

Grade – 9 Physics

Multan Board

2019

Group 1

MCQs

i) _____ is the smallest quantity:

(Mark 1)

- A. 0.01 g
- B. 2 mg
- C. 100 mg
- D. 500 ng

Answer:

- D. 500 ng

ii) Conversion of ms^{-1} into kmh^{-1} is equal to:

(Mark 1)

- A. 0.36 kmh^{-1}
- B. 0.036 kmh^{-1}
- C. 36 kmh^{-1}
- D. 3.6 kmh^{-1}

Answer:

- D. 3.6 kmh^{-1}

iii) The unit of momentum is:

(Mark 1)

- A. Nm
- B. Kgms^{-2}
- C. Ns
- D. Ns^{-1}

Answer:

- C. Ns

iv) Newton's First Law of motion is valid only in the absence of: (Mark 1)

- A. Force

- B. Net Force
- C. Friction
- D. Momentum

Answer:

- B. Net Force

v) A force of 10 N is making an angle of 30° with horizontal axis. Its horizontal component will be:

(Mark 1)

- A. 4 N
- B. 5 N
- C. 7 N
- D. 8.7 N

Answer:

- D. 8.7 N

vi) The value of g at height of one earth's radius above the surface of the earth is:

(Mark 1)

- A. 2 g
- B. $1/2$ g
- C. $1/4$ g
- D. $1/3$ g

Answer:

- C. $1/4$ g

vii) If the velocity of a body becomes double, then its Kinetic energy:

(Mark 1)

- A. Remain the same
- B. Become double
- C. Become four times

D. Become half

Answer:

C. Become four times

viii) Rate of doing work is called:

(Mark 1)

A. Power

B. Torque

C. Velocity

D. Momentum

Answer:

A. Power

ix) The approximate length of a glass tube to construct a water barometer should be:

(Mark 1)

A. 0.5 m

B. 11 m

C. 2.5 m

D. 1 m

Answer:

B. 11 m

x) The number of ways by which transfer of heat takes place: (Mark 1)

A. 3

B. 2

C. 5

D. 4

Answer:

A. 3

xi) The value of specific heat of dry soil is about:

(Mark 1)

A. 4200 Jkg-1K-1

B. 810 Jkg-1K-1

C. 700 Jkg-1K-1

D. 3000 Jkg-1K-1

Answer:

B. 810 Jkg-1K-1

xii) Land and sea breeze takes place due to:

(Mark 1)

A. Convection current

B. Conduction

C. Radiation

D. Absorption

Answer:

A. Convection current

- Q.2 i) What is meant by derived quantities? (Marks 2)
- Q.2 ii) What is meant by scientific notation? (Marks 2)
- Q.2 iii) Define Zero error and Zero correction. (Marks 2)
- Q.2 iv) Differentiate between Rest and Motion. (Marks 2)
- Q.2 v) Define Translatory Motion and Rotatory Motion. (Marks 2)
- Q.2 vi) Define Force and write its formula. (Marks 2)
- Q.2 vii) State Newton's Third Law of motion and give its examples. (Marks 2)
- Q.2 viii) Define Momentum and write its formula in S.I unit. (Marks 2)
- Q.3 i) What is the difference between like and unlike parallel forces? (Marks 2)
- Q.3 ii) Why the height of vehicles is kept as low as possible? (Marks 2)
- Q.3 iii) State Newton's Law of Gravitation. (Marks 2)
- Q.3 iv) Why does the value of "g" vary from place to place. (Marks 2)
- Q.3 v) What is meant by gravitational field strength? (Marks 2)
- Q.3 vi) Define energy. Give types of Mechanical energy. (Marks 2)
- Q.3 vii) Define Potential energy. Write its formula ($g=10\text{ms}^{-2}$) (Marks 2)
- Q.3 viii) A body of mass 50 kg is raised to height of 4 m. What is its Potential energy($g=10\text{ms}^{-2}$)? (Marks 2)
- Q.4 i) State Archimedes principle. (Marks 2)
- Q.4 ii) The mass of 200 cm^3 of stone is 500 g. What is its density? (Marks 2)
- Q.4 iii) What is meant by Young's modulus? Write down its mathematical formula. (Marks 2)
- Q.4 iv) How does heating effect the motion of molecules of gases? (Marks 2)
- Q.4 v) What is meant by Volumetric Thermal Expansion? Write its formula also. (Marks 2)
- Q.4 vi) Write uses of conductors and non-conductors. (Marks 2)
- Q.4 vii) Write two consequences of radiation? (Marks 2)
- Q.4 viii) What is meant by Global Warming? What is its main causes? (Marks 2)
- Q.5 a) State and explain Law of Conservation of Momentum with the help of spheres example. (Marks 4)

Q.5 b) A tennis ball is hit upward with the velocity of 30 ms^{-1} , it takes 3 s to reach highest point. Calculate the maximum height reached by the ball. How long it will take to return to ground? (Marks 5)

Q.6 a) Define equilibrium. Explain states of equilibrium. (Marks 4)

Q.6 b) A force of 200 N acts on a body of mass 20 kg. The force accelerates the body from rest until it attains velocity of 50 ms^{-1} . Through what distance the force acts? (Marks 5)

Q.7 a) Define evaporation. What are factors which affect it. (Marks 4)

Q.7 b) A wooden cube of sides 10 cm each has been dipped completely in water. Calculate the upthrust of water acting on it. (Marks 5)

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Group 2

MCQs

i) In the S.I system, the unit of mass is: (Mark 1)

- A. Second
- B. Meter
- C. Kilogram
- D. Newton

Answer:

- C. Kilogram

ii) The motion of a body in a straight line is: (Mark 1)

- A. Circular motion
- B. Random motion
- C. Linear motion
- D. Translatory motion

Answer:

- D. Translatory motion

iii) In S.I system, the unit of Momentum is: (Mark 1)

A. Kgms-1

B. Kgms-2

C. N.S-1

D. Nm

Answer:

A. Kgms-1

iv) In isolated system, the momentum after collision of two bodies is:

(Mark 1)

A. Increased

B. Constant

C. Decreased

D. Zero

Answer:

B. Constant

v) The number of forces that can be added by head to tail rule: (Mark 1)

A. 2

B. 3

C. 4

D. Any number

Answer:

D. Any number

vi) The value of "g" at moon is:

(Mark 1)

A. 9.8 ms⁻²

B. 10 ms⁻²

C. 1.7 ms⁻²

D. 1.6 ms⁻²

Answer:

D. 1.6 ms⁻²

vii) In Einstein's-Mass-Energy equation, "C" is the:

(Mark 1)

A. Speed of sound

B. Speed of earth

C. Speed of light

D. Speed of electron

Answer:

C. Speed of light

viii) The formula of Power is:

(Mark 1)

A. $P=Wt$

B. $P=W/t$

C. $P=mv$

D. $P=ma$

Answer:

B. $P=W/t$

ix) In S.I system, the unit of stress is:

(Mark 1)

A. Nm^{-1}

B. Nm^{-2}

C. NS

D. Nm

Answer:

B. Nm^{-2}

x) The thermometer is used to measure:

(Mark 1)

A. Temperature of body

B. Force

C. Length

D. Time

Answer:

A. Temperature of body

xi) In solids, heat is transferred by:

(Mark 1)

A. Radiation

B. Conduction

C. Convection

D. Absorption

Answer:

B. Conduction

xii) In gases heat is mainly transferred by:

(Mark 1)

A. Molecular collision

B. Conduction

C. Convection

D. Radiation

Answer:

C. Convection

- Q.2 i) Why is "Screw Gauge" is considered more useful than "Vernier Calliper "? (Marks 2)
- Q.2 ii) What is meant by Zero error and Zero correction? (Marks 2)
- Q.2 iii) Write the method to find least count of screw gauge. (Marks 2)
- Q.2 iv) Why Vector quantities can not be added and subtracted like Scalar quantities? (Marks 2)
- Q.2 v) Define positive and negative acceleration. (Marks 2)
- Q.2 vi) State the Law of Conservation of Momentum. (Marks 2)
- Q.2 vii) Why do passengers move out ward when a bus takes a turn? (Marks 2)
- Q.2 viii) State Newton's Second Law of motion and write its equation. (Marks 2)
- Q.3 i) What is meant by Resolution of Forces? (Marks 2)
- Q.3 ii) Differentiate between Torque and Couple. (Marks 2)
- Q.3 iii) For what purpose artificial satellites have been sent into space? (Marks 2)
- Q.3 iv) If "R" is doubled, then what will be change in "g"? (where $g = GM_e/R^2$). (Marks 2)
- Q.3 v) What is distance of geostationary satellite from earth and what is its speed with respect to earth? (Marks 2)
- Q.3 vi) Define Work and what is its S.I unit? (Marks 2)
- Q.3 vii) What are Solar cells and write their uses. (Marks 2)
- Q.3 viii) Define Watt, Write down names of its larger units. (Marks 2)
- Q.4 i) The mass of 200 cm³ volume of stone is 500 g, Find its density. (Marks 2)
- Q.4 ii) Define pressure and write its formula. (Marks 2)
- Q.4 iii) State Archimedes Principle. (Marks 2)
- Q.4 iv) Define latent heat of fusion and write its formula. (Marks 2)
- Q.4 v) Convert 100°F into temperature on Celsius scale. (Marks 2)
- Q.4 vi) Why are metals good conductors of heat? (Marks 2)
- Q.4 vii) What is difference between Conduction and Convection? (Marks 2)
- Q.4 viii) Define Thermal Conductivity. (Marks 2)
- Q.5 a) Derive Second Equation of Motion with the help of speed time graph. (Marks 4)
- Q.5 b) How much centripetal force is required to make a body of mass 0.5 kg to move in a circle of radius 50 cm with the speed of 3 ms⁻¹. (Marks 5)

Q.6 a) Determine a force from its perpendicular components. (Marks 4)

Q.6 b) A man pulls a block with the force of 300 N through 50 m in 60 s, Find the power used by him to pull the block. (Marks 5)

Q.7 a) Define Volume thermal expansion and prove that $V=V_0(1+\beta\Delta T)$. (Marks 4)

Q.7 b) A barge of 40 meter long and 8 meter broad, whose sides are vertical, floats partially loaded in water. If 125000 N of cargo is added, how many meters will it sink? (Marks 5)