Phy101 Searching file

Lecture 1 to 22 syllabus

by Orange Monkey Team

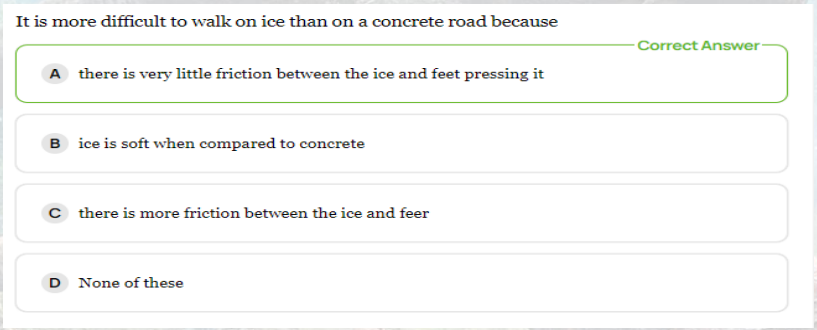
1. **The unit of intensity of sound is**

   Decibel….confrim

2. **The angular momentum L of a rigid body is given by**

   Iw….confrim

3. **It is more difficult to walk on the concrete road than on ice because**



There is very little friction between the ice and feet pressing it..confrim

4. **It is easier to walk on the concrete road than on ice because**

Why is it easier to walk on concrete than ice?

there is more friction between the ice and feer.

There is more friction on the ice than on concrete….confrim

It is more difficult to walk on ice than on a concrete road because

Correct Answer

A there is very little friction between the ice and feet pressing it

B ice is soft when compared to concrete

C there is more friction between the ice and feer

D None of these

5. **The process by which the energy is dissipated from an oscillating system is called**

This process of energy dissipation is known as "**thermoelastic damping**."

Damping…confrim

6. **If the acceleration of a body is not uniform, then velocity-time graph will be.**

It is given that the body is in non-uniform motion which implies acceleration of the body changes at every instant. ... Therefore, the velocity-time graph for a body in non-uniform motion is **a curved line**. So, the correct answer is "Option D".

Curve…..confrim

7. **The slop of velocity time graph shows that.**

acceleration of

The slope of a velocity graph represents **the acceleration of the object**. So, the value of the slope at a particular time represents the acceleration of the object at that instant.

average Acceleration of a body…confrim

8. **Which of the following is not a characteristics of mechanical wave**

Which of the following is not a characteristics of mechanical waves?

Feedback

A They consist of disturbances or oscillations of a medium

B They transport energy.

Correct Answer

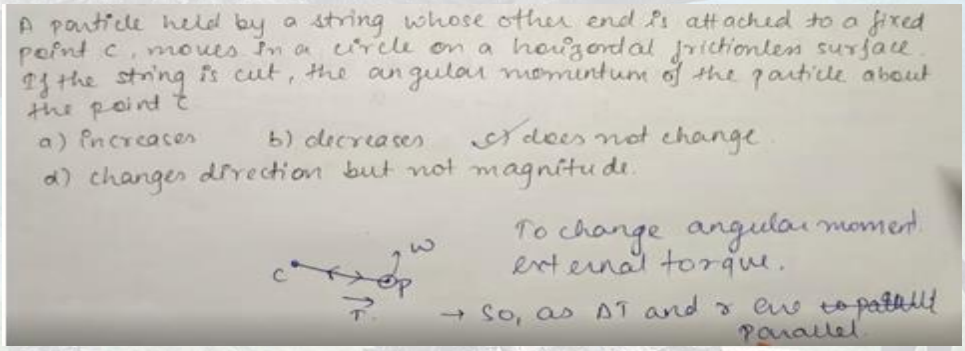
C They travel in a direction that is at right angles to the direction of the particles of the medium.

Your Answer

D They are created by vibrating source.

They travel in a direction that is at right angles to the direction of the particles of the medium…confrim

9. **A particle held by a string whose other end is attached to a fixed point C, moves in a circle on a horizontal frictionless surface. If the string is cut the angular momentum of the particle about the point C.**



Does not change..confirm

10. **Back and forth in a leftward and rightward direction. This type of wave is known as a _____.**

longitudinal wave

As the energy is transported from left to right, the individual coils of the medium will be displaced leftwards and rightwards. In this case, the particles of the medium move parallel to the direction that the pulse moves. This type of wave is a **longitudinal wave**.

Longitudinal wave…confrim

11. Two sound waves are traveling through a container of unknown gas Wave A has a wavelength of 1.2m Wave B has a wavelength of 3.6m. The frequency of wave B must be _____ the frequency of wave A.

Answer: C

The speed of a wave does not depend upon its wavelength, but rather upon the properties of the medium. The medium has not changed, so neither has the speed.

The same as…confirm from net

12. S type earthquake waves resemble to

What does S wave mean in earthquakes?

shear wave

An S wave, or **shear wave**, is a seismic body wave that shakes the ground back and forth perpendicular to the direction the wave is moving.

Perpendicular propagation of waves…confirm

13. The angular displacement of one revolution is equal to

2π radians

For example, if the body rotates around a circle of radius r at 360^0, then the angular displacement is found by the distance traveled around the circumference. This is found by 2πr, divided by radius θ = 2πr/r. In simplistic terms, it can be denoted as θ=2π, where 1 revolution is **2π radians**.

2pi radians….confirm

14. The ability of a capacitor to store charge depends upon

Introduction to Capacitors Summary

We have seen in this tutorial that the job of a capacitor is to store electrical charge onto its plates. The amount of electrical charge that a capacitor can store on its plates is known as its **Capacitance** value and depends upon three main factors.

- Surface Area – the surface area, A of the two conductive plates which make up the capacitor, the larger the area the greater the capacitance.
- Distance – the distance, d between the two plates, the smaller the distance the greater the capacitance.
- Dielectric Material – the type of material which separates the two plates called the "dielectric", the higher the permittivity of the dielectric the greater the capacitance.

All option correct

15. The oscillation in which amplitude remain same with time called.

Resonance

16.Because a buoyant force acts in the opposite direction of gravity.

State whether given statement is True or False

Because the buoyant force acts in a direction opposite the force of gravity, the net force acting on an object submerged in a fluid, such as water, is smaller than the object's weight.

Correct Answer

Feedback

A True

B False

Easy

Objects submerged in water have a net force smaller than their weight…..confirm

17.Which of the following causes is/are NOT a uniformly accelerated motion?

1 feather falls from a certain height inside a vacuum tube

(2) A ball rolls along a frictionless plane at uniform speed.

(3) A coin falls from a certain height in air but air resistance is negligible.

2 only…confirm from net

18.A radian is about

57 …confirm

19.power is equal to the dot product of force and

Define power & show that power is equal to the product of force and **velocity**.

Velocity…confirm

20.Which of the following statements about completely submerged objects resting on the ocean

The correct answer is d) **The apparent weight of the object depends on the object's density**.

The apparent weight of the object depends on the object's density….confirm

21.In each of the following two situations a source emits sound with a frequency of 1000 hz. In situation 100 m/s toward an observer at rest. In situation || the observing is moving at 100m/s toward the solid speed of sound is 340 m/s. The frequency heard by the observer in the two situations are.

|: 1417 Hz, || 1294Hz

22.Which of the quantity is dimensionless.

stress of an object when we apply a force. L is the original length. Hence, strain is a dimensionless quantity.

Stress…confirm

23. A source of frequency of 500hz emits wave of wavelength 0.4m. How long does the wave take the travel 600 m ?

A source of frequency 500 Hertz. emits waves of wavelength 0.2 m. The time the wave takes to travel a distance of 300 m is.

Feedback

A 75 seconds

Your Answer

B 60 seconds

C 12 seconds

Correct Answer

D 3 seconds

3s…confirm

24.SI unit of Time period is _____

The second, symbol s, is the SI unit of time.

Second….confirm

25.The flow rate of blood through the average human aorta is about 9.0 ? 101 cm3/s. If the aorta has a radius of 1.0 cm, what is the velocity of the blood flow?

29 cm/s

26.Find take off velocity of an airplane is 67 m/s. The length of runway is 2km, the constant acceleration is :

10) **Final take off velocity of an airplane is 67 m/s. The length of runway is 2 km, the constant acceleration is:**

Select the correct option

a) 3.24 ms^-1

b) 3.24 ms^-2

c) 2.24 ms^-1

d) 2.24 ms^-2

3.24 ms^-2….confirm

27.The body may be considered as a point object, the orbital radius is

In which of the following cases of motion can the body be considered approximately a point object?

railway carriage

Step by step solution:

A railway carriage moving without jerks between two stations, in this option the distance covered by carriage is very small as compared to the distance travelled by carriage between two stations. Therefore, railway carriage can be considered as a point object.

Smaller as compared to the size of the body

28.Which of the following has the smallest moment of inertia about the central axis if all have equal masses and radii?

Text Solution

A Ring

B Disc

C Spherical shell

D Solid sphere

Answer D

sphere…..confirm

29.In _ object moves farther away from its original position if displaced slightly.

When the body is slightly displaced and it tends to return to its original position is called?

When a body is given a small angular displacement, i.e. it is tilted slightly by some external force and then it returns back to original position due to internal forces. Such equilibrium is called **stable equilibrium**.

Stable equilibrium…..confirm

30.The speed of a wave depends upon (i.e is causally affected by).

Waves and Energy:

Waves travel through a medium: A medium is any substance or region through which a wave is transmitted. The speed of a wave is dependant on four factors: **wavelength, frequency, medium, and temperature**. Wave speed is calculated by multiplying the wavelength times the frequency (speed = l * f).

Both wavelength and the frequency of the wave….confirm

31.A certain wire stretches 0.90 cm when outward forces with magnitude F are applied to each end. The same forces are applied to a wire of the same material but with three times the diameter and three times the length. The second wire stretches:

Answer (Detailed Solution Below)

Option 2 : 0.30 cm

0.30 cm …confirm from net

32.A couple produces

This is known as a couple. The resultant force acting by the couple is zero. So, there is no linear movement of the object. Thus, the couple produces **pure rotational motion of the object**.

Purely rotational motion….confirm from net

33.If F is the force acting on the test charge qo, the electric field intensity E would be given by.

ANSWER: $E = F/q_o$

E=F/qo…confirm from net

34.One revolution per minute is about.

0.105 rad/s

35.Stress is defined in terms of

Applied force

36.Stars moving away from the earth shows.

Red shift…confirm from net

37.A whistle producing sound waves of frequencies 9500 Hz and above is approaching a stationary person with speed v ms-1. The velocity of sound in air is 300 ms-1. If the person can frequencies up to 10000Hz. The maximum of v up to which he can hear the whistle is.

1.5…..confirm from net

38.Let F1 be the magnitude of the gravitational force exerted on the sun of earth and F2 be the magnitude of the force exerted on earth by the sun. Then.

F1 is equal to F2…..confirm from net

39.The speed of sound wave is determined by

The transmitting medium…confirm form net

40.A fire whistle emits a tone of 170 Hz. Take the speed of sound in air to be 340m/s. The wavelength of this sound is about.

2.0m…..confirm from net

41.The center of gravity coincides with the center of mass.

Center of Mass is a point where the weighted relative position of the distributed mass is zero. **If the acceleration due to gravity has the same value at all points on a body**, its center of gravity coincides with its center of mass.

If the acceleration due to gravity is uniform over the body

42. When a body moves in a circle, the angle between its linear velocity and angular velocity.

90 degree….confirm

43. When a wave travels through a medium.

When a wave travels through a medium : **particles are transferred from one place to** another. energy is transferred in a periodic manner. energy is transferred at a constant speed.

Particles are transferred from one place to another….confirm

44. If a gymnasium sitting on a stool with his arms stretched lower his arms

Explanation: A gymnast sitting on a rotating stool with his arms outstretched. Suddenly when he lower his hands his **moment of inertia I decreases**. Since his angular momentum Iω remains constant and I decreases, his angular velocity ω increases.

His rotational inertia decreases….confirm

45. A rocket ship is coasting toward a planet. Its option wishes to know the value og g at the surface of the planet. This may be inferred by.

A rocket ship is coasting toward a planet. Its captain wishes to know the value of g at the surface of the planet. This may be inferred by:

A. measuring the apparent weight of one of the crew
B. measuring the apparent weight of an object of known mass in the ship } local gravity
C. measuring the diameter of the planet
D. measuring the density of the planet
E. observing the ship's acceleration and correcting for the distance from the center of the planet.

ans: $F_g = \frac{GM_E m}{r^2} = ma$

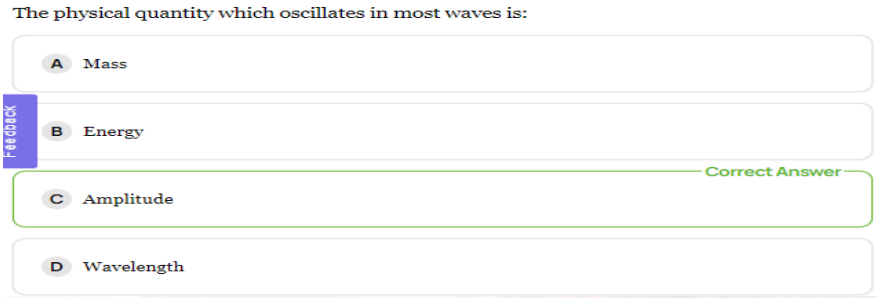
observing the ship's acceleration and correcting for the distance from the center of the planet. ….confirm

46. The area under the curve of force-displacement graph represents

The area of the graph is **= Fs**. This quantity represents the work done on the object . the area under the graph to find the work done by the force. This is equal to the kineti

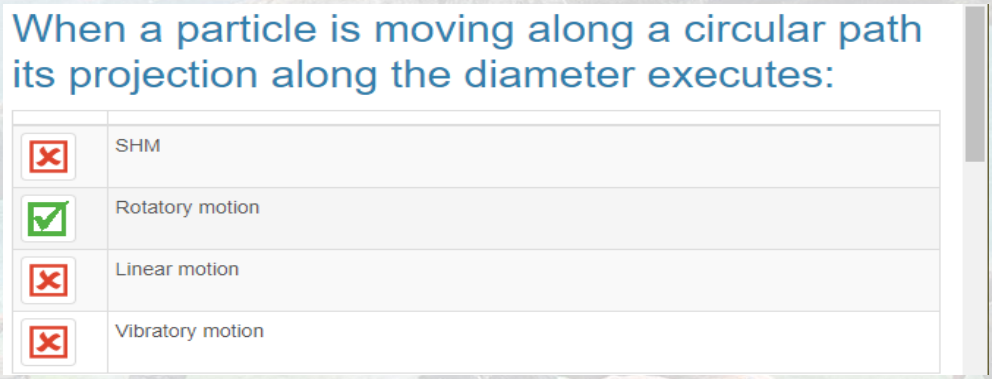
Work…confirm

47.The physical quantity, which oscillates in most waves, is



Amplitude….confirm

48.When a particle moving along a circular path, its projection along the diameter executes.



Rotatory motion….confirm

49.Which of the following statement is true?

Gravity is necessary to measure both weight and mass

50.Which one is vector quantity.

Velocity….confirm

1. According to the equation of work, when a boy sits in one place and studies for the whole night, he does

No work…..confirm from net

2. When the velocity of an aeroplane is doubled, the momentum_____

Increase uniformaly

3. The momentum of an object at a given instant is independent of its.

Answer. D. the mometum of the body is the product of its mass and its velocity at that instant. The momentum of an object at a given instant is independent of **its acceleration**.
11-Sept-2021

Acceleration…confirm

4. What sort of energy does flying bird possess?

kinetic energy….confirm from net

5. The acceleration of projectile in x-direction:

0ms-2

6. The projectile path is also known as its

Trajectory

8. Which of the following statement/s is/ are true?

• The weight of a man on the moon is smaller than that on the earth

• The mass of a man is the same on both the moon and the earth

• We cannot determine our own mass in the outer space because there is no gravity

1 only….confirm from net

9. When the momentum of a body is doubled, its kinetic energy_____

Becomes four times its initial energy

13. If the mass of moving objects is doubled then its K.E becomes

4 times

14. K.E can be defined as the dot product of

This equation states that the kinetic energy (E_k) is equal to the integral of the dot product of **the velocity (v) of a body and the infinitesimal change of the body's momentum (p)**.

Average momentum and velocity…confrim

19. Lighter objects always reach the ground later than heaver objects

2 and 3 only

16. In _____ object returns to its original position if displaced slightly

Stable equilibrium

17. Newton first law is also called_____

Law of inertia

19. The product of force and time is called change in _____

momentum, product of the mass of a particle and its velocity. ... From Newton's second law it follows that, if a constant force acts on a particle for a given time, the product of force and the time interval (the impulse) is equal to the change in the momentum.

Momentum…. confirm

21. If the magnitude of force applied is incorrect the work done will____ be increased unit of distance is

Light year

22. Power is equal to the dot product of for4ce and

Velocity

23. Product of vector a with itself is equal to

A^2

24. For a body to be in equilibrium under the combined action of several forces

The sum of the torques about any point must equal zero

25.The ratio of circumference of a circle to its diameter is equal to

Pai…confirm

26.A net torque applied to a rigid object always tends to produce

Angular acceleration

27. The work done by gravity during the decent of a projectile

Is positive

28. A man with his arms at his sides is spinning on a light friction less

His angular momentum remains the same….confirm

29. Example of physical quantity is

Examples of physical quantities are **mass, amount of substance, length, time, temperature, electric current, light intensity, force, velocity, density**, and many others.

Length….confirm

30.Swimming becomes possible because of

Third law of motion….confirm from net

32. Which of the following statements are true of sound waves_____ identify all that apply

A sound wave is a mechanical wave

33. The angular momentum vector of earth about its rotation axis. Due to its daily rotation is directed

Tangent to the equator toward the west…confirm from net

34. For an object in equilibrium the net torque acting on it vanishes only if each torque is calculated about

the same point

36. Add two vectors of length 4m & 5m but their orientation is not known___the length after addition

Between 9m and 1 m

37. Which statement is not true for acceleration?

riding your bike straight down the street at a constant speed

38. Acceleration of an object must be zero at a point where

The average velocity is zero…..confirm from net

39. Which of the following statements are true of sound waves____identify that apply

A sound wave is mechanical wave

41. A couple produces

Purely rotation motion

42. To determine if a rigid body is equilibrium the vector sum of the gravitational forces acting on the particles of the body can be replaced by a single force acting at

The center of gravity….confirm from net

43. Work may be done by

Work is done **when energy is transferred from one store to another**. Work is also done when a force causes an object to move. When work is done against frictional forces acting on an object, the object's temperature increases.

Both living organism and non-living objects…confirm

44. The dimension of joule is

ML2T-2…..confrim

45.The unit kg m2

/s can be used for

Angular momentum

46. Unit of distance is

Light year….confirm

47. The law of inertia was firstly formulated by

Galileo

48. What is the angle of projection of projectile for which its maximum height and horizontal range are equal

The range of a projectile is given by

$$R = \frac{2v_0^2 \sin\theta\cos\theta}{g}$$

and the maximum height is given by

$$h = \frac{v_0^2 \sin^2\theta}{2g}$$

For $R = h$ we get

$$\sin\theta\cos\theta = \sin^2\theta$$

$$\sin\theta\cos\theta - \frac{\sin^2\theta}{4} = 0$$

$$\sin\theta\left(\cos\theta - \frac{\sin\theta}{4}\right) = 0$$

Therefore we get

$\sin\theta = 0$ (trivial answer) or $tan\theta = 4$ (non-trivial answer)

$$\tan\theta = 4$$

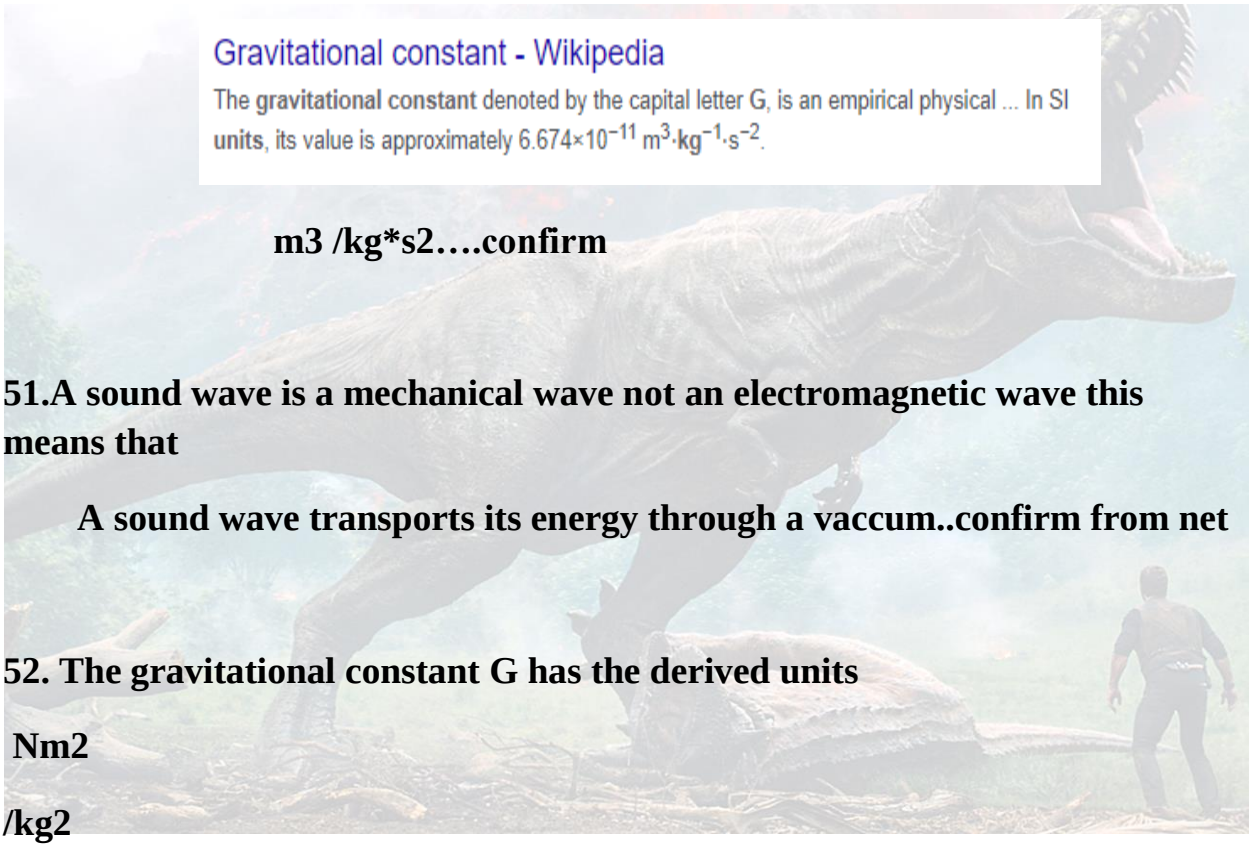
$$\theta = 76^0$$

76 degree….confirm

49. A body will be in translational equilibrium if

Ef=0

50. Suitable units for the gravitational constant G are



m3 /kg*s2….confirm

51.A sound wave is a mechanical wave not an electromagnetic wave this means that

A sound wave transports its energy through a vaccum..confirm from net

52. The gravitational constant G has the derived units

Nm2

/kg2

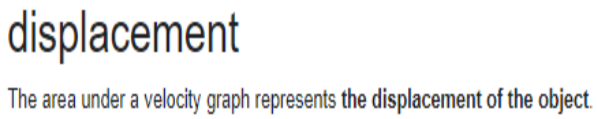
53.If the formula F=Gm 11m2/r2 the quantity G

Is a universal constant if nature

54.An object living in a circle at constant speed

Has an acceleration of constant magnitude

56. The area under the velocity time graph is

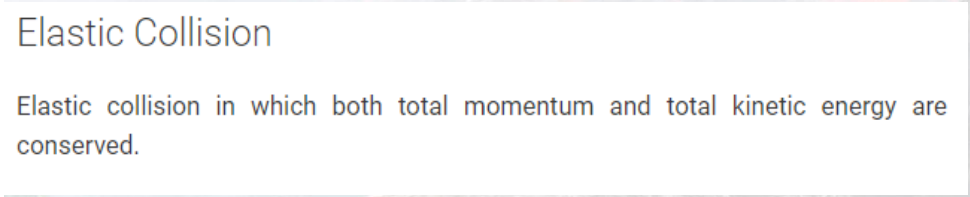


Distance or displacement….both are confirm from net

57. A particle oscillating in simple harmonic motion is

In equilibrium at the ends of its path because the acceleration is zero there

58. An elastic collision is one in which



K.E and momentum are both conserved…..confirm

65. When brakes are applied to a fact moving car the passenger will be thrown

Forward…..confirm

59.Work has dimension like

Power…..confirm

60. A 1kg block is lifted vertically 1m by a boy. The work done by the boy is about.

1J….confirm from net

61. 0.0003711 in scientific notation is

3.7 * 10^-4

68. A bullet shoot straight up returns to its starting point in 10 sec. the initial speed was.

0 = u(10) + 1/2(-9.81)(10)^2

0 = 10u - 490.5

Now rearrange to get:

490.5 = 10u

And finally take the 10 across to get:

u = 490.5/10

u = 49.05 m/s

49m/s…confirm from net

62. The rate of change of momentum of a body is equal to

Applied force

63. If you travelled for 2.5 hours with an average speed 48 miles/hours. The distance travelled is

120 miles…..confirm

64. A stone is thrown up from the surface of earth, then it reaches amaximum height, kinetic energy is equal to:

Zero……confirm from net

65. A force of 100N acts upon a body for 5 seconds. What will be the change in momentum?

500Ns….confirm

66. The relative speed of approach is always equal to relative speed of separation in?

Perfectly elastic collision

67. If the magnitude of force applied is increased, the work done will ?

Be increased…..confirm from net

68. 6 joule of work done in 3 second then power is?

2 watt

69. An object moving in the circle at constant speed.

Has an acceleration of constant magnitude

70.A vector a is added to vector b. the resultant vector(a+b) have greatest magnitude when:

When vector A and B are per pendicular

72.The angle between rectangular components of a vector is

Question:
The angle between rectangular components of a vector is

Option A):
60
Option B):
90
Option C):
120
Option D):
0

Correct Answer is Option B):
90

90 degree….confirm

73. Newton second law of motion is also called ?

Law of acceleration

74. The goal of all scientific enquiry or scientific method is?

Predicting natural events based on known patterns

75. If the total momentum of a system is changing

A net external force must be acting on the system

76.Change in momentum in one second is called?

This change in momentum is called **impulse**,

Impulse…. Confirm

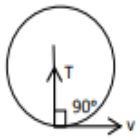
77. A/An _____ is the basic reason to change the motion of an objectaccording to Newton's second law of motion.

Net force

78. An object moves in a circle at constant speed. The work done by centripetal force is zero because_?

An object moves in a circle at constant speed. The work done by the centripetal force is zero because:

A. the displacement for each revolution is zero
B. the average force for each revolution is zero
C. there is no friction
D. the magnitude of the acceleration is zero
E. the centripetal force is perpendicular to the velocity



E ; $W = \Delta\vec{x}.\vec{T}$ v and Δx has the same direction

The centripetal force is perpendicular to the velocity….confirm

79. The law of conservation of momentum applies to a system of colliding object only if

The net external impulse is zero

80.Force is a

What force is universal?

The four fundamental forces, also known as the Universal forces are **electromagnetic force**, strong nuclear force, weak nuclear force, and gravitation. ... The strong nuclear force

Universal quantity……confirm

81. When the mass of the colliding body is much larger than the mass of the body at rest, its velocity after collision

Become double

82. The slope of a velocity – time the graph at any point may be identified with

instantaneous acceleration

83.If the force acting on a body is doubled then the acceleration becomes

If the force acting on a body is doubled, then the acceleration produced is:

www.pkmcqs.com

A: 1/2

B: 1/4

C: Double

D: Quadrupled

Answer: C

Double…confirm

84.Force:

Equal the time rate of chnge of momentum

85. When a spring is compressed or stretched, the potential energy of the spring

Increases….confirm from net

87. A ball is allowed to fall freely from certain height. It covers a distance is 1st second equal to

g/2….confirm

89. A body is changing its direction but its speed is constant, the object is:

As mentioned earlier in Lesson 1, an object moving in uniform circular motion is moving in a circle with a uniform or constant speed. The velocity vector is constant in magnitude but changing in direction. But the fact is that an accelerating object is an object that is changing its velocity. ...

Accelerating…..confirm

90. Per-second refers to the dimension of physical quantity

Dimensions of **velocity or speed** are $[L^1M^0T^{-1}]$ S.I. Unit of velocity or speed is metre per second ($m\ s^{-1}$). c.g.s. unit of velocity or speed is centimetre per second ($cm\ s^{-1}$).

Velocity…..confirm

91. The scalar product of two vectors is maximum when they are

One of the methods has its maximum when the **two vectors are parallel**; the other is

Parallel..confirm

92. Physics is one of the branches of

Physical sciences….confirm

93. Suppose no reaction force exists then which of the following case\s will occur?

• We cannot swim

• We cannot jump

• We cannot walk

1 2 and 3 all

94. Newton-Second is SI unit of:

Is newton-second a unit?

The newton-second (N · s) is **the standard unit of impulse**.

Impulse….confirm

95.Work done in gravitational field

Negative

96.When body moves with constant acceleration the velocity time graph is:

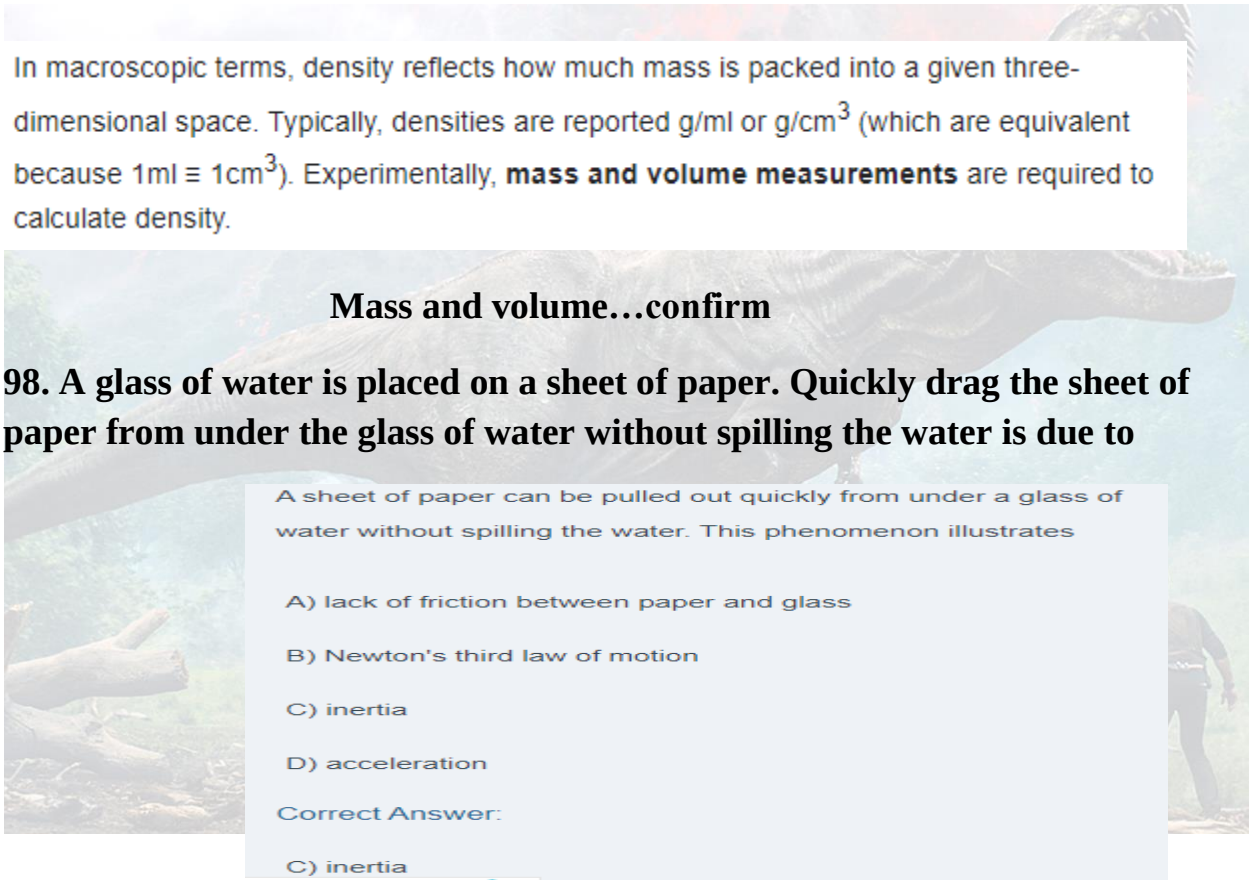
Straight line…confirm from net

97. Before the density of an object can be found, what two measurements are required

In macroscopic terms, density reflects how much mass is packed into a given three-dimensional space. Typically, densities are reported g/ml or g/cm^3 (which are equivalent because $1ml \equiv 1cm^3$). Experimentally, **mass and volume measurements** are required to calculate density.

Mass and volume…confirm

98. A glass of water is placed on a sheet of paper. Quickly drag the sheet of paper from under the glass of water without spilling the water is due to



Inertia….confirm

99.If a body whose mass is much less than a body at rest collide with it elastically, then it bounces.

Double velocity

100. When number of bodies one such that they can exert force upon

one another and no external agency exerts a force on them, they are said to form.

An isolated system

101. We will apply the condition of equilibrium to situation in which all forces

Coplanar…..confirm from net

102. Motion defines by the pair of variables

Which pair of variables defines motion? **change position and passage of time**.

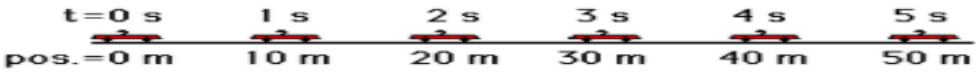
Change of position and passage of time…..confirm

103. If the slope of velocity-time graph is a straight line such that tan 0=1 at each point, then graph represent.

etc.) is descriptive of the object's motion. In this part of the lesson, we will examine how the actual **slope value of any straight line on a** velocity-time graph is the acceleration of the object.

Analyzing a Constant Velocity Motion

Consider a car moving with a constant velocity of +10 m/s. A car moving with a constant velocity has an acceleration of 0 m/s/s.



Uniform acceleration…..confirm

104. An inelastic collision is one in which

In an elastic collision, the kinetic energy lost by one body during an elastic collision is transferred to the other body so that the total kinetic energy of the colliding bodies is conserved.

Momentum is conserved but kinetic energy is not conserved….confirm

A sound wave has a wavelength of 3.0m. The distance from a compressioncenter to the adjacent rarefaction center is:

1. 0.75m

2. 1.5m

3. 3.0m

4. need to know wave speed

The speed of sound in medium depends upon

properties of the medium…confirm

3. Which of the following will remain unchanged when a sound wave travels in.

Frequency

Frequency will remain unchanged when a sound wave travels in air or in water.

3. Frequency..confrim

4. The vibrations or the pressure variations inside the inner air are converted into electrical signals by the _____.

cochlea

The cochlea converts pressure variations into electrical signals inside the inner ear.

1. cochlea..confrim

5. Sound and light waves both

1. have similar wavelength

2. obey the laws of reflection

3. travel as longitudinal waves

4. travel through vacuum

7. Point where force causes system to move without rotation is

Answer is "**center of mass**"

4. center of mass…confrim

8. The frequency which is not audible to the human ear is

The audible frequency range for humans lies between 20 Hz to 20 kHz. Hence, a sound of frequency **50 kHz** will not be audible to the human ear, as it falls outside the range of human audibility.

50000 Hz…confrim

9. If the speed of sound is 340 m/s a plane flying at 400m/s creates a conical shock wave with an apex half angle of:

Q. If the speed of sound is 340m/s a plane flying at 400m/s creates a conical shock wave with an apex half angle of:

A) 0 (no shock wave) ○

B) 32◦ ○

C) 50◦ ○

D) 58◦ ◉

B is wrong answer. Correct answer is D.

58?....confirm

11.A sound wave has a wavelength of 3.0m. The distance from a compression center to the adjacent to the rarefaction center is:

1. 0.75m

2. 1.5m

3. 3.0m

4. need to know frequency

12.A plane produces a sonic boom only when:

Question

A plane produces a sonic boom only when: A. it emits sound waves of very long wavelength

Answer · 0 votes

E. it flys faster than the speed of sound

More

4. it flys faster than the speed of sound

14.Coulomb's law is only true for point charges whose sizes are

Coulomb's law is only true for point charges whose sizes are

A. medium
B. very large
C. very small
D. large

Solution by Mcqs & Signature Website

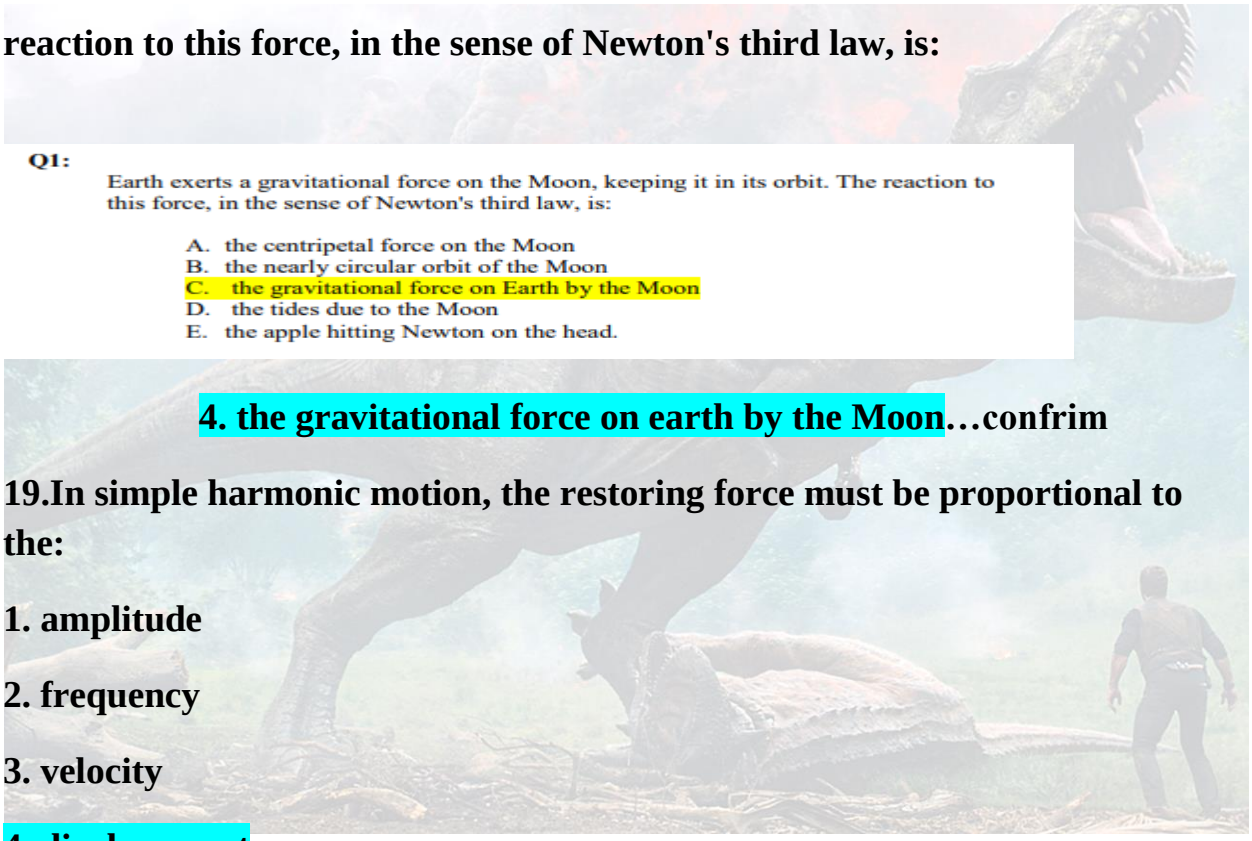
Answer: **Option C**
Explanation:
No explanation is available for this question!

Very small…confrim

15.A vector A is added to a vector B. The resultant vector A + B have greatest magnitude when:

1. The magnitude of vector A + B does not depend on the directions of A and B

16.Earth exerts a gravitational force on the Moon, keeping it in its orbit. The reaction to this force, in the sense of Newton's third law, is:



4. the gravitational force on earth by the Moon…confrim

19.In simple harmonic motion, the restoring force must be proportional to the:

1. amplitude

2. frequency

3. velocity

4. displacement

20.The turning effect of a force is called the force's

The turning effect of force is called?

Feedback

A Momentum

Correct Answer

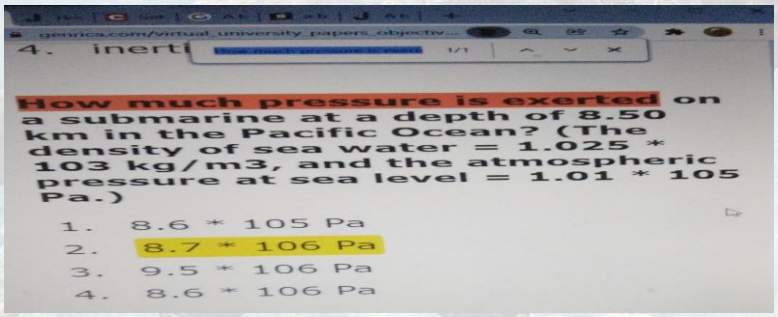
B Torque

C Moment

D None of these

torque/moment….confirm

21.How much pressure is exerted on a submarine at a depth of 8.50 km in the Pacific Ocean? (The density of sea water = 1.025 * 103 kg/m3, and the atmospheric pressure at sea level = 1.01 * 105 Pa.)



2. 8.7 * 106 Pa…confirm

22.A 4.0-m long steel beam with a cross-sectional area of 1.0 × 10-2 m2 and a Young's modulus of 2.0 × 1011 N/m2 is wedged horizontally between two vertical walls. In order to wedge the beam, it is compressed by 0.020mm. If the coefficient of static friction between the beam and the walls is 0.70 the maximum mass (including its own) it can bear without slipping is:

1. 3.6 kg

2. 36 kg

3. 71 kg

4. 710 kg

23.The torque about any two points has the same value when the body is in

1. translational equilibrium

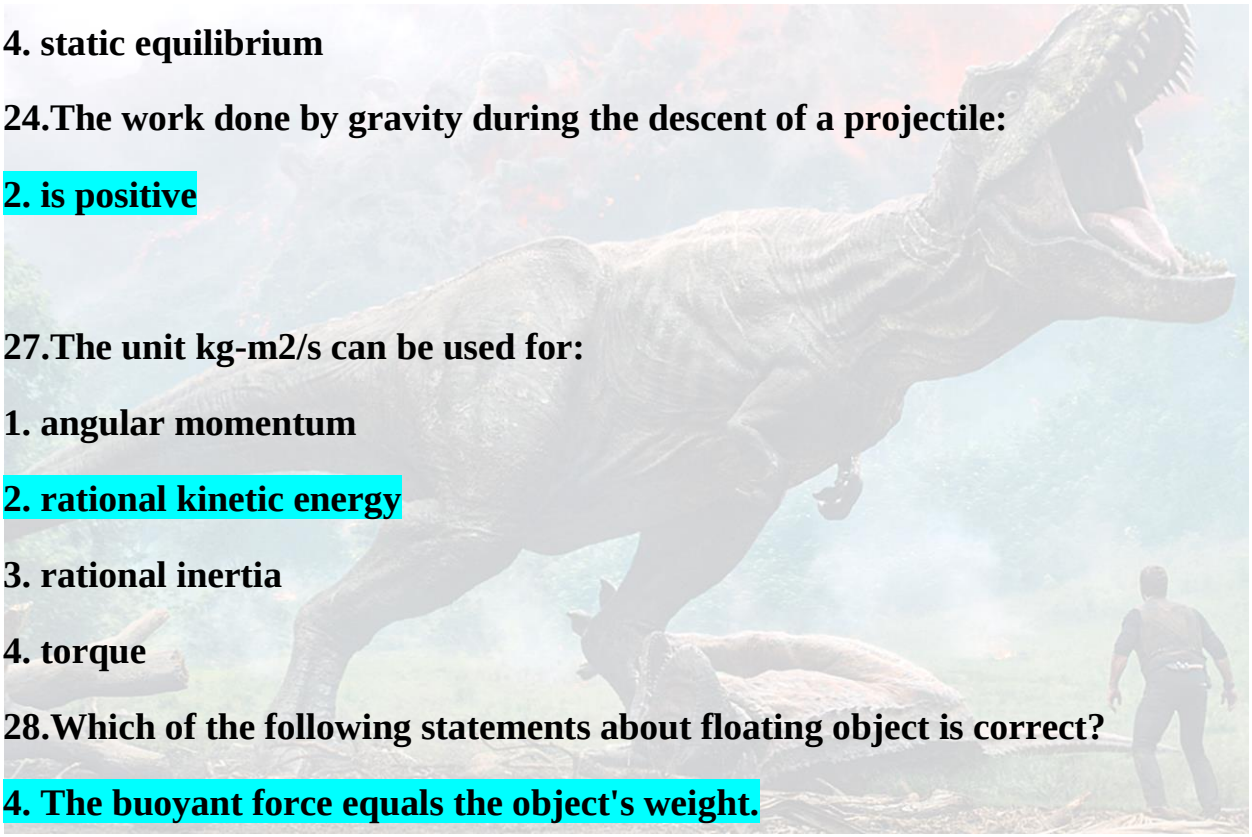
2. neutral equilibrium

3. dynamic equilibrium

4. static equilibrium

24.The work done by gravity during the descent of a projectile:

2. is positive



27.The unit kg-m2/s can be used for:

1. angular momentum

2. rational kinetic energy

3. rational inertia

4. torque

28.Which of the following statements about floating object is correct?

4. The buoyant force equals the object's weight.

30.An ultrasonic wave is sent from a ship towards the bottom of the sea. It is found that the time interval between the sending and receiving of the wave is 1.6 s. What is the depth of the sea, if the velocity of sound in the seawater

An ultrasonic wave is sent from a ship towards the bottom of the sea. It is found that the time interval between the sending and receiving of the wave is 1.6 s. What is the depth of the sea, if the velocity of sound in the seawater is 1400 m/s?

Correct Answer

A 1120 m

B 560 m

C 1400m

D 112 m

Feedback

1. 1120 m…confrim

32.A couple produces:

1. Purely linear motion

2. Purely rotational motion

3. Linear and rotational motion

4. No motion

33.In _____ object returns to its original position if displaced slightly

1. dynamic equilibrium

2. stable equilibrium

3. unstable equilibrium

4. rotational equilibrium

37.The application/s of dimensional analysis is/are:

i. To convert a physical quantity from one system of units to an other.

ii. To check the dimensional correctness of a given equation.

iii. Establish a relationship between different physical quantities in an

equation.

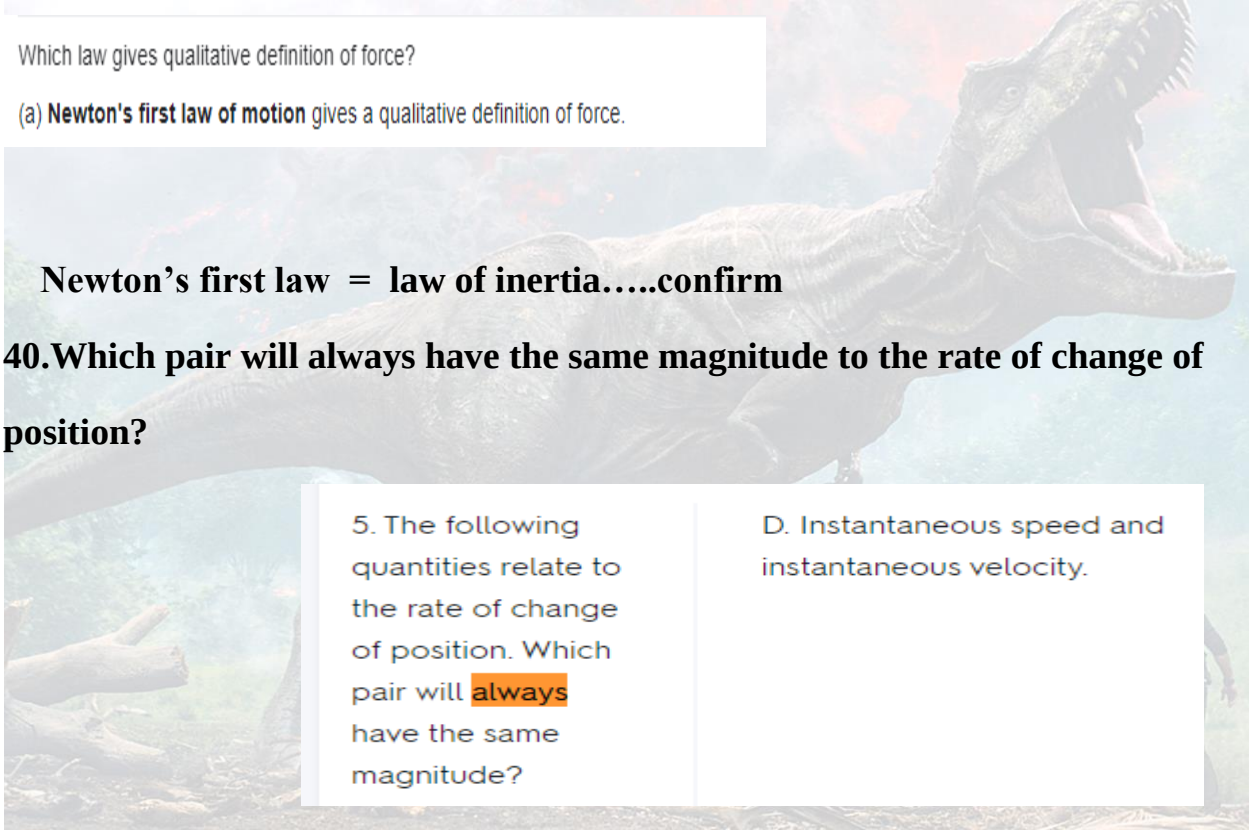
1. i only

2. ii & iii only

3. i & iii only

4. I, ii & iii

39.A qualitative definition of force is given by which law?



Newton's first law = law of inertia…..confirm

40.Which pair will always have the same magnitude to the rate of change of position?

Instantaneous speed and instantaneous velocity….confirm

41.Add two vectors of length 4 m & 5 m but their orientation is not known, The length after addition of these two vectors will be:

1. Less than 1 m

2. between 9 m and 1 m

3. between 9 m and 5 m

4. 9m

43.A _____ vector is obtained by dividing the vector by its magnitude:

Unit vector is obtained by dividing vector by its

Statement 1: Unit vector has a unit though its magnitude is one <br> and
 Statement 2: Unit vector is obtained by dividing a vector by **its own magnituded**. 29-Jul-2021

unit….confirm

44.When the momentum of a body is doubled, its kinetic energy _____ .

1. Becomes ten times its kinetic energy

2. Becomes four times its initial kinetic energy

45.A ball is thrown upward into air with a speed that is greater than terminal speed. It lands at the place where it was thrown. During its flight the force of air resistance is the greatest:

1. just after it is thrown

2. half way up

3. at the top of its trajectory

4. halfway down

48.An inellastic collidion is one in which:

1. momentum is not conserved but kinetic energy is conserved

49.When you step on the accelerator to increase the speed of your car, the force that accelerates the car is

When you step on the accelerator to increase the speed of your car the force that accelerate the car is?

When you step on the accelerometer to increase the speed of your the force that accelerates the car is **the force of friction of the road on the tires**.

the force of friction of the road on the tires…..confirm from net

50.Light year is a unit of:

A light-year is a **measurement of distance and not time**

Distance…confirm

51.A body is changing its direction but speed is constant, the object is:

1. accelerating

2. slowing down

3. speeding

4. Displacing

52.The ratio of circumference of a circle to its diameter is equal to:

1. 2 p

2. pi

3. p /2

4. one steradian

53.Which of the following statements are TRUE of sound waves? Identify all that apply.

1. Sound can travel through a vacuum

2. A sound wave is a transverse wave

3. A sound wave is a mechanical wave

4. To hear the sound of a tuning fork, the tines of the fork must move air from the fork to one's ear

54.A force of 120 N is exerted on a 40 kg container which sits on a floor. If the

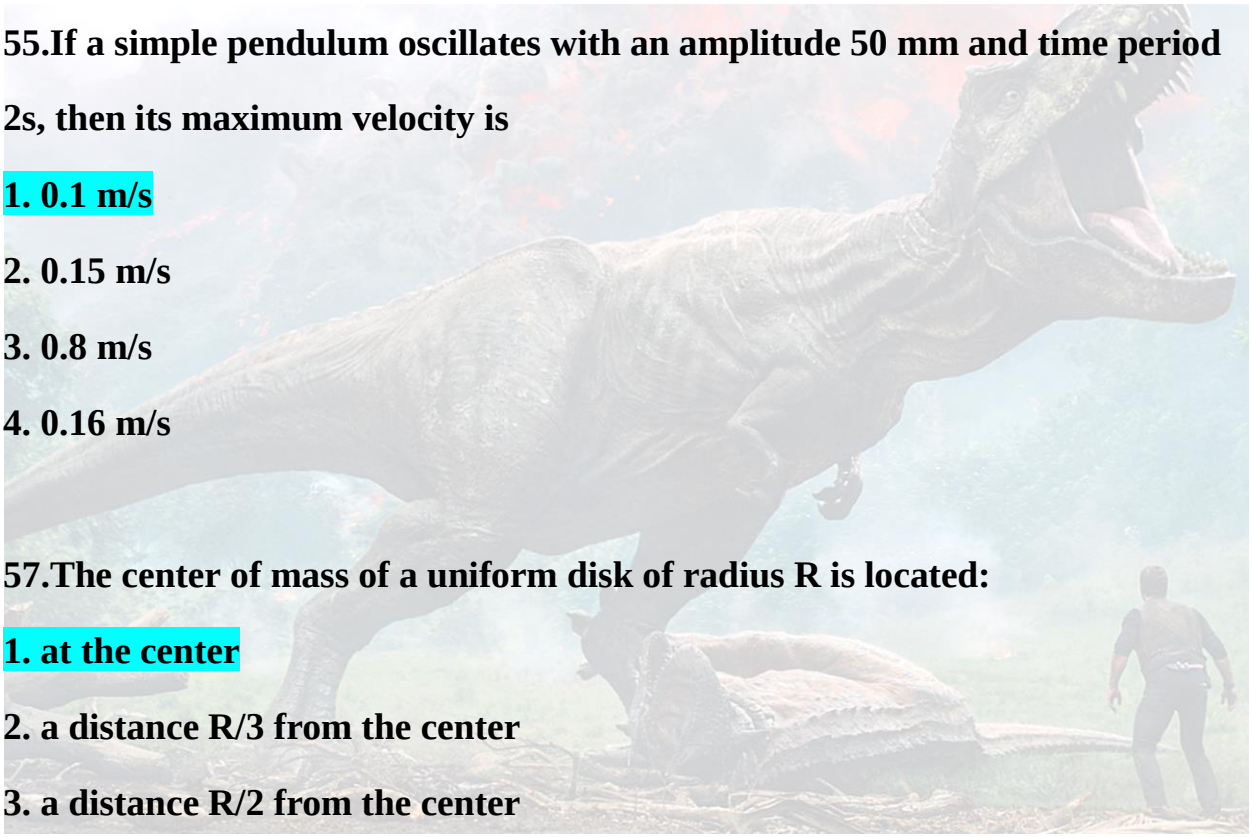
frictional force between floor and container is 80 N. What is the magnitude of the acceleration of the container?

1. 2 ms^-2

2. 5 ms^-2

3. 3 ms^-2

4. 1 ms^-2



55.If a simple pendulum oscillates with an amplitude 50 mm and time period 2s, then its maximum velocity is

1. 0.1 m/s

2. 0.15 m/s

3. 0.8 m/s

4. 0.16 m/s

57.The center of mass of a uniform disk of radius R is located:

1. at the center

2. a distance R/3 from the center

3. a distance R/2 from the center

4. on the rim

58.For a body to be in equilibrium under the combined action of several forces:

1. any two of these forces must be balanced by a third force

2. the sum of components of all the forces in any direction must equal

zero

3. all of the forces form pairs of equal and opposite forces

4. all the forces must be applied at the same point

59.A source of frequency of 500 Hz emits waves of wavelength 0.4 m, how long does the wave take to travel 600 m?

1. 3 s

61.A force of 5000N is applied outwardly to each end of a 5.0-m long rod with a radius of 34.0 cm and a Young's modulus of 125 x 108 N/m2. The elongation of the rod is:

0.55mm…..confirm from net

62.The speed of a sound wave is determined by:

1. its amplitude

2. its intensity

3. the transmitting medium

4. number of harmonics present

63.Which of the following statement is TRUE of sound intensity and decibel levels? Identify all that apply.

. The intensity of sound which corresponds to the threshold of pain is one trillion times more intense than the sound which corresonds to the threshold of hearing.

64.Sound waves are

1. longitudinal

65.For an ideal fluid flowing through a horizontal pipe, Bernoulli's equation states that the sum of the pressure and energy per unit volume along the pipe does which of the following? (Assume measurements are taken along

the pipe in the direction of fluid flow.)

1. increases as the pipe diameter increases

2. decreases as the pipe diameter increases

3. remains constant as the pipe diameter increases

4. increases, then decreases as the pipe diameter increases

66. A 2.0-kg block travels around a 0.5-m radius circle with an angular velocity of 12 rad/s. Its angular momentum about the center of the circle is:

28. As a 2.0-kg block travels around a 0.50-m radius circle it has an angular speed of 12 rad/s. The circle is parallel to the xy plane and is centered on the z axis, 0.75 m from the origin. The magnitude of its angular momentum around the origin is:

A. $6.0\ \text{kg} \cdot \text{m}^2/\text{s}$
B. $9.0\ \text{kg} \cdot \text{m}^2/\text{s}$
C. $11\ \text{kg} \cdot \text{m}^2/\text{s}$
D. $14\ \text{kg} \cdot \text{m}^2/\text{s}$
E. $20\ \text{kg} \cdot \text{m}^2/\text{s}$

ans: C

12 kg.m2/s….confirm

12. Power is equal to the dot product of force and:

c) Velocity

3) A wheel of radius 50 cm having the angular speed of 5 rad/s will have linear speed in m/s?

v=r*omega

let omega = $(i can not type omega)

v=r*$

v=0.5m×5rd s^-1

linear velocity =2.5m/s....as unit radian has 1 dimensional formula (M^0L^0T^0)

2.5…confrim

5) Stress can be measured in:

Stress is the measure of an external force acting over the cross sectional area of an object. Stress has units of force per area: **N/m^2 (SI)** or lb/in^2 (US). The SI units are commonly referred to as Pascals, abbreviated Pa.

b) N/m2….confirm

6) Acceleration in a body is always produced on the direction of:

Acceleration is therefore a change in either speed or direction, or both. Keep in mind that although acceleration is in the direction of the change in **velocity**, it is not always in the direction of motion. When an object slows down, its acceleration is opposite to the direction of its motion.

a) Velocity r…confirm from net

8) Ali wants to lift a mass of 7.5 kg with constant velocity by a rope that passesthrough a frictionless pulley which is attached to the ceiling of room.Calculate the tension in the rope by neglecting the mass of the rope.

8) **Ali wants to lift a mass of 7.5 kg with constant velocity by a rope that passes through a frictionless pulley which is attached to the ceiling of room. Calculate the tension in the rope by neglecting the mass of the rope.**

Select the correct option

a) 75 N

b) 7.5 Kg

c) 75 Kg

d) 0.75 N

d) 0.75 N…confrim

9) The first condition of equilibrium implies that:

c) sigmaF = 0

10) Final take off velocity of an airplane is 67 m/s. The length of runway is 2 km, the constant acceleration is:

Select the correct option

a) 3.24 ms^-1

b) 3.24 ms^-2

c) 2.24 ms^-1

d) 2.24 ms^-2

11) The ultimate strength of a sample in the stress at which the simple:

Select the correct option

a) remain underwater

b) breaks

c) bends 180?

d) returns to its original shape when the stress is moved

13) if you traveled for 2.5 hours with an average speed 48 miles/hours, the distance traveled is:

Select the correct option

a) 19.2 miles

b) 120 miles

c) 300 miles

d) 48 miles

14) The law of inertia was firstly formulated by:

Select the correct option

a) Newton

b) Einstein

c) Galileo

d) Aristotle

15) When the velocity of an aeroplance is doubled, the momentum ___.

Select the correct option

a) Is conserved

b) Becomes zero

c) Increase uniformly

d) Remains unchanged

16) As we move above, the body above the surface of the earth, the change in potential energy will be:

Select the correct option

a) Infinity

b) Positive

c) Zero

d) Negative

18) A body of mass 2 kg moving with velocity 4 m/s has K.E equals to:

A body of mass 2 kg moving with velocity of 4 ms^{-1} has K.E equal to:

✗	2 J
✗	32 J
✗	8 J
✓	16 J

a) 16 J….confrim

20) A particle oscillating in simple harmonic motion is:

Select the correct option

a) in equilibrium at the center of its path because the acceleration is zero

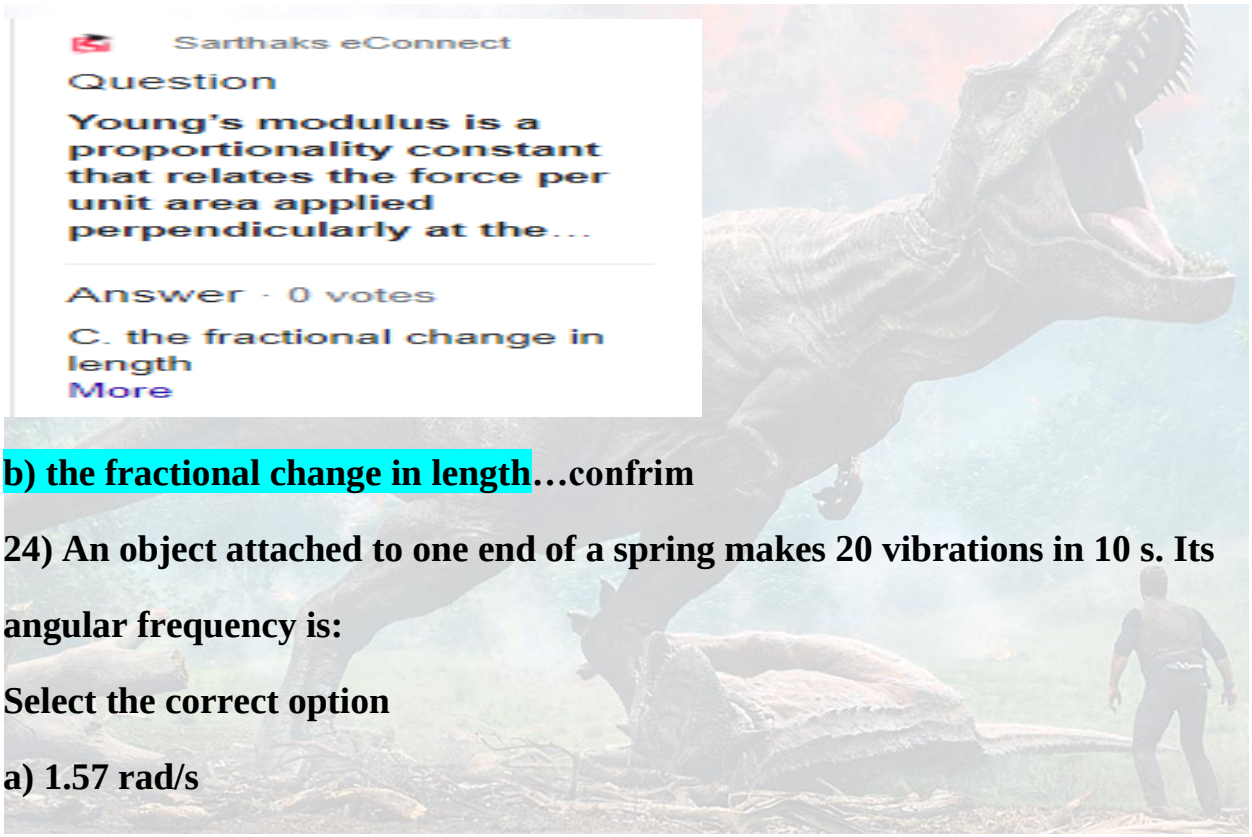
there

b) never in equilibrium because it is in motion

c) in equilibrium at the end of its path because the acceleration is zero there

d) never in equilibrium because there is always a force

22) Young's modulus is a proportionality constant that relates the force per unit area applied perpendicularly at the surface of an object to:



b) the fractional change in length…confrim

24) An object attached to one end of a spring makes 20 vibrations in 10 s. Its angular frequency is:

Select the correct option

a) 1.57 rad/s

b) 12.6 rad/s

c) 2.0 rad/s

d) 6.3 rad/s

25) The dimensional units of ratio of work and power is:

Quantity	Relation	Dimension
power	work/time	[ML2T−3]

T…..confirm

27) A sound wave has a wavelength of 3.0m. The distance from a compression center to the adjacent rarefaction center is:

Select the correct option

a) 3.0m

b) 1.5m

c) 0.75m

d) need to know wave speed

28) For an object in equilibrium the net torque acting on it vanishes only if each torque is calculated about:

Select the correct option

a) the center of gravity

b) the same point

c) the geometrical center

d) the center of mass

30) bank and forth is a leftward and rightward direction. This type of wave is known as a ___.

d) Longitudinal

18) A/an ___ is the basic reason to change in the motion of an object according to Newton's second law of motion

Select the correct option

a) acceleration

b) change in velocity

c) net force

d) decrease in inertia

20) The center of mass of Earth's atmosphere is:

Select the correct option

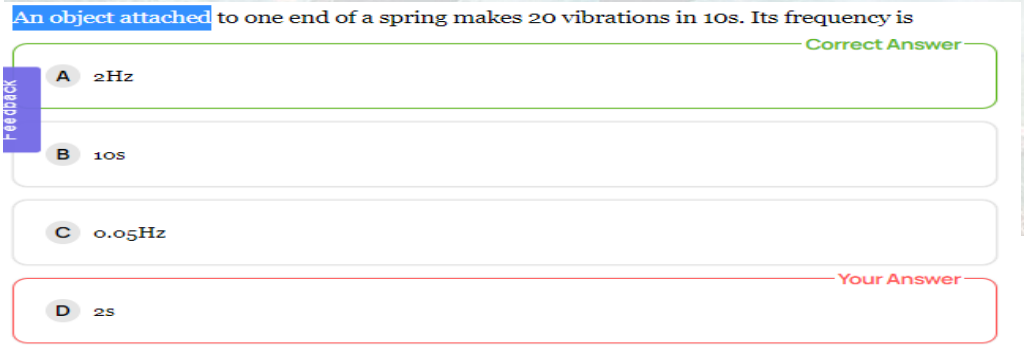
a) near the outer boundary of the atmosphere

b) near the center of earth

c) a little less than halfways between earth's surface and the outer boundary of the atmosphere

d) near the surface of earth

21) An object attached to one end of a spring males 20 complete oscillations in 10 s. Its period is:



d) 2Hz….confirm

22) Whenever an object strikes a stationary object of equal mass:

Question

Whenever an object strikes a stationary object of equal mass: A. the two **objects** cannot stick together

Answer · 0 votes

E. none of the above
More

c) none of these

d) the collision must be elastic

23) If a wheel turns with constant angular speed then:

Select the correct option

a) each point on its moves with constant velocity

b) each point on its rim moves with constant acceleration

c) the wheel turns through equal angles in equal times

d) the angle through which the wheel turns in each second increases as time goes on

25) In Simple harmonic motion, the magnitude of the acceleration is

In simple harmonic motion , the acceleration of the body is **inversely proportional to its displacement from the mean position** .

c) inversely proportional to the displacement….confrim

12) the projectile path is known as its:

Select the correct option

a) range

b) trajectory

c) curve

d) time of action

13) If force of friction is negligible, then acceleration of two freely falling objects of different masses is:

the force of friction is negligible then acceleration of two free falling object of different masses is same because gravity is same for both the object

The same…confirm

16) A sphere of moment on inertia I rolls down an inclined plane without slipping. The ratio of the rotational kinetic energy to the transitional kinetic energy is nearly:

A $\frac{5}{7}$

B $\frac{2}{54}$

C $\frac{2}{7}$

D none of the above

Answer C

Solution $\frac{KE_{rot}}{KE_{rot}} = \frac{\frac{1}{2}I\omega^2}{\frac{1}{2}mv^2 + \frac{1}{2}I\omega^2} = \frac{\frac{2}{5}mv^2}{\frac{7}{5}mv^2} = \frac{2}{7}$

2/5…..confirm

3) When the velocity of an aeroplane is doubled, the momentum ___.

Select the correct option

a) Increase uniformly

b) Becomes zero

c) Is conserved

d) Remains unchanged

6) The acceleration of projectile in x-direction:

Select the correct option

a) depends on initial velocity

b) depends on how long it is in the air

c) depends on y-acceleration

d) 0 m/s^2

8) The goal of all scientific inquiry (or scientific method) is:

Select the correct option

a) world peace

b) predicting natural events based

c) to make everyone rich and happy

9

A bullet shot straight up returns

to its starting point in 10 sec.

the initial speed was:

49 m/s

13

A sphere of the moment on

inertia I roll down an inclined

plane without slipping. The ratio

of the rotational kinetic energy

to the transitional kinetic energy

is near:

5/7

14

The persistence of audible

sound due to the successive

reflections from the

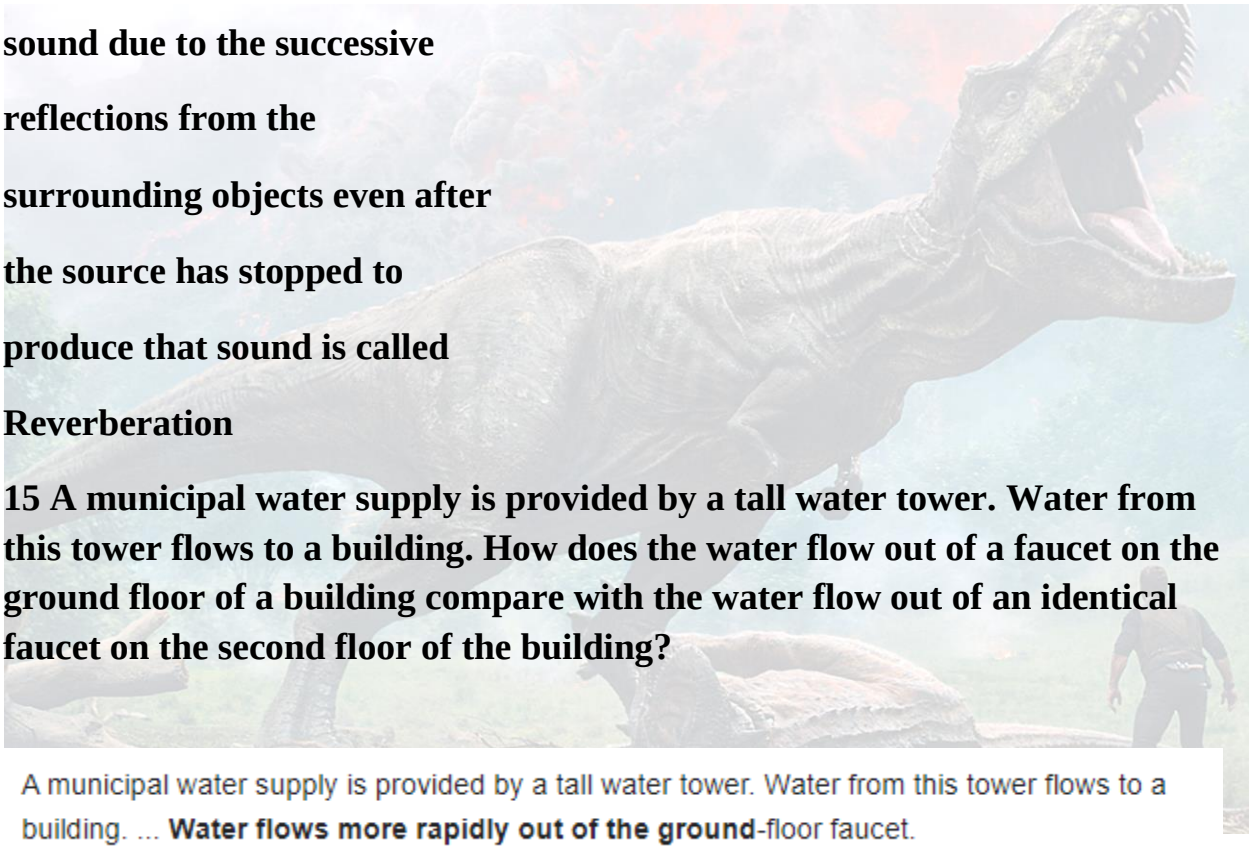
surrounding objects even after

the source has stopped to

produce that sound is called

Reverberation

15 A municipal water supply is provided by a tall water tower. Water from this tower flows to a building. How does the water flow out of a faucet on the ground floor of a building compare with the water flow out of an identical faucet on the second floor of the building?



A municipal water supply is provided by a tall water tower. Water from this tower flows to a building. ... **Water flows more rapidly out of the ground**-floor faucet.

Water flows more rapidly out of the ground-floor faucet…..confirm

17 The ultimate strength of a sample is the stress at which the sample

Breaks/ returns to its original shape when the stress is removed

18 The dot product of vector A with

itself is equal to: A^2

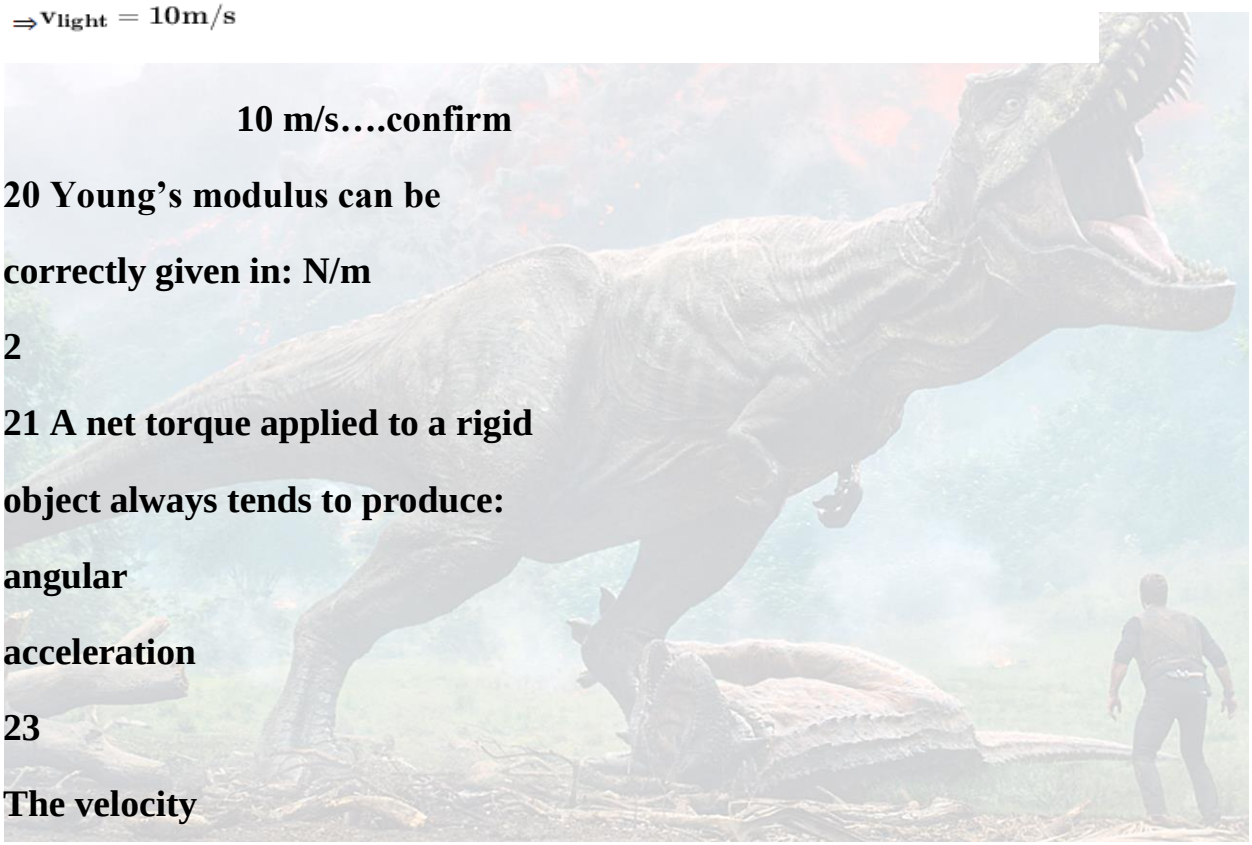
19 A heavy particle moving with 5 m/s suffers an elastic collision with a light particle at rest. After the collision, the velocity of light particle will be:

velocity of heavy particle remains unchanged because particle does strike have enough momentum to change its direction or magnitude.

also, $u_{light} = 0$

$\Rightarrow 5m/s - v_{light} = 0 - 5m/s$

$\Rightarrow v_{light} = 10m/s$



10 m/s….confirm

20 Young's modulus can be

correctly given in: N/m

2

21 A net torque applied to a rigid

object always tends to produce:

angular

acceleration

23

The velocity

-time graph is

parallel to the time axis the

acceleration of moving body is:

zero

25 A particle

26 The dimensional units of the

ratio of work and power is:

T

27 The magnitude of the acceleration on the planet in orbit around the Sun is proportional to.

the mass of the Sun…..confirm

28 A Prosonic wave I gent from ship towards the bottom of the sea. N is found that the time interval between the sending and receiving of the wave is 1.6

29 Water flows into velocity of 15 m/s through a pipe that has 9 radii of 0.40 m. The water then flows through a smaller pipe at a velocity of 45 m/s. What is the radius of the smuttier pipe?

0.23m...confirm from net

30 A mosquito's buzz is often rated with a decibel rating of 40 dB. Normal conversation is often rated at 60 dB. How many times more intense is normal conversation compared to 6 mosquito's buzz?

A mosquito's buzz is often rated with a decibel rating of 40 dB. Normal conversation is often rated at 60 dB. How many times more intense is normal conversation compared to a mosquito's buzz? Normal conversation is **20 dB more intense**.

20….confirm

31 People try to keep the... over their feet. in order to feel stable.

center of gravity

32 If force is applied at the center of mass then torque is.

If the force is applied at the center of mass, the distance between the center of mass and the point where the force is applied is, obviously, **zero**. So the torque is zero.

Zero ….confirm

33 As the wavelength of a wave in a uniform medium increases. Its speed will

Since frequency is dependent upon the source and it remains constant. Hence velocity of wave becomes directly proportional to the wavelength. If wavelength of wave increases then **velocity of wave will** also increase .

Increase….confirm

36 A/an ---------- is the basic reason to change in the motion of an object according to Net force

What is the basic reason to change in the motion of an object according to Newton's second law of motion?

Newton's second law says that **when a constant force acts on a massive body, it causes it to accelerate, i.e., to change its velocity, at a constant rate**. In the simplest case, a force applied to an object at rest causes it to accelerate in the direction of the force.

26-Sept-2017

Newton's second law of motion.

37 When spring is compressed or stretched, the potential energy of spring

When a spring is compressed or stretched, potential energy energy of the **spring increases in both the cases**. This is because work is done by us in compression as well as

Increase…confirm

38 The ultimate strength of a sample is the stress in which the sample:

Ultimate stress is the **point where the sample starts breaking**.

Breaks…confirm

39 The value of k in coulomb's law depends upon:

Value of k in coulomb's law depends upon

magnitude of charges | distance between charges | Both a and b

✅ medium between two charges

Medium between two charges….confirm

41 The ratio of the circumference of a circle to its diameter is equal to:

Pi

Circles are all similar, and "the circumference divided by the diameter" produces the same value regardless of their radius. This value is the ratio of the circumference of a circle to its diameter and is called π (Pi).

Pi….confrim

42 A water bed that is 1.5 m wide and 2.5 m long weighs 1055 N. assuming the entire lower surface of the bed in contact with the floor, what is the pressure the bed exerts on the floor?

A 1.5m wide by 2.5m long water bed weighs 1025N. Find the pressure that the water bed exerts on the floor. Assume that the entire lower surface of the bed makes contact with the floor.

Feedback

Correct Answer

A 273.3Pa

B 373.5Pa

C 173.3Pa

D 473.3Pa

280 pa

43 The center of gravity is the average location of the …….. of an object

The center of gravity (CG) location is the **average location of all the weight of an object**. The center of gravity is the balance point of an object, also expressed as the point where all the mass appears to be located.

Weight….confirm

45 As per coulomb's law, the force of attraction or repulsion between two - point charge directly proportional to the

Coulomb's law states that "The magnitude of the electrostatic force of attraction or repulsion between two point charges is directly proportional to **the product of the magnitudes of charges** and inversely proportional to the square of the distance between them. 28-Sept-2018

Product os the magnitude of charges….confirm

46 One revolution is the same as:

1 answer

1 revolution is equal to an angle of 2π radians.

2pi rad…confirm

47 A ---------- vector is obtained by dividing the vector by its magnitude:

A unit **vector is obtained by dividing a vector** with

Unit…confirm

48 Take the speed of the sound to be 340m/s. A thunderclap is heard about 3 s after the lightning is seen. The source of both light and sound is:

A moving overhead faster than the speed of sound.

B emitting a much higher frequency than is heard.

C emitting a much lower frequency than is heard

D about 1000 m away

Answer D

About 1000m away…..confirm

49 The fundamental dimensions of angular momentum are :

Dimension	$M L^2T^{-1}$

ML2T-1….confirm

50 The approximate value of g at an altitude above Earth equal to one Earth diameter is:

Answer- g' = g/9 = 1.09 m/s^2

Explaination-
Gravitational acceleration due to earth at distance r from earth's centre is given by
g = GM/r^2

At height equal to earths diameter
h = 2R
r = R+h = R+2R = 3R

Gravitational acceleration at h=2R
g' = GM/9R^2
g' = g/9
g' = 9.8/9
g' = 1.09 m/s^2

1.9m/s2…confirm

52 . If the distance between all pairs of particulars of the body do not change by applying a force that a body is said to be

A body is formally regarded as rigid if the distance between any set of two points in it is always constant. In reality no body is **perfectly rigid**. When equal and opposite forces are applied to a body, it is always deformed slightly.

Rigid…confirm

Question1

According to the equation of work, when a boy sits in place and studies for the whole night, he does

Ans. No work

Question2

The scaler product of two vectors is maximum when they are;

Ans. Perpendicular

Question3

A transverse wave is transporting energy from east to west. The particles of the medium will move…

Ans. Both northward and southward

Question4

Work has dimensions like:

Ans. Power

Question6

If a body whose mass is much less than a body at rest collide with it elastically, then it bounces back with:

Ans. Double velocity

Question7

Sound and light waves both

Ans. travel as longitudinal waves

Question8

Suitable units for the gravitational constant G are:

Ans. Kg-m/s2

Question9

A sphere of moment on inertia I rolls down an inclined plane without slipping. The ratio of the rotational kinetic energy to the transitional kinetic energy is nearly:

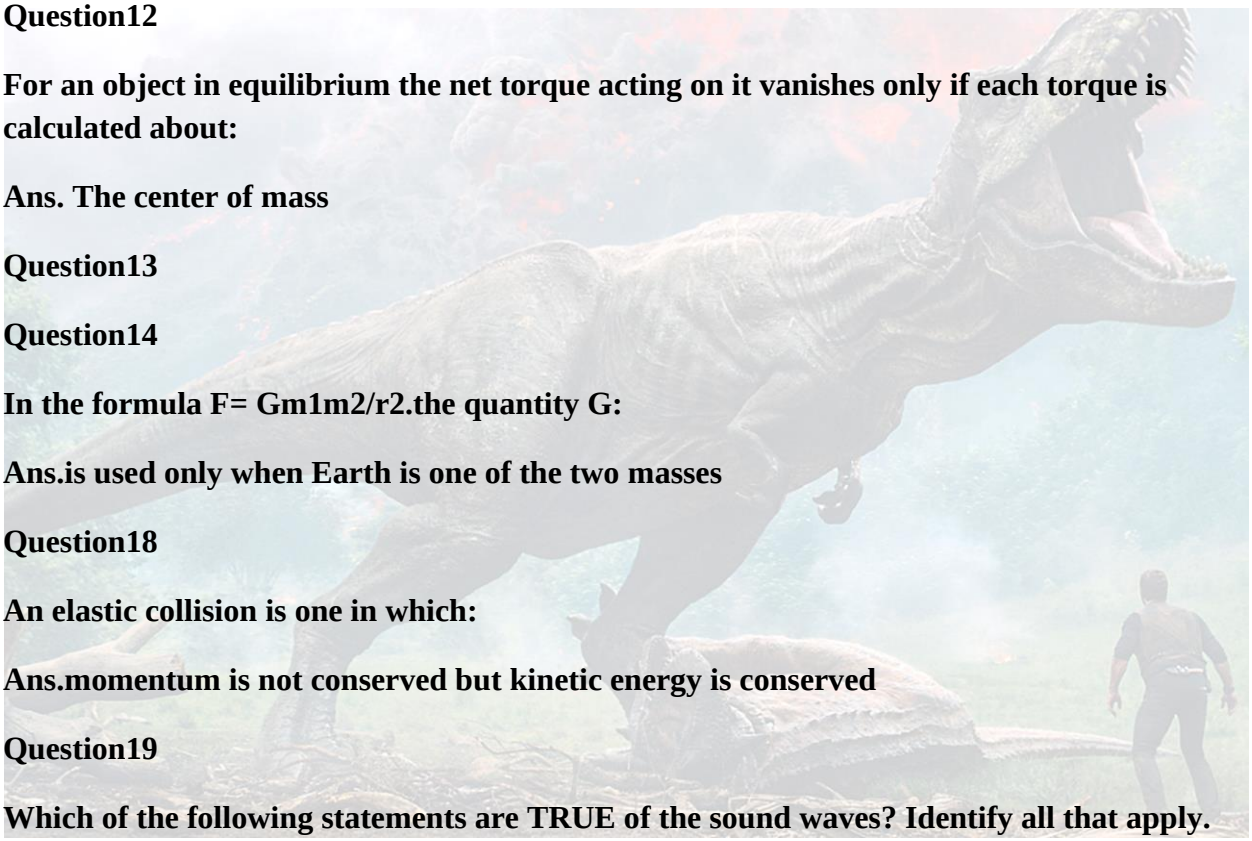
Ans. 5/2

Question11

Take the speed of sound to be 340m/s. A thunder clap is head about 3s after the lightning is seen. The source of both light and sound is:

Ans. Emitting a much higher frequency than is head

Question12



For an object in equilibrium the net torque acting on it vanishes only if each torque is calculated about:

Ans. The center of mass

Question13

Question14

In the formula F= Gm1m2/r2.the quantity G:

Ans.is used only when Earth is one of the two masses

Question18

An elastic collision is one in which:

Ans.momentum is not conserved but kinetic energy is conserved

Question19

Which of the following statements are TRUE of the sound waves? Identify all that apply.

And. Sound can travel through a vacuum

Question20

A bullet shoot straight up returns to its starting point in 10sec.the initial speed was:

Ans. 49m/s

Question21

0.0003711 in scientific notation is:

Ans. 3.7×10^-4

Question22

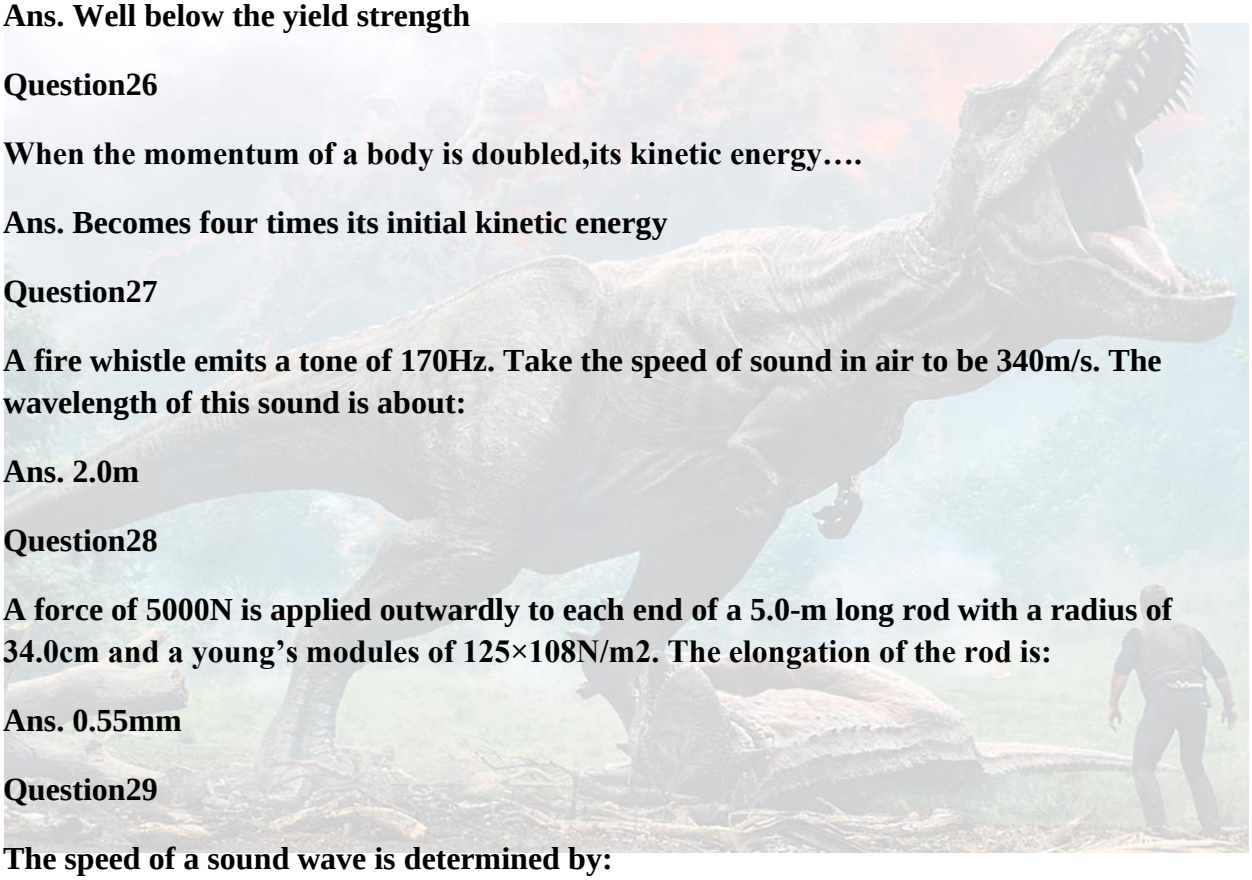
When a particle moving along a circular path, it's projection along the diameter executes:

Ans. Rotatory motion

Question24

Young's modules can be used to calculate the strain for a stress that is;

Ans. Well below the yield strength



Question26

When the momentum of a body is doubled,its kinetic energy….

Ans. Becomes four times its initial kinetic energy

Question27

A fire whistle emits a tone of 170Hz. Take the speed of sound in air to be 340m/s. The wavelength of this sound is about:

Ans. 2.0m

Question28

A force of 5000N is applied outwardly to each end of a 5.0-m long rod with a radius of 34.0cm and a young's modules of 125×108N/m2. The elongation of the rod is:

Ans. 0.55mm

Question29

The speed of a sound wave is determined by:

Ans.the transmiting medium

Question31

What sort of energy does flying bird posses?

Ans. Kinetic energy

Question32

A whistle producing sound waves of frequencies 9500Hz and above is approaching a stationary person with speed v ms-1. The velocity of sound in air is 300ms-1. If the person can be frequencies up to 10000Hz,the maximum value of v up to which he can hear the whistle is.

Ans. 1.5

Question33

A sound wave is a mechanical wave; not an electronognetic wave.this means that

Ans. A sound wave transports its energy through a vacuum

Question34

What is the angle of projection of projectile,for which its maximum height and horizontal range are equal?

Ans. 76°

Question35

Stars moving away from the earth shows:

Ans. Red shift

Question37

Which of the following statement/s is / are true?

I. The weight of a man on the moon is smaller than tha on the Earth.
II. The mass of a man is the same on the both the moon and the Earth.
III. We cannot determine our own mass in the outer space because there is no gravity:

Ans. (I) only

Question38

A 1- kg block is lifted vertically 1m by a boy. The work done by the boy is about:

Ans. 1 j

Question39

Swimming becomes possible because of:

Ans. Third law of motion

Question41

The angular momentum vector of the earth about its rotation axis,due to its daily rotation,is directed:

Ans.tangent to the equator toward the west

Question42

The ratio of circumference of a circle to its diameter is equal to:

Ans. N

Question43

The frequency which is not audible to the human ear is

Ans. 5000Hz

Question44

Which of the following statements are TRUE of sound waves? Identify all the apply.

Ans. To hear the sound of a tuning fork,the tines of the fork must move air from the fork to one's ear

Question45

A force of 120N is exerted on a 40kg container which sits on a floor. If the frictional force between floor and container is 80N. What is the magnitude of the acceleration of the container?

Ans. 2 ms^-2

Question46

If a simple pendulum oscillates with an amplitude 50mm and time period 2s. Then its maximum velocity is.

Ans. 0.1m/s

Question47

Acceleration in a body is always produced in the direction of:

Ans. Velocity

Question48

The center of the mass of a uniform disk of radius R is located:

Ans. At the center

Question49

For a body to be in equilibrium under the combined action of several forces:

Ans. The sum of the components of all the forces in any direction must equal zero

Question50

A source of frequency of 500Hz emits waves of wavelength 0.4m. how long does the wave to take to travel 600m?

Ans. 3s

Question51

Momentum may be expressed in:

The SI unit of momentum is **kilogram-metre per second (kg ms^{-1})**.

Ans. Kg/m.s

Question1

The dimentional units of ratio of work and power is..

Ans.1

Question2

Which of the following statement is true?

Gravity is necessary to measure both weight and mass

Question5

The body may be considered as a point object, the orbital radius is:

Ans.Equal as compared to the size of the body

Question7

When a particle moving along a circuit path, its projection along the diameter executes:

Ans.vibratory motion

Question10

'p type' earthquake waves resemble to;

Ans.longtudinal waves

Question11

If f is the force acting on the test charge (q) the electric field intensity E would be given by.

Ans.E=f/wo

Question12

A mosquitos buzz is often roted with a decimal routing of 40 dB. Normal conversation is often roted at 60dB. How many times more intense is normal conversation compared to a mosquitos buzz?

Ans.20

Question13

The direction of angular momentum of a body moving in a circle it.

angular momentum: A vector quantity describing an object in circular motion; its magnitude is equal to the momentum of the particle, and the direction is **perpendicular to the plane of its circular motion**.

Ans. Perpendicular to the plane of circle

Question14

Suppose no reaction force exits then which of the following cose/s will occur?

I. We connect swim?

ii. We connect jump?

iii. We connect wak?

Ans.(I) only

Question15

A sound wave is a machanical wave:not an electronognetic wave. This means that..

Ans. A sound wave transport its energy through a vocuum.

Question16

It is easier to work on the concert road than on ice become.

Ans.the friction between the ice and the feet is less than that between the concerte and feet

Question17

The acceleration of projectile in x- direction:

Ans.0m/s^2

Question18

A/ an ….is the basic reason to change in the motion of an object according to Newton's law of motion

Ans.net force

Question19

Which pair will always have the same magnitude to the rate of change of position?

Ans. Average speed and average velocity

Question20

Newton's second law of motion is also called

Ans. Law of acceleration

Question21

If the distance between oil pairs of particles of the body do not change by applying a force then the body is said to be

Ans.rigid

Question22

The speed of a wave depends upon (i.e, is causally affected by)..

Ans.Both the wavelength and the frequency of the wave.

Question23

The center of mass of the system consisting of Earth ,the sun,and the planet Mars is:

Ans. Closer to the sun than to either of the other bodies

Question24

Newton first law is called;

Ans.law of inertia

Question25

A couple produces:

Ans. Purely rotational motion

Question26

Which pair will always have the same magnitude to the rate of change of position?

Ans. Instantaneous speed and instantaneous velocity

Question27

The fundamental dimentions of angular momentum are

Ans.ML2T-1

Question28

If F is the force acting on the test charge qo, the electric field intensity E would be given by

Ans.E=F/qo

Question29

One revolution per minute is about

Ans.0.105 rod/s

Question30

Young's modules can be correctly given in:

Ans.N/m2