SARGODHA BOARD

GRADE 9
PHYSICS
2018 GROUP 1

MCQ'S

i) Normal human body temperature is: (Mark 1)

A. 98.6^{o}C

B. 37 ^{o}F

C.37 ^{o}C

D. 15 ^{o}C

Answer:

C.37 ^{o}C

ii) Which of the following material has large specific heat? (Mark 1)

A. Water

B. Mercury

C. Ice

D. Copper

Answer:

A. Water

iii) In gases heat is mainly transferred by: (Mark 1)

A. Convection

B. Radiation

C. Conduction

D. Molecular Collision

Answer:

A. Convection

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

A. 7

B. 6

C. 3

D. 9

Answer:

A. 7

v) Which of the following is a vector quantity? (Mark 1)

A. Speed

B. Distance

C. Displacement

D. Power

Answer:

C. Displacement

vi) Inertia depends on: (Mark 1)

A. Net force

B. Force

C. Velocity

D. Mass

Answer:

D. Mass

vii) Which of the following is the unit of momentum? (Mark 1)

A. Ns

B. $Kgms^{-2}$

C. Nm

D. Ns^{-1}

Answer:

C. Nm

viii) The number of perpendicular components of force are: (Mark 1)

A. 4

B. 3

C. 2

D. 1

Answer:

B. 3

ix) The orbital speed of a low orbit satellite is: (Mark 1)

A. Zero

B. $8ms^{-1}$

C. $800ms^{-1}$

D. $8000ms^{-1}$

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

A. 2.5J

B. 10J

C. 50J

D. 100J

Answer:

D. 100J

xi) Which one of the following device converts light energy into electrical energy? (Mark 1)

A. Electric bulb

B. Electric generator

C. Photo cell

D. Electric cell

Answer:

C. Photo cell

xii) SI unit of pressure is Pascal which is equal to : (Mark 1)

A. $10^4 Nm^{-2}$

B. $1Nm^{-2}$

C. $10^2 Nm^{-2}$

D. $10^3 Nm^{-3}$

Answer:

B. $1Nm^{-2}$

SHORT QUESTIONS

Q.2 i) Differentiate between base quantities and derived quantities?
(Marks 2)
Q.2 ii) Define atomic and nuclear physics?
(Marks 2)
Q.2 iii) Define plasma and geo-physics?
(Marks 2)
Q.2 iv) Differentiate between rest and motion.
(Marks 2)
Q.2 v) Write two types of motion. (Marks 2)
Q.2 vi) Define force and write its SI unit?
(Marks 2)
Q.2 vii) Define momentum and write its equation.
(Marks 2)
Q.2 viii) Write two advantages of friction?
(Marks 2)
Q.3 i) Define head to tail rule.
(Marks 2)
Q.3 ii) Define resolution of Forces.
(Marks 2)
Q.3 iii) Define gravitational constant.
(Marks 2)
Q.3 iv) Define gravitational field strength.
(Marks 2)
Q.3 v) What is the field force?
(Marks 2)

Q.3 vi) Define power and write its unit.
(Marks 2)
Q.3 vii) Define Energy and write its unit. (Marks 2)
Q.3 viii) What is meant by Mechanical Energy?
(Marks 2)
Q.4 i) Write any two features of kinetic molecular model of matter.
(Marks 2)
Q.4 ii) State Hooke's law.
(Marks 2)
Q.4 iii) Write any two properties of the liquid.
(Marks 2)
Q.4 iv) Define heat. (Marks 2)
Q.4 v) Convert 300K into temperature celcius scale.
(Marks 2)
Q.4 vi) Define convection.
(Marks 2)
Q.4 vii) Define land breeze and sea breeze.
(Marks 2)
Q.4 viii) What is a greenhouse effect? (Marks 2)

LONG QUESTIONS

Q.5 a) Derive the third equation of motion with the help of graph.
(Marks 4)
Q.5 b) A body of mass 5kg is moving with a velocity of $10ms^{-1}$. Find the force required to stop it in 2 seconds.
(Marks 5)
Q.6 a) Define potential energy and derive its formula P.E=mgh. (Marks 4)
Q.6 b) Find the magnitude of direction of a force, if its x-component is 12N and y-component is 5N.
(Marks 5)
Q.7 a) Define specific heat. How would you with find the specific heat of a solid?
(Marks 4)
Q.7 b) A student presses her palm by her with a force of 75N. How much would be the pressure under her thumb having contact area $1.5cm^2$?
(Marks 5)

SARGODHA BOARD

GRADE 9

PHYSICS
2018 GROUP 2

MCQ'S

i) In SI units, a numer of base quantities are: (Mark 1)

A. 3

B. 6

C. 7

D. 9

Answer:

C. 7

ii) In SI units, unit of speed is: (Mark 1)

A. kmh^{-1}

B. kmh

C. ms^{2}

D. ms^{-1}

Answer:

D. ms^{-1}

iii) Formula of centripetal force 'F_c' is equal to: (Mark 1)

A. $F_c = mv/r^2$

B. $F_c = mr^2/v$

C. $F_c = m^2v/r$

D. $F_c = mv^2/r$

Answer:

D. $F_c = mv^2/r$

iv) Rate of change of momentum is: (Mark 1)

A. Displacement

B. Force

C. Acceleration

D. Velocity

Answer:

B. Force

v) Value of Cos 90^o is: (Mark 1)

A. One

B. 0.866

C. 0.707

D. Zero

Answer:

D. Zero

vi) The first man who came up with the idea of gravity was: (Mark 1)

A. Newton

B. Ohm

C. Archimedes

D. Einstein

Answer:

A. Newton

vii) The rate of doing work is called? (Mark 1)

A. Energy

B. Pressure

C. Power

D. Efficiency

Answer:

C. Power

viii) Formula of potential energy is: (Mark 1)

A. P.E = ρmg

B. P.E = mgh^{-1}

C. P.E = mgh

D. P.E = mah

Answer:

C. P.E = mgh

ix) Water exists in the states: (Mark 1)

A. One

B. Two

C. Three

D. Four

Answer:

C. Three

x) It is called absolute zero: (Mark 1)

A. 273 ^{o}C

B. -273 ^{o}C

C. 373 K

D. 0 ^{o}C

Answer:

B. -273 ^{o}C

xi) In SI units, the unit of specific heat is : (Mark 1)

A. J kg K

B. JkgK^{-1}

C. Jkg^{-1}K

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

Answer:

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

xii) In Solids, heat is transferred by: (Mark 1)

A. Radiation

B. Conduction

C. Convection

D. Absorption

Answer:

B. Conduction

SHORT QUESTIONS

Q.2 i) Differentiate between base units and derived units. (Marks 2)

Q.2 ii) What is meant by prefixes?
(Marks 2)
Q.2 iii) What is meant by least count? Write the least count of metre rule.
(Marks 2)
Q.2 iv) Define translatory motion and and give an example.
(Marks 2)
Q.2 v) Differentiate between scalar and vectors.
(Marks 2)
Q.2 vi) Define centripetal force and write its a mathematical formula.
(Marks 2)
Q.2 vii) State law of conservation of momentum. (Marks 2)
Q.2 viii) What is meant by inertia? (Marks 2)
Q.3 i) Define resultant force.
(Marks 2)
Q.3 ii) Differentiate between center of mass and center of gravity.
(Marks 2)
Q.3 iii) State Newton's Law of gravitation?
(Marks 2)
Q.3 iv) What are artificial satellites? (Marks 2)
Q.3 v) What is global positioning system? Write its use?
(Marks 2)
Q.3 vi) Define work and write its SI unit? (Marks 2)

Q.3 vii) Define heat energy? Write its some sources?
(Marks 2)
Q.3 viii) What is meant by efficiency of a system? Write its formula.
(Marks 2)
Q.4 i) Why water is not suitable to be used in a barometer?
(Marks 2)
Q.4 ii) State Pascal's law. (Marks 2)
Q.4 iii) What is meant by principle of floatation?
(Marks 2)
Q.4 iv) Change 300K into Celsius scale of temperature.
(Marks 2)
Q.4 v) Define heat capacity and write its unit.
(Marks 2)
Q.4 vi) Write two factors at which ratio of radiations emitted depends.
(Marks 2)
Q.4 vii) Define green house effect. (Marks 2)
Q.4 viii) Differentiate between land and sea breezes.
(Marks 2)

LONG QUESTIONS

Q.5 a) Derive the third equation of motion with the help of speed-time graph.
(Marks 4)
Q.5 b) A body of mass 5kg is moving with a velocity of $10ms^{-1}$. Find the force required to stop it in 2 seconds.
(Marks 5)
Q.6 a) Define potential energy and give an example. Also derive its formula.
(Marks 4)
Q.6 b) A force of 100N is applied perpendicularly on a spanner at a distance of 10cm from nut. Find the torque produced by the force.
(Marks 5)
Q.7 a) Explain the linear thermal expansion in solids.
(Marks 4)
Q.7 b) A steel wire of 1m long and cross-sectional area $5 \times 10^{-5}m^2$ is stretched 1mm by a force of 10,000N. Find the youngs modulus of the wire.
(Marks 5)