SARGODHA BOARD

GRADE 9
PHYSICS
2019 GROUP 1

MCQ'S

i) S.I unit of specific heat is: (Mark 1)

A. J kg K

B. J $kg^{-1} K^{-1}$

C. J $kg^{-1} K$

D. J $kg K^{-1}$

Answer:

B. J $kg^{-1} K^{-1}$

ii) Which of the following is a good radiator of heat: (Mark 1)

A. A green-colored surface

B. A white surface

C. A dull black surface

D. Shining silvered surface

Answer:

C. A dull black surface

iii) False ceiling is done to: (Mark 1)

A. Insulate the ceiling

B. Cool the room

C. Keep the roof clean

D. Lower the height of ceiling

Answer:

A. Insulate the ceiling

iv) The number of base units in SI are: (Mark 1)

A. 9

B. 7

C. 6

D. 3

Answer:

B. 7

v) A change in position is called: (Mark 1)

A. Speed

B. Velocity

C. Displacement

D. Distance

Answer:

C. Displacement

vi) Which of the material lowers the friction when pushed between metal plates: (Mark 1)

A. Water

B. Fine marble powder

C. Air

D. Oil

Answer:

D. Oil

vii) Law of inertia is known as: (Mark 1)

A. First law of motion

B. Second law of motion

C. Third law of motion

D. Momentum

Answer:

A. First law of motion

viii) The force of 10 N is making an angle of 30° With horizontal, its horizontal component will be: (Mark 1)

A. 4 N

B. 5 N

C. 8.7 N

D. 7 N

Answer:

C. 8.7 N

ix) The value of 'g' at a height one's earth radius above the surface of earth is: (Mark 1)

A. 2 g

B. 1/2 g

C. 1/3 g

D. 1/4 g

Answer:

D. 1/4 g

x) The work done in lifting a brick of mass 2 kg through a height of 5 m above ground will be: (Mark 1)

A. 2.5 J

B. 100 J

C. 50 J

D. 10 J

Answer:

B. 100 J

xi) The energy stored in a coal is: (Mark 1)

A. Heat energy

B. Kinetic energy

C. Chemical energy

D. Nuclear energy

Answer:

C. Chemical energy

xii) Mercury is more denser than water: (Mark 1)

A. 13.3

B. 13.4

C. 13.5

D. 13.6

Answer:

D. 13.6

SHORT QUESTIONS

Q.2 i) Define Plasma Physics and Geo-physics.
(Marks 2)
Q.2 ii) What is meant by least count? What is the least count of meter rule?
(Marks 2)

Q.2 iii) When the zero error of screw gauge will be negative? (Marks 2)

Q.2 iv) Define the vibratory motion and give one example. (Marks 2)

Q.2 v) Falcon can fly at a speed of 200 km h^{-1}, change this speed in the SI unit.

(Marks 2)

Q.2 vi) Find the acceleration that is produced by a 20 N force in a mass of 8 kg.

(Marks 2)

Q.2 vii) Write any two disadvantages of friction.

(Marks 2)

Q.2 viii) What is meant by banking of roads?

(Marks 2)

Q.3 i) What are first condition and second condition of equilibrium?

(Marks 2)

Q.3 ii) How head to tail rule helps to find resultant of forces? (Marks 2)

Q.3 iii) How can you say that gravitational force is a field force?

(Marks 2)

Q.3 iv) What is GPS?

(Marks 2)

Q.3 v) State law of gravitation.

(Marks 2)

Q.3 vi) Define mechanical energy and give an example.
(Marks 2)
Q.3 vii) What is meant by nuclear energy. Write its peaceful use.
(Marks 2)
Q.3 viii) Define efficiency and write its equation in percentage.
(Marks 2)
Q.4 i) Write down any two Applications of Pascal's law.
(Marks 2)
Q.4 ii) Define Density and write its formula.
(Marks 2)
Q.4 iii) State Archimedes Principle.
(Marks 2)
Q.4 iv) What is meant by Evaporation?
(Marks 2)
Q.4 v) How many scales are there for the measurement of temperature write their names.
(Marks 2)
Q.4 vi) What is meant by Green house effect?
(Marks 2)
Q.4 vii) Define thermal conductivity. Write its equation. (Marks 2)
Q.4 viii) What is meant by Conductors and Non-Conductors? (Marks 2)

LONG QUESTIONS

Q.5 a) State Newton's Second Law of motion and prove that F = ma.
(Marks 4)

Q.5 b) A train slows down from 80 km h^{-1} with uniform retardation of 2 ms^{-2} How long will it take to attain a speed of 20 km h^{-1}? (Marks 5)

Q.6 a) Define the addition of forces. How head to tail rule is used to determine a force from its perpendicular components? Explain it with a figure.
(Marks 4)

Q.6 b) Calculate the power of a pump which can lift 70 kg of eater through a vertical height of 16 m in 10 seconds. (Marks 5)

Q.7 a) Define linear thermal expansion in solids and derive $L=L_o(1+\alpha\Delta T)$ equation.
(Marks 4)

Q.7 b) A cube of a glass of 5 cm side and mass 306 g has a cavity inside it. If the density of glass is 2.55 g cm^{-3}. Find the volume of the cavity.
(Marks 5)

SARGODHA BOARD

GRADE 9

PHYSICS

2019 GROUP 2

MCQ'S

i) If the velocity of a body becomes three times greater then kinetic energy will be: (Mark 1)

A. Six times

B. Four times

C. Three times

D. Nine times

Answer:

D. Nine times

ii) Momentum P=_____ : (Mark 1)

A. mv^2

B. mv

C. v/m

D. m/v

Answer:

B. mv

iii) The least count of Vernier Caliper is: (Mark 1)

A. 1 cm

B. 1 mm

C. 0.01 cm

D. 0.01 mm

Answer:

C. 0.01 cm

iv) The product of velocity and time is equal to: (Mark 1)

A. Mass

B. Force

C. Acceleration

D. Distance

Answer:

D. Distance

v) Co-efficient of friction is equal to: (Mark 1)

A. F/R

B. FR

C. R/F

D. F+R

Answer:

A. F/R

vi) The turning effect of a force is called: (Mark 1)

A. Momentum

B. Pressure

C. Torque

D. Work

Answer:

C. Torque

vii) Centripetal force is directly proportional to: (Mark 1)

A. m^2

B. v^2

C. r

D. v

Answer:

B. v^2

viii) The energy stored in a dam is: (Mark 1)

A. Electrical

B. Potential

C. Kinetic

D. Thermal

Answer:

B. Potential

ix) SI unit of pressure is: (Mark 1)

A. Nm^2

B. Nm^{-1}

C. Nm

D. Nm^{-2}

Answer:

D. Nm^{-2}

x) The specific heat of water is: (Mark 1)

A. 2100 $Jkg^{-1}K^{-1}$

B. 2500 $Jkg^{-1}K^{-1}$

C. 4200 $Jkg^{-1}K^{-1}$

D. 3000 $Jkg^{-1}K^{-1}$

Answer:

C. 4200 $Jkg^{-1}K^{-1}$

xi) Rate of flow of heat is: (Mark 1)

A. Q/t_2

B. Q/t

C. Q_2/t

D. Q×t

Answer:

B. Q/t

xii) Land breeze and sea breeze are result of: (Mark 1)

A. Conduction

B. Radiation

C. Absorption

D. Convection

Answer:

D. Convection

SHORT QUESTIONS

Q.2 i) Define Atomic Physics and Geo physics. (Marks 2)

Q.2 ii) Write the numbers given below in scientific notation: (Marks 2)

a) 0.0000000016 g

b) 6400000 m

Q.2 iii) Find the least count of screw gauge. (Marks 2)

Q.2 iv) What is difference between rest and motion? (Marks 2)

Q.2 v) Define acceleration and write its formula. (Marks 2)

Q.2 vi) State Newton's First Law of motion. (Marks 2)

Q.2 vii) Find the acceleration that is produced by a 20 N force in a mass of 8 kg.
(Marks 2)
Q.2 viii) Write any two advantages of friction.
(Marks 2)
Q.3 i) Define Torque or Moment of Force. What is the unit of Torque in SI?
(Marks 2)
Q.3 ii) Define Rigid Body and Axis of Rotation.
(Marks 2)
Q.3 iii) State Law of Gravitation? Write its mathematical equation.
(Marks 2)
Q.3 iv) Define Field Force.
(Marks 2)
Q.3 v) What are artificial satellites and give an example. (Marks 2)
Q.3 vi) What is the unit of work in SI system? Also define the unit of work.
(Marks 2)
Q.3 vii) Define mechanical energy. Given an example.
(Marks 2)
Q.3 viii) Define Power. Write its unit in SI.
(Marks 2)
Q.4 i) Write down two features of Kinetic Molecular model of matter.
(Marks 2)

Q.4 ii) State Archimedes Principle, Write its equation.
(Marks 2)
Q.4 iii) What is the difference between ships and submarines? (Marks 2)
Q.4 iv) Change 300K on Kelvin scale into Celsius scale of temperature.
(Marks 2)
Q.4 v) What is internal energy of a body?
(Marks 2)
Q.4 vi) State Thermal Conductivity.
(Marks 2)
Q.4 vii) What is meant by transfer of heat, Write ways to which transfer of heat takes place.
(Marks 2)
Q.4 viii) Write two uses of Conductors.
(Marks 2)

LONG QUESTIONS

Q.5 a) Describe any four differences between mass and weight.
(Marks 4)
Q.5 b) A train starts from rest with an acceleration of 0.5 ms^{-2}. Find its speed in kmh^{-1}, When it is moved through 100 m. (Marks 5)

Q.6 a) State and explain the first condition for equilibrium. (Marks 4)

Q.6 b) A motor boat moves at a steady speed of 4 ms^{-1}, Water resistance acting on it is 4000 N. Calculate the power of its engine.

(Marks 5)