



Q.1) Which of the following is a false statement?

- A. a body can have a constant speed and still have varying velocity
- B. a body can have a constant velocity and still have a varying speed.
- C. a body can have zero velocity and still be accelerated.
- D. the direction of the velocity of a body can change when its acceleration is constant.

Q.2) Four cars A,B,C and D are moving on a levelled road. Their distance time graph is given as under The correct statement is



1. Car C is fastest
2. Car A is faster than car D
3. Car c is slowest
4. Car B is slowest

- A. (1) and (4) are correct
- B. (2) and (3) are correct
- C. (1), (2) and (3) are correct
- D. All of these

Q.3)

A small electric motor is used to raise a weight of 2.0 N through a vertical height of 80 cm in 4.0 s. The efficiency of the motor is 20 %. What is the electrical power supplied to the motor?

- A. 0.080 W
- B. 0.80 W
- C. 2.0 W
- D. 200 W

Q.4)

Statement I: Average speed of an object is equal to the magnitude of average velocity of the object if the object moves in one direction along a straight line.

Statement II: When an object moves in one direction along a straight line, distance travelled by the object is equal to the magnitude of the displacement of the object.

- A. Statement I is correct and statement II is correct explanation of the statement I
- B. Statement I is correct but statement II is not the correct explanation of the statement I
- C. Statement I is true but statement II is not true
- D. Statement I is not true but statement II is true

Q.5) **What is the ratio of C. G. S unit to S.I unit of velocity?**

- A. 1/100
- B. 1/10
- C. 10
- D. 100

Q.6)

As a pulse travels through a uniform medium, the speed of the pulse ____.

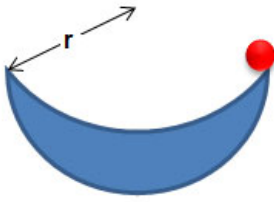
- A. decreases
- B. increases
- C. remains the same

Q.7)

Doubling the frequency of a wave source (without altering the medium) doubles the speed of the waves.

- A. True
- B. False

Q.8)



A small object of mass m is released at the rim of a smooth semi-spherical bowl of radius r , as shown in the diagram.

What is the magnitude of the contact force acting on the object when it passes the bottom of the bowl?

- A. 5 mg
- B. 6 mg
- C. 2 mg
- D. 3 mg

Q.9)

Which of the following particles will have more energy?

- A. Particles in water at 100°C
- B. Particles in water at 273 K
- C. Particles in steam at 100°C
- D. Particles in water at -273 K

Q.10) If we get a curve line in displacement – time graph then the velocity is

- A. uniform
- B. decreasing
- C. non-uniform
- D. constant

Q.11)

The condensation of water vapour actually

- A. warms the surroundings
- B. cools the surroundings
- C. sometimes warms and sometimes cools the surroundings, depending on the relative humidity at the time
- D. neither warms nor cools the surroundings.

Q.12) What is the quantity which is measured as the area occupied in the velocity – time graph?

- A. speed
- B. distance
- C. acceleration
- D. displacement distance speed acceleration

Q.13)

Why is the speed of sound in humid air greater than that in dry air?

- A. Humid air is less dense.
- B. Humid air is denser.
- C. Humid air is more elastic.
- D. Humid air is less elastic

Q.14)

A light and heavy body have equal momenta. Which one has greater kinetic energy?

- A. the light body
- B. the heavy body
- C. both have same KE
- D. none of these

Q.15)

Sound and light waves both

- A. have similar wavelength
- B. obey the laws of reflection
- C. travel as longitudinal waves
- D. travel through vacuum

Q.16) 'A body can be at rest and in motion at the same time' the above statement is

- A. Partially true
- B. Partially false
- C. True
- D. False

Q.17)

Which of the following statements are TRUE of the frequency of sound and the perception of pitch?

- I. Two different guitar strings are used to produce a sound. The strings are identical in terms of material, thickness and the tension to which they are pulled. Yet string A is shorter than string B. Therefore, string A will produce a lower pitch.
- II. Both low- and high-pitched sounds will travel through air at the same speed.
- III. Doubling the frequency of a sound wave will halve the wavelength but not alter the speed of the wave.
- IV. Tripling the frequency of a sound wave will decrease the wavelength by a factor of 6 and alter the speed of the wave.
- V. Humans can pretty much hear a low-frequency sound as easily as a high-frequency sound.
- VI. Ultrasound waves are those sound waves with frequencies less than 20 Hz.

- A. II , III and VI
- B. III and V
- C. I, II and VI
- D. II and III

Q.18)

Indicate the effect of each change upon the pressure of a gas.

| | |
|--|--------------|
| 1) decrease in volume (n, T constant) | P) no change |
| 2) removing some molecules of gas | Q) increases |
| 3) The temperature is doubled | R) decreases |
| 4) The volume and the Kelvin temperature are reduced by one-half | |
| 5) A leak occurs and gas escapes. | |
| 6) One mole of gas is added. | |

- A. 1->Q, 2->R, 3->Q, 4->P, 5->R, 6->Q
- B. 1->R, 2->R, 3->Q, 4->P, 5->R, 6->Q
- C. 1->Q, 2->R, 3->Q, 4->P, 5->R, 6->P
- D. 1->Q, 2->R, 3->Q, 4->R, 5->Q, 6->Q

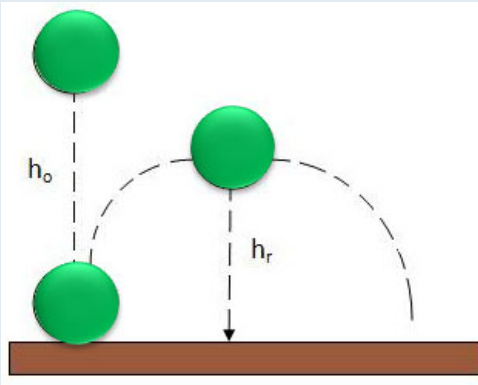
Q.19)

The absolute charge of an electron is _____.

- 1. $-1.6 \times 10^{-19} \text{C}$
- 2. $+1.6 \times 10^{-19} \text{C}$
- 3. $1.6 \times 10^{-19} \text{C}$
- 4. $16 \times 10^{-19} \text{C}$

- A. 1
- B. 2
- C. 3
- D. 4

Q.20)



A squash ball of mass 0.3 kg released from rest at a height of 2 m. It hits the ground and rebounds to a height of 1.8 m. Calculate the amount of energy dissipated in the process.

- A. 1.5 J
- B. 1.2 J
- C. 0.6 J
- D. 0.7 J

Q.21) Match the following.

| | Choice | | Match |
|---|-------------------|---|---|
| A | Friction | 1 | Force which opposes motion |
| B | Limiting friction | 2 | Force just sufficient to move the object |
| C | Sliding friction | 3 | when one object rolls over another |
| D | Rolling friction | 4 | Force sufficient to slide one object over another |

Q.22) 10^5 dyne is equal to

- A. 2.5N
- B. 1N
- C. 2N
- D. 1.5N

Q.23) The number of valence electrons in Cl^- ion are

- A. 18
- B. 16
- C. 17
- D. 8

Q.24) Which of the following is correct about atom?

- A - It is the smallest unit of matter
- B - Size of atom is very large as compared to the nucleus of the atom
- C - In an atom number of protons is equal to number of electrons
- D - Atoms are stable

- A. (a) and (b) are correct
- B. (a), (b) and (c) are correct
- C. (a) and (c) are correct
- D. All of these

Q.25) Statement A: Speed of a gas molecules decreases with increase in temperature
Statement B: P. E of the body decreases as it falls towards the surface of the Earth.

Which of the two statements is true?

- A. statement A
- B. statement B
- C. both a and b
- D. none of the above

Q.26) In which of the following mentioned activities, the P. E is converted into K.E.

- A. when a pendulum swings
- B. explosion of an atomic bomb
- C. explosion of a fire cracker
- D. when torch is switched on

Q.27) Which organelle is called power of house of the cell-

- A. Golgi apparatus
- B. Ribosomes
- C. Plastids
- D. Mitochondria

Q.28) Find the incorrect statement.

- A. Cell division takes place by fission or budding in prokaryotic cell.
- B. Cytosol acts as a store of vital chemical such as amino acids. Glucose vitamins ions etc.
- C. Blue – green algae is also called cyanobacteria.
- D. Plant cells are smaller than animal cells.

Q.29) What is the main function of RBC?

- A. helps in transport of oxygen
- B. helps in transport of CO₂
- C. Both a and b
- D. None of these

Q.30) Match the following.

| | Choice | | Match |
|---|------------|---|---------------------------|
| A | Parenchyma | 1 | Conduct prepared food |
| B | Phloem | 2 | Storage of food in plants |
| C | Stomach | 3 | Muscular tissue |
| D | heart | 4 | An organ |

Q.31) The velocity, wavelength and time period of a wave are related as

- A. $V = \lambda/T$
- B. $V = \lambda T$
- C. $T = \lambda/V$
- D. none of these

Q.32) The frequency of sound is 100 Hz. How many times does it vibrate in a minute?

- A. 5000Hz
- B. 60Hz
- C. 6000Hz
- D. 600Hz

Q.33) Which organism cannot fix atmospheric nitrogen?

- A. Nostoc
- B. Azotobacter
- C. Rhizobium
- D. E.coli

Q.34) Which of the following has the smallest soil particles?

- A. Silt
- B. Clay
- C. Loam
- D. Sand

Q.35) Which of the following is correct about the following distance – time graph?



- A. Speed of A is equal to speed of B
- B. Speed of A is greater than speed of B
- C. Speed of A is less than speed of B
- D. None of these.

Q.36) Match the following.

| | Choice | | Match |
|---|--|---|---|
| A | Non- uniform motion | 1 | Area under speed time graph |
| B | Speed from distance-Time graph | 2 | If a body covers unequal distance in equal interval of time |
| C | Distance covered from speed time graph | 3 | Slope of the graph |
| D | Average velocity | 4 | $(\text{Final velocity} + \text{Initial velocity})/2$ |

Q.37) Identify the incorrect statement

- A. Water is least volatile
- B. Ether is most volatile
- C. Acetone is least volatile
- D. Alcohol is moderately volatile

Q.38) The evaporation of a liquid occur only at

- A. temperature more than 100°C
- B. temperature less than 100°C
- C. fixed temperature
- D. all temperatures

Q.39) To which of the following family do folic acid and pantothenic acid belongs?

- A. Vitamin K
- B. Vitamin C
- C. Vitamin A
- D. Vitamin B complex

Q.40) Match the following.

| | Choice | | Match |
|---|----------------------------|---|------------------------|
| A | AIDS | 1 | Weak immune system |
| B | Inflammation | 2 | Develops immune system |
| C | Vaccination | 3 | Swelling and pain |
| D | Injection for tuberculosis | 4 | Streptomycin |

Q.41) Two objects of different masses are dropped freely from a height near the surface of earth they have

- A - Different velocities at any instant
- B - Same velocities at any instant
- C - Different accelerations
- D - Same acceleration

- A. (b) and (c) are correct
- B. (b) and (d) are correct
- C. (a), (b) and (c) are correct
- D. All of these

Q.42) What is buoyant force?

- A. An upward force on an object unimmersed in a liquid
- B. A down ward force on an object immersed in a liquid
- C. Partially downward force
- D. None of the above

Q.43) Match the following with correct response.

| | Choice | | Match |
|---|------------------|---|------------------|
| A | Roughage | 1 | Fibre rich |
| B | Concentrates | 2 | Nutrient rich |
| C | Biofertilizers | 3 | Nostoc, Anabaena |
| D | Biomagnification | 4 | DDT |

Q.44) Match the following with correct response.

| | Choice | | Match |
|---|--------------------------|---|---------------|
| A | Fresh water fish | 1 | Basara |
| B | Indigenous breed of fowl | 2 | White leghorn |
| C | Exotic breed of hen | 3 | Catla |
| D | Breed of cattle | 4 | Jersey |

Q.45) Match the following.

| | Choice | | Match |
|---|-----------------|---|----------------------|
| A | Porifera | 1 | Metameric animals |
| B | Platyhelminthes | 2 | First triploblastic |
| C | Annelida | 3 | Lacks Nervous system |
| D | Arthropoda | 4 | Largest phylum |

Q.46) Match the following.

| | Choice | | Match |
|---|--------|---|------------------------------|
| A | Pea | 1 | Pisumsativum Mangiferaindica |
| B | Onion | 2 | Triticumaestivum |
| C | Mango | 3 | Allium cepa |

Q.47) Calculate the formula unit mass of $ZnCl_2$?

- A. 124 u
- B. 111 u
- C. 123 u
- D. 137 u

Q.48) Match the following with correct response.

| | Choice | | Match |
|---|-----------------------------------|---|-----------------------------|
| A | Smallest Particle 'parmanu' | 1 | Law of constant Proportion |
| B | Atoms are indivisible | 2 | Law of conservation of mass |
| C | Balanced chemical equation | 3 | Dalton's atomic theory |
| D | Elements combined in fixed ratios | 4 | Maharshikannad |

Q.49) Which of the following element has the characteristics of both metals and non – metals?

- A. Carbon
- B. Arsenic
- C. Nitrogen
- D. Phosphorus

Q.50) A hard substance when bent produces a tinkling sound. Predict its nature.

- A. Non metal
- B. Metal
- C. Compound
- D. All of these

Answer Key

Q.1) a body can have a constant velocity and still have a varying speed.

Q.2) (1) and (4) are correct

Q.3) 2.0 W

Q.4) Statement I is correct and statement II is correct explanation of the statement I

Q.5) 1/100

Q.6) remains the same

Q.7) False

Q.8) 3 mg

Q.9) Particles in steam at 100°C

Q.10) non-uniform

Q.11) warms the surroundings

Q.12) displacement distance speed acceleration

Q.13) Humid air is less dense.

Q.14) the light body

Q.15) obey the laws of reflection

Q.16) False

Q.17) II and III

Q.18) 1->Q, 2->R, 3->Q, 4->P, 5->R, 6->Q

Q.19) 1

Q.20) 0.6 J

Q.21) Force which opposes motion
Force just sufficient to move the object
Force sufficient to slide one object over another
when one object rolls over another

Q.22) 1N

Q.23) 8

Q.24) (a) and (c) are correct

Q.25) statement B

Q.26) when a pendulum swings

Q.27) Mitochondria

Q.28) Plant cells are smaller than animal cells.

Q.29) Both a and b

Q.30) Storage of food in plants
Conduct prepared food
An organ
Muscular tissue

Q.31) $V = \lambda/T$

Q.32) 6000Hz

Q.33) E.coli

Q.34) Clay

Q.35) Speed of A is greater than speed of B

| |
|--|
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| <p>Q.50) Metal</p> |