. They are transverse

3) In a stationary wave, nodes are at

- A. fixed points
- B. movable points
- C. there are no nodes
- D. random points

4) If particles of medium vibrate at right angles to direction of velocity then wave is

- A. longitudinal
- B. transverse
- C. abrupt
- D. sound

5) Sound waves have

- A. Amplitude only
- B. Frequency and wavelength only
- C. Amplitude, frequency and wavelength
- D. Amplitude and wavelength only

Q1) How does the pitch of the sound wave received by a person standing on the side of the road change as a car honking its horn approaches him?

- A. It decreases gradually
- B. It increases gradually
- C. It does not change
- D. It decreases to zero

Q2) Find the second harmonic for an open pipe. If the length of the pipe is 60 cm, the frequency of the sound wave resonating inside the pipe is. Value of  $c = 344$  m/s.

- E. 600 Hz
- F. 780 Hz
- G. 573.33 Hz
- H. 980 Hz

$$F = \frac{nc}{2l}$$

$$L = 60/100 = 0.6 \text{ m}$$

$$n = 2$$

$$C = 344$$

Q3) With a high pitched sound, you hear a high sound because of

- A. High frequency
- B. High amplitude
- C. High intensity
- D. None of above

Q4) What are the uses of ultrasound:

- A. Diagnose kidney
- B. Diagnose heart
- C. Diagnose liver
- D. All of above

Q5) If fundamental frequency is 50 and next successive frequencies are 150 and 250, then it is

- A. Pipe closed at both ends
- B. A pipe closed at one end
- C. An open pipe
- D. A stretched string

حفظ الإجابة

10 درجات

Q3) The sound travels at 344 m/s in air. If the frequency of the sound is 300 Hz, what is the wavelength of the sound wave?

$$\lambda = \frac{c}{f} = \frac{344}{300}$$

m 1.146 · a

m 2.04 · b

m 0.137 · c

m 13.76 · d

## السؤال 4

10 درجات حفظ الإجابة

What is the pressure difference between the brain and foot of 1 m child, if the density of blood is  $1059.5 \text{ kg m}^{-3}$ .

a.   $1.04 \times 10^4 \text{ Pa}$

b.   $10^3 \text{ Pa}$

c.   $108 \text{ Pa}$

d.   $9.3 \times 10^{-3} \text{ Pa}$

الضغط  
↑

$$\Delta p = \rho \cdot g \cdot h$$

$$= 1059.5 \cdot 9.8 \cdot 1$$

انقر فوق "حفظ وإرسال" للحفاظ والإرسال. وانقر فوق "حفظ كل الإجابات" للحفاظ كل الإجابات.

حفظ وإرسال

حفظ كافة الإجابات

## السؤال 2

10 درجات حفظ الإجابة

A string 180 cm long resonates in three segments to transverse waves sent down it by a 270 Hz vibrator. What is the speed of the waves on the string

A  486 m/s

B  225m/s

C  32400m/s

D  368 m/s

الطول نحوله الى m  
 $180/100=1.8m$   
 $F=270Hz$

$$C = \lambda F$$

$$= 1.8 \times 270$$

## السؤال 3

10 درجات حفظ الإجابة

انقر فوق "حفظ وإرسال" للحفظ والإرسال. وانقر فوق  
 "حفظ كل الإجابات" لحفظ كل الإجابات.

حفظ كافة الإجابات

حفظ وإرسال

Sound is carried to our ears by

- A. vibrations
- B. pressure
- C. temperature effect
- D. humidity effect

QUESTION 2

10 points [Save](#)

All waves can be classified into two categories which are

- A. 1. Longitudinal waves and electromagnetic waves
- B. 1. Transverse waves and longitudinal waves
- C. 1. Sound waves and electromagnetic waves
- D. 1. Transverse waves and electromagnetic waves

QUESTION 3

10 points [Save](#)

A string 180 cm long resonates in three segments to transverse waves sent down it by a 270 Hz vibrator. What is the speed of the waves on the string?

- A. A. 368 m/s
- B. A. 486 m/s
- C. A. 225m/s
- D. A. 32400m/s

QUESTION 4

10 points [Save](#)

When sound travels through air, the air particles \_\_\_\_\_.

- A. vibrate along the direction of wave propagation
- B. vibrate but not in any fixed direction
- C. vibrate perpendicular to the direction of wave propagation
- D. do not vibrate

QUESTION 5

10 points [Save Answer](#)

When the automobile moves away from the listener, its horn seems

- A. A. low pitched
- B. A. high pitched
- C. A. normal
- D. A. no change

## Quiz chapter 2

- 1- wave which travel in perpendicular direction to the direction of the wave known as .....
- a- transverse wave
  - b- longitudinal wave
  - c- sound wave
  - d- none of the above
- 2- the velocity of the wave is equal to the product of the .....
- a- wavelength
  - b- force
  - c- amplitude
  - d- time period
- 3- the frequency of a wave is measured by .....
- a- meters
  - b- hertz
  - c- seconds
  - d- decibels
- 4- the velocity of sounds maximum in.....
- a- air
  - b- water
  - c- vacuum
  - d- metal
- 5- the theory of sonography is depended on .....
- a- interference
  - b- transmittance
  - c- acoustic impedance
  - d- none of the above

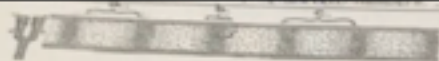
## Quiz chapter 2

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- a- transverse wave
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  - c- sound wave
  - d- none of the above
- 2- the velocity of the wave is equal to the product of the .....and the wavelength
- a- frequency
  - b- force
  - c- amplitude
  - d- time period
- 3- the wavelength of a wave is measured by .....
- a- meters
  - b- hertz
  - c- seconds
  - d- decibels
- 4- a sound wave is produced when an object .....
- a- accelerates
  - b- decelerate
  - c- vibrate
  - d- remains stationary
- 5- wave which travel in parallel direction to the direction of the wave known as .....
- a- transverse wave
  - b- longitudinal wave
  - c- sound wave
  - d- none of the above



## Quiz chapter 2

- 1- wave which travel in perpendicular direction to the direction of the wave known as .....
- a- transverse wave
  - b- longitudinal wave
  - c- sound wave
  - d- none of the above
- 2- the velocity of the wave is equal to the product of the .....
- a- wavelength
  - b- force
  - c- amplitude
  - d- time period
- 3- the frequency of a wave is measured by .....
- a- meters
  - b- hertz
  - c- seconds
  - d- decibels
- 4- sound is a good example of
- a- transverse wave
  - b- longitudinal wave
  - c- both transverse and longitudinal wave
  - d- none of the above
- 5- sound wave are mechanical in nature because
- a- they require medium for propagation
  - b- they don't require medium for propagation
  - c- they are longitudinal
  - d- they are transverse



Q1) From figure 1 above, which letter shows the correct wavelength for the sound created by the tuning fork?

- a) a
- b) b
- c) c
- d) none of them

C

Q2) Two waves on identical strings have frequencies in a ratio of 3 to 5. If their wave speeds are the same, then how do their wavelengths compare?

- a) 2:1
- b) 1:2
- c) 5:3
- d) 4:1

C

Q3) A transverse wave is transporting energy from east to west. The particles of the medium will move \_\_\_\_\_.

- a) east to west only
- b) both eastward and westward
- c) north to south only
- d) both northward and southward

Q4) The vibrations of a transverse wave move

- a) in the same direction as the wave travels.
- b) at right angles to the direction of wave travel.
- c) above and below the moving wave.
- d) opposite to the direction of wave travel.

B

Q5) As the wavelength of a wave in a uniform medium increases, its speed will \_\_\_\_\_.

- A. Increase
- B. Decrease
- C. Remain same
- D. None of above

C



Student Name:.....

ID number:.....

### Quiz 3-1 (sound)

Q1. Sonography is an application of:

- a. Scattering of sound
- b. Reflection of sound
- c. Focusing of light
- d. Refraction of light

Q2. Instruments designed to produce sound usually contain a mechanism to produce vibrations and:

- a. A resonant structure
- b. Pressure
- c. Frequency
- d. Wavelength

Q3. A police car with a 2000-Hz siren is moving at  $10 \text{ ms}^{-1}$ . The frequency heard by a stationary listener when the police car is receding from the listener is:

- a. =2000 Hz
- b. >2000 Hz
- c. <2000 Hz
- d. 10 Hz.

Q4. When a source of sound wave is moving toward you:

- a. You hear a lower frequency sound compared with that of the source.
- b. You hear a higher frequency sound compared with that of the source.
- c. You hear the sound with actual frequency produced by the source.
- d. No sound can be heard in that case

Q5. The source of vibration in human is:

- a. The lips
- b. The hollow body
- c. The vocal cord
- d. The air

Q1) How does the pitch of the sound wave received by a person standing on the side of the road change as a car honking its horn approaches him?

- A. It decreases gradually
- B. It increases gradually
- C. It does not change
- D. It decreases to zero

Q2) Find the second harmonic for an open pipe. If the length of the pipe is 60 cm, the frequency of the sound wave resonating inside the pipe is. Value of  $c = 344$  m/s.

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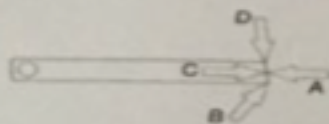
- A. Pipe closed at both ends
- B. A pipe closed at one end
- C. An open pipe
- D. A stretched string

Q1) A body is said to be in static equilibrium when it is

- A) At rest.
- B) Accelerated by the external force.
- C) Moving with uniform velocity.
- D) Moving uniformly in a circular path.

Q2) The largest torque happens in the case

- A) D
- B) A
- C) B
- D) C



Q3) What happens to the torque if the moment arm is increased?

- A) The torque decreases with the length of the arm
- B) The torque increases with the length of the arm
- C) Nothing happens since torque is independent of distance
- D) The torque will equal to zero

Q4) A class I lever has the \_\_\_\_\_ in the middle.

- A) Effort
- B) Fulcrum
- C) Load
- D) None of the above

Q5) the greater the force, the larger will be the

- A) Centre of mass
- B) Torque
- C) Mass
- D) Axis of rotation