Phy101 Searching file

by Orange Monkey Team

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

   No work

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.**

   Acceleration

4. **What sort of energy does flying bird possess?**

   Both potential and kinetic energy

5. **The acceleration of projectile in x-direction:**

   $0ms^{-2}$

6. **The projectile path is also known as its**

   Trajectory

7. **If force of friction is negligible, then acceleration of two freely falling objects of different masses is:**

   Smaller acceleration for smaller mass

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

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

Becomes four times its initial energy

10. **Which of the following statement is true**

Gravity is necessary to measure both weight and mass

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

the friction between the ice and the feet is less than that between the concrete and feet

12. **Pre-second refers to the dimensions of physical quantity**

_____Velocity ~~Velocity~~ frequency

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

4 times

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

Average acceleration

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

Mass and velocity

16. A wheel of radius 50cm having the angular speed of 5 rad/s will have linear speed in m/s

2.5

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

2 and 3 only

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

Stable equilibrium

18. Newton first law is also called_____

Law of inertia

19. A mosquito's buzz is often rated with a decibel rating of 40 db _

20

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

Momentum or impulse…. Both are correct

21.People try to keep the _____ over their feet n order to feel stable

Center of gravity

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

Light year

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

Velocity

24. Product of vector a with itself is equal to

A^2

25. 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

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

Pai

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

Angular acceleration

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

Is positive

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

His angular momentum remains the same

30. Example of physical quantity is

Length

31.Swimming becomes possible because of

Third law of motion

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

Parallel

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

A sound wave is a mechanical wave

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

north

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

the same point

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

Centre of gravity

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

Between 9m and 1 m

38. Which statement is not true for acceleration?
riding your bike straight down the street at a constant speed

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

The instantaneous velocity is constant

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

A sound wave is mechanical wave

41. If the distance between all pairs of particles of the body do not change by applying a force then the body is sad to be

Rigid

42. A couple produces

Purely rotation motion

43. 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

44. Work may be done by

Only living organisms

45. The dimension of joule is

ML^2T^{-2}

46.The unit kg m^2/s can be used for

Angular momentum

47. Unit of distance is

Meter

48. The law of inertia was firstly formulated by

Galileo

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

90

50. A body will be in translational equilibrium if

Ef=0

51. Suitable units for the gravitational constant G are

$m^3/kg\ s^2$

54. As the wavelength of a wave in a uniform medium increases its frequency will

Remains the same

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

A medium is required in order for sound waves to transport energy

53. The gravitational constant G has the derived units

Nm^2/kg^2

54.If the formula F=Gm $11m^2/r2$ the quantity G

Is a universal constant if nature

55.An object living in a circle at constant speed

Has an acceleration of constant magnitude

56. The fundamental dimension of angular momentum are

ML^2T^{-2} $Kgm^{2/}s$

57. The area under the velocity time graph is

Distance

58. A particle oscillating in simple harmonic motion is

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

59. An elastic collision is one in which

K.E and momentum are both conserved

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

Forward

60. Work has dimension like power

Power

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

1J

62. 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

49m/s

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

Applied force

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

120 miles

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

Zero

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

500Ns

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

Perfectly elastic collision

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

Be increased

69. 6 joule of work done in 3 second then power is?

2 watt

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

Must have only one force acting on it

71. 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. A force of 120 newton is exerted on a 40 kg container which site on a floor. If the friction force between floor and container is 80 Newton. What is the magnitude of acceleration of container?

~~2ms^-2~~ 1ms-2

73. The angle between rectangular components of a vector is

~~45 degree~~ 90 degree

74. Newton second law of motion is also called ?

Law of acceleration /force

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

Predicting natural events based on known patterns

76. If the total momentum of a system is changing

A next external force must be acting on the system

77.Change in momentum in one second is called?

Impulse

78. A/An _____ is the basic reason to change the motion of an object according to Newton's second law of motion.

Net force

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

The centripetal force is perpendicular to the velocity

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

The net external impulse is zero

81.Force is a

Universal quantity

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

Become double

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

Average acceleration

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

Double

85.Force:

Equal the time rate of chnge of momentum

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

Increases

87. Which of the following statement is true

Weight is a force, mass is a measure of inertia

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

2g

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

The average velocity is zero

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

~~**Accelerating**~~ displacing

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

Velocity

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

Parallel

93. Physics is one of the branches of

Physical sciences

94. 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

95. Newton-Second is SI unit of:

Impulse

96. Work done in gravitational field

~~Negative~~ positive

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

Straight line

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

    1. **0.75m**
    2. **1.5m**
    3. **3.0m**
    4. **need to know wave speed**

2. **The speed of sound in medium depends upon**

    1. **amplitude**
    2. **frequency**
    3. **wavelength**
    4. **properties of the medium**

3. **Which of the following will remain unchanged when a sound wave travels in air or in water?**

    1. **Amplitude**
    2. **Wavelength**
    3. **Frequency**
    4. **Speed**

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

    1. **cochlea**
    2. **tympanic membrane**
    3. **pinna**
    4. **anvil**

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**

6. 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?

    1. 2
    2. 20
    3. 100
    4. 400

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

    1. 2 times beyond centre of mass
    2. edge of the body
    3. mid point of body
    4. center of mass

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

    1. 50 Hz
    2. 500 Hz
    3. 5000 Hz
    4. 50000 Hz

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:

    1. 0 (no shock wave)
    2. 32?
    3. 40?
    4. 58?

10. 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?

    1. Water flows more rapidly out of the ground-floor faucet.
    2. Water flows more rapidly out of the second-floor faucet.
    3. Water flows at the same speed out of both faucets.
    4. The speed of water flow cannot be determined unless the height of the water tower is known.

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:

1. it emits sound waves of very long wavelength
2. it emits sound waves of high frequencyit flys at high altitudes
3. it flys faster than the speed of sound
4. it flys faster than the speed of sound

13. acceleration of an object must be zero at a point where:

1. the instantaneous velocity is zero but changing
2. the instantaneous velocity is constant
3. the average velocity is zero
4. the instantaneous velocity is not zero but changing

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

1. large
2. very small very small sai hai
3. very large
4. medium

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
2. When vectors A and B are parallel and in the opposite direction
3. When vectors A and B are parallel and in the same direction
4. When vectors A and B are perpendicular

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:

1. the centripetal force on the Moon
2. the nearly circular orbit on the Moon
3. the gravitational force on Earth by the Moon
4. the tides due to the Moon

17. The angular momentum vector of Earth about its rotation axis, due to its daily rotation, is directed:

1. south
2. north
3. tangent to the equator toward the west
4. tangent to the equator toward the east

18. Work may be done by _____.

1. only vehicles
2. only non-living objects
3. only living organisms
4. both living organisms and non-living objects

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

1. momentum
2. torque/moment
3. distance
4. inertia

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.)

1. 8.6 * 105 Pa
2. 8.7 * 106 Pa
3. 9.5 * 106 Pa

4. 8.6 * 106 Pa

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 sahi hai 710kg

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:

1. depends for its sign on the direction of the y axis
2. is positive
3. is negative
4. is zero

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

1. moving overhead faster than the speed of sound
2. emitting a much higher frequency than is heard
3. emitting a much lower frequency than is heard
4. about 1000m away

26. The magnitude of the acceleration of a planet in orbit around the Sun is proportional to:

1. the mass of the planet
2. the mass of the Sun The mass of the sun coorect answer
3. the distance between the planet and the Sun

4. **the reciprocal of the distance between the planet and the Sun**

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

1. **angular momentum** sahi hai angular momentum
2. **rational kinetic energy**
3. **rational inertia**
4. **torque**

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

1. **The object's density is greater than the density of the fluid on which it floats.**
2. **The object's density is equal to the density of the fluid on which it floats.**
3. **The displaced volume of fluid is greater than the volume of the object.**
4. **The buoyant force equals the object's weight.**

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

1. **Decreases**
2. **stays constant**
3. **Increases**
4. **Becomes zero**

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 is 1400 m/s?**

1. **1120 m**
2. **560 m**
3. **1400 m**
4. **112 m**

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

1. **a point on the boundary**

2. the center of gravity
3. the geometrical center
4. the center of mass

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

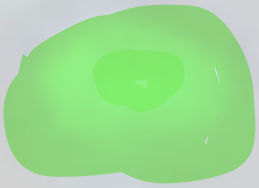
1. dynamic equilibrium
2. stable equilibrium
3. unstable equilibrium
4. rotational equilibrium

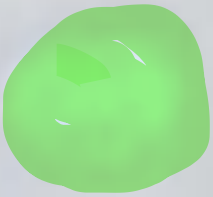
34. The momentum of an object at a given instant is independent of its:

1. acceleration
2. velocity
3. speed
4. mass

35. A vector is obtained by dividing the vector by its magnitude:

1. unit
2. position
3. normal
4. negative





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

1. lot of work
2. no work
3. too much work
4. very little work

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

38. The angle between rectangular components of a vector is:

1. 0*
2. 45*
3. 60*
4. 90*

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

1. law of inertia

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

1. Average speed and average velocity

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

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

1. 30*

2. 36*
3. 76*
4. 90*

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

1. unit
2. position
3. normal
4. negative

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

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

1. the displacement for each revolution is zero
2. the average force for each revolution is zero
3. there is no firiction
4. the centripetal force is perpendicular to the velocity

47. It is easier to walk on concrete road than on ice because:

1. the amount of firection is same for both (ice & concrete road)
2. there is more friction on the ice than on concrete
3. ice is soft and spongy where as concrete is hard
4. the friction between the ice and the feet is less than that between the concrete and feet

48. An inellastic collidion is one in which:

1. momentum is not conserved but kinetic energy is conserved
2. total mass is not conserved but momentum is conserved
3. neither kinetic energy nor momentum is conserved
4. momentum is conserved but kinetic energy is not conserved

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

1. the force of friction of the road on the tires

50. Light year is a unit of:

1. accelration
2. velocity
3. time
4. distance

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. 2π
2. π
3. $\pi/2$
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

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

1. Velocity
2. Weight
3. Force
4. Acceleration

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

60. Momentum may be expressed in:

1. kg/(m s)
2. N s
3. gram s
4. kg/m

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/m^2. The elongation of the rod is:

1. 0.0020mm
2. 0.0040mm
3. 0.14mm
4. 0.55mm

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.

1. 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.
2. Two sounds which have a ratio of decible ratings equal to 2.0. This means that the second sound is twice as intense as the first sound.
3. Sound A is 20 times more intense than the sound B. So if sound B is rated at 30 dB, then sound A is rated at 50 dB.
4. A machine produces a sound which is rated at 60 dB. If two of the machines were used at the same time, the decibel rating would be 120 dB.

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:

1. 6.0 $kg.m^2/s$
2. 12 $kg.m^2/s$
3. 48 $kg/m^2.s$
4. 72 $kg.m^2/s^2$

67. The fundamental dimensions of angular momentum are

1. $ML^{-2}T^{-2}$
2. MLT^{-1}
3. $ML^{2}T^{-1}$
4. $ML^{2}T^{-2}$

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

c) Velocity

2) The frequency which is not audible to the human ear is

Select the correct option

a) 50000 Hz

b) 500 Hz

c) 5000 Hz

d) 50 Hz

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

Select the correct option

a) 1.5

b) 2.5

c) 3.5

d) 0.5

4) When breaks are applied to a fast-moving car, the passenger will be thrown:

Select the correct option

a) Backward

b) Forward

c) Upward

d) Downward

5) Stress can be measured in:

Select the correct option

a) N.m

b) N/m2

c) N.m2

d) N/m

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

Select the correct option

a) 10 m/s

b) 2.5 m/s

c) 20 m/s

d) 5 m/s

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

Select the correct option

a) Velocity r

b) Weight

c) Acceleration

d) Force

7) The fundamental dimensions of angular momentum are

Select the correct option

a) ML-2T-2

b) ML2T-1

c) ML2T-2

d) MLT-1

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

9) The first condition of equilibrium implies that:

Select the correct option

a) ∑Fy = 0

b) ∑Fx = ∑Fy

c) ∑F = 0

d) ∑Fx = 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

12) The area under the velocity-time graphs is:

Select the correct option

a) Acceleration

b) Torque

c) Distance

d) Force

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

17) The slope of a velocity – time the graph at any point may be identified with:

Select the correct option

a) average acceleration

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

Select the correct option

a) 16 J

b) 8 J

c) 32 J

d) 2 J

19) A ___ velocity is obtained by dividing the vector by its magnitude:

Select the correct option

a) negative

b) unit

c) position

d) normal

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:

Select the correct option

a) the fractional change in volume

b) the fractional change in length

c) the shear

d) the pressure

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

Select the correct option

a) 49 m/s

b) 9.8 m/s

c) 98 m/s

d) 24.5 m/s

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:

Select the correct option

a) F

b) J

c) T

d) L

26) The newton-second is a unit of:

Select the correct option

a) power

b) angular momentum

c) linear momentum

d) work

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

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

Select the correct option

a) 0.8 m/s

b) 0.16 m/s

c) 0.15 m/s

d) 0.1 m/s

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

Select the correct option

a) Mechanical

b) Electromagnetic

c) Transverse

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

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

Select the correct option

a) **rigid**

b) small

c) large

d) flexible

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:

Select the correct option

a) 0.5 s

b) 0.5Hz

c) **2 s**

d) 2Hz

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

Select the correct option

a) the first object must stop

b) the two objects cannot stick together

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**

24) A stone is thrown up from the surface of earth, the it reaches

a maximum height, kinetic energy is equal to:

Select the correct option

a) ½ mv

b) mgh

c) 2mgh

d) **zero**

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

Select the correct option

a) greatest when the velocity is greatest

b) **proportional to the displacement**

c) inversely proportional to the displacement

d) constant

The angle between rectangular components of a vector is:

Select the correct option

a) 0^0

b) 45^0

c) 60^0

d) **90^0**

10) A ___ vector is obtained by dividing the vector by its magnitude

Select the correct option

a) **unit**

b) position

c) normal

d) negative

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

Select the correct option

a) lot of work

b) **no work**

c) too much work

d) very little work

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:

Select the correct option

a) None of these

b) **Smaller acceleration for smaller mass**

c) Variable

d) The same

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

Select the correct option

a) **between 9 m and 1 m**

b) 9 m

c) between 9 m and 5

d) Less than 1 m

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

Select the correct option

a) L

b) F

c) J

d) **T**

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:

Select the correct option

a) **5/7**

b) 7/5

c) 2/5

d) 5/2

17) Swimming becomes possible because of:

Select the correct option

a) First law of motion

b) Second law of motion

c) **Third law of motion**

d) Law of torque

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

d) **the centripetal force is perpendicular to the velocity**

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

4) The momentum of an object at a given instant is independent of its:

Select the correct option

a) **acceleration**

b) velocity

c) speed

d) mass

5) What sort of energy does flying bird possess?

Select the correct option

a) Potential energy

b) Kinetic energy

c) Elastic energy

d) **Both potential and kinetic energy**

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**

7) Light year is a unit of:

Select the correct option

a) acceleration

b) velocity

c) time

d) distance

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

As the wavelength of a wave in a uniform medium increases, its frequency will _____.	Decrease	
9	A bullet shot straight up returns to its starting point in 10 sec. the initial speed was:	49 m/s
11	Young's modulus is a proportionality constant that relates the force per unit area applied perpendicularly at the surface of an object to:	the fractional change in length
12	A ball is thrown upward into the 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:	at the top of its trajectory
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	Reverberation

	reflections from the surrounding objects even after the source has stopped to produce that sound is called	
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?	Water flows more rapidly out of the ground-floor faucet.
16	An elastic collision is one in which:	kinetic energy and momentum are both conserved
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:	5 m/s
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
24	What is the angle of projection	76

	of projectile, for which its maximum height and horizontal range are equal?	
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
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 5. What is the depth of the sea. if the velocity of sound in the seawater is	1120m
29	Water flows into © house at e 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
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?	20
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.	Zero

33	As the wavelength of a wave in a uniform medium increases. its speed will	Decrease
34	For an ideal fluid flowing through a horizontal pipe, Bernoulli's equation state that the sum of the pressure and energy per unit volume along the pipe does which of the following?	Remains constant as the pipe diameter increases
35	Which of the following statement is true?	Weight is a force, mass is a measure of inertia
36	A/an ---------- is the basic reason to change in the motion of an object according to Newton's second law of motion.	Net force
37	When spring is compressed or stretched, the potential energy of spring	Increase
38	The ultimate strength of a sample is the stress in which the sample:	Breaks
39	The value of k in coulomb's law depends upon:	Medium between two charges
40	The law of inertia was firstly formulated by	Newton
41	The ratio of the circumference of a circle to its diameter is equal to:	Pi
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	280 pa

	with the floor, what is the pressure the bed exerts on the floor?	
43	The center of gravity is the average location of the …….. of an object	Weight
44	Acceleration in a body is always produced in the direction of	Force
45	As per coulomb's law, the force of attraction or repulsion between two-point charge directly proportional to the	Product os the magnitude of charges
46	One revolution is the same as:	2pi rad
47	A ---------- vector is obtained by dividing the vector by its magnitude:	Unit
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:	About 1000m away
49	The fundamental dimensions of angular momentum are :	ML2T-1
50	The approximate value of get an altitude above Earth equal to one Earth diameter is:	4.9m/s2
51	If the speed of sound is 340m/s a plane flying at 400rm/s creates @ conical shock wave with an apex half-angle of:	Zero
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	Rigid