FAISALABAD BOARD

GRADE 9

Physics

2018 GROUP 1

Lesson 1 of 32

Section-A (MCQs)

i) Rate of doing work is called: (Mark 1)

A. Energy

B. Torque

C. Power

D. Momentum

Answer:

C. Power

ii) The work done will be zero when the angle between the force and the distance is:
(Mark 1)

A. 45°

B. 60°

C. 90°

D. 180°

Answer:

C. 90°

iii) Which of the substance is the lightest one (Mark 1)

A. Copper

B. Mercury

C. Aluminium

D. Lead

Answer:

C. Aluminium

iv) Which material has large values of the temperature coefficient of linear expansion? (Mark 1)

A. Aluminium

B. Gold

C. Brass

D. Steel

Answer:

A. Aluminium

v) Water freezes at which temperature? (Mark 1)

A. 0°F

B. 32°F

C. -273 K

D. 0 K

Answer:

B. 32°F

vi) Rooms are heated using gas heaters by: (Mark 1)

A. Conduction

B. Convection and radiation

C. Radiation

D. Convection

Answer:

B. Convection and radiation

vii) Which is the smallest quantity? (Mark 1)

A. 0.01 g

B. 2 mg

C. 100 mg

D. 5000 ng

Answer:

D. 5000 ng

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

A. Speed

B. Velocity

C. Displacement

D. Distance

Answer:

C. Displacement

ix) The unit of force is: (Mark 1)

A. Pascal

B. Newton

C. Kilogram

D. Watt

Answer:

B. Newton

x) 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

xi) Two equal but unlike parallel forces having a different line of action produce:
(Mark 1)

A. Torque

B. Couple

C. Equilibrium

D. Neutral Equilibrium

Answer:

B. Couple

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

A. 0

B. 8 ms-1

C. 800 ms-1

D. 8000 ms-1

Answer:

D. 8000 ms-1

Q.2 i) Differentiate between atomic physics and nuclear physics. (Marks 2)

Q.2 ii) Define base and derived quantities. (Marks 2)

Q.2 iii) Write the formula to calculate the least count of screw gauge. (Marks 2)

Q.2 iv) Differentiate between distance and displacement. (Marks 2)

Q.2 v) What is meant by positive acceleration and negative acceleration? (Marks 2)

Q.2 vi) Define momentum and write its SI unit. (Marks 2)

Q.2 vii) Differentiate between braking and skidding. (Marks 2)

Q.2 viii) State Newton's third law of motion and give an example. (Marks 2)

Q.3 i) Differentiate between like parallel forces and unlike parallel forces. (Marks 2)

Q.3 ii) What is a line of action of a force? (Marks 2)

Q.3 iii) What is meant by force of gravitation? (Marks 2)

Q.3 iv) What are natural satellites (Marks 2)

Q.3 v) What is the value of 'g' at moon and mars? (Marks 2)

Q.3 vi) Define energy and write its SI unit. (Marks 2)

Q.3 vii) Describe two uses of light energy. (Marks 2)

Q.3 viii) What is meant by geothermal energy. (Marks 2)

Q.4 i) Define pressure. Write its formula and SI unit. (Marks 2)

Q.4 ii) State the principle of floatation. (Marks 2)

Q.4 iii) Define strain and write its unit. (Marks 2)

Q.4 iv) Define thermometer and write its types. (Marks 2)

Q.4 v) Define the latent heat of fusion. (Marks 2)

Q.4 vi) Define the rate of flow of heat. Name any two factors on which it depends.
(Marks 2)

Q.4 vii) Differentiate between land and sea breezes. (Marks 2)

Q.4 viii) Define greenhouse effect. (Marks 2)

Q.5 a) Define motion and describe its three types. (Marks 4)

Q.5 B) How much time is required to change 22Ns momentum by a force of 20N?
(Marks 5)

Q.6 A) Define kinetic energy and derive its equation. (Marks 4)

Q.6 B) A force of 100N is applied perpendicularly on a spanner at a distance of 10cm from a nut. Find the torque produced by the force.
(Marks 5)

Q.7 A) Explain volume thermal expansion. (Marks 4)

Q.7 B) A student presses his palm by his thumb with a force of 75N. What would be the pressure under his thumb having contact area 1.5cm2?
(Marks 5)

FAISALABAD BOARD

GRADE 9

Physics

2018 GROUP 2

Lesson 1 of 32

Section-A (MCQs)

i) The height of geostationary satellite from the earth is nearly equal to:
(Mark 1)

A. 6 × 1024 Km

B. 6.4 × 106 Km

C. 4.23 × 1010 Km

D. 4.23 × 104 Km

Answer:

D. 4.23 × 104 Km

ii) Complete the equation Fy/Fx = _____: (Mark 1)

A. Tanθ

B. Sinθ

C. Cosθ

D. Cosecθ

Answer:

A. Tanθ

iii) 1 Newton (N) is equal to: (Mark 1)

A. 1 Kgms-2

B. 1 Kgms

C. 1 Kgm-1s

D. 1 Kgm-1s-1

Answer:

A. 1 Kgms-2

iv) The weight of a body is 147 N. Its mass will be: (Mark 1)

A. 1.47 Kg

B. 14.7 Kg

C. 0.147 Kg

D. 147 Kg

Answer:

B. 14.7 Kg

v) For free falling bodies, have acceleration equal to: (Mark 1)

A. 6 × 1024 ms-2

B. 6.67 × 10-11 ms-2

C. 10 ms-2

D. 6.4 × 106 ms-2

Answer:

C. 10 ms-2

vi) 0.00002 g is equal to how many micrograms? (Mark 1)

A. 2.0 µg

B. 0.20 µg

C. 20 µg

D. 200 µg

Answer:

C. 20 µg

vii) Rate of flow of heat through conductor is inversely proportional to its:
(Mark 1)

A. Area

B. Length

C. Temperature

D. Time

Answer:

B. Length

viii) Water freezes at: (Mark 1)

A. 0oF

B. -273 K

C. 32oF

D. 0 K

Answer:

C. 32oF

ix) T(K) = _____: (Mark 1)

A. 273 - C

B. 273 + C

C. 273 + F

D. 273 - F

Answer:

B. 273 + C

x) Mercury is _____ times heavier than water: (Mark 1)

A. 13.6

B. 14.6

C. 15.6

D. 16.6

Answer:

A. 13.6

xi) The work done will be minimum when angle between force and displacement is: (Mark 1)

A. 0o

B. 30o

C. 60o

D. 90o

Answer:

D. 90o

xii) The efficiency of solar cell is: (Mark 1)

A. 3%

B. 6%

C. 9%

D. 12%

Answer:

A. 3%

Q.2 i) Why use of zero error is essential in measuring instruments? (Marks 2)

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

Q.2 iii) Write two methods to represent vectors. (Marks 2)

Q.2 iv) Define position and give an example. (Marks 2)

Q.2 v) Differentiate between distance and displacement. (Marks 2)

Q.2 vi) Write two methods to reduce friction. (Marks 2)

Q.2 vii) Define force of limiting friction. (Marks 2)

Q.2 viii) Define rolling friction. (Marks 2)

Q.3 i) Define unstable equilibrium. (Marks 2)

Q.3 ii) In a right-angled triangle length of base is 4 cm and its perpendicular is 3 cm then find length of its hypotenuse. (Marks 2)

Q.3 iii) Write a formula to find the mass of earth. Also, write its value.
(Marks 2)

Q.3 iv) What do you know about Global Positioning System (GPS)?
(Marks 2)

Q.3 v) Define force of gravitation. (Marks 2)

Q.3 vi) What is biomass energy? (Marks 2)

Q.3 vii) A body of mass 50 kg is raised to a height of 3 m. What is its potential energy?
(Marks 2)

Q.3 viii) Define nuclear energy. (Marks 2)

Q.4 i) State the principle of floatation. (Marks 2)

Q.4 ii) Does there exist a fourth state of matter? If yes. what is that?
(Marks 2)

Q.4 iii) Define tensile strain. Write its formula (Marks 2)

Q.4 iv) Why does heat flow from hot body to cold body?
(Marks 2)

Q.4 v) Define evaporation. (Marks 2)

Q.4 vi) What is difference between linear thermal expansion and volume thermal expansion.
(Marks 2)

Q.4 vii) Define conduction. (Marks 2)

Q.4 viii) Write two uses of non-conductors of heat. (Marks 2)

Q.5 a) Define friction and write its four advantages and two disadvantages.
(Marks 4)

Q.5 b) A cyclist completes half round of a circular track of radius 318 m in 1.5 minutes. Find its speed and velocity. (Marks 5)

Q.6 a) Explain solar house heating system. (Marks 4)

Q.6 b) A force is acting on a body making an angle of 30o with horizontal. The horizontal component of the force is 20 N. Find the force.
(Marks 5)

Q.7 a) Define specific heat. Also derive the equation of specific heat capacity.
(Marks 4)

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