PYSICS SS1 2ND TERM

1. The rate of displacement is called

A. acceleration

B. deceleration

C. speed

D. velocity

1. When a body floats in a liquid, the

A. body displaces it own volume of the liquid

B. upthrust on it is greater than weight of the

C. weight of the liquid displaced is equal to that of the body

D. weight of the body is very small

1. For a body in uniform circular motion with constant speed, the

A. acceleration is zero

B. velocity remains constant

C. velocity changes continuously

D. magnitude of the centripetal force changes

1. A temperature of 20°C is equivalent to

A. 47°F

B. 59°F

C. 63°F

D. 68°F

1. The unit of volume expansivity is

A. /K

B. K/m²

C. Km²

D. m²

1. The silver coating on the inside of a vacuum reduces heat loss by

A. convection

B. conduction

C. evaporation

D. radiation

1. Which of the following devices can be referred to as the simple electrostatic generator

A. gold leaf electroscope

B. lightning conductor

C. proof plane

D. electrophorus

1. A positively charged glass rod is placed the cap of a positively charged electroscope. The divergence of the leaf is observed to

(a) decrease

(b) increase

(c) remain the same

(d) increase and collapse immediately

1. A thermometer records 680mmHg at the steam point and 440mmHg at the ice point. The temperature it records at 380mmHg is

(a) -25˚C

(b) -20˚C

(c) 20˚C

(d) 25˚C

1. In a thermo flask, heat loss by radiation is minimized by the

(a) silvered surface

(b) vacuum within the double walls

c) plastic stopper

d) cork support

1. When water is boiling, it
2. Gets hotter
3. Increases in mass
4. Decreases in mass
5. Changes to steam
6. Which of the following source of energy is/are exhaustible? I. solar II. Fossil fuel III. Tidal power
7. ii only
8. iii only
9. i and ii only
10. ii and iii only
11. When a neutral rod loses an electron, it becomes

A. Negatively charged

B. Neutral

C. Positively charged

D. Partly positive and partly negative.

1. A room is heated by means of a charcoal fire, a man standing away from the fire is warmed by

A. conduction

B. reflection

C. radiation

D. convention.

1. The act of charging a neutral body by placing a charged body near it without contact between the two is
2. electromagnetic induction
3. paramagnetic induction
4. electrostatic induction
5. without contact induction.
6. Which of the following explains why a thick glass cup crack when boiling water is suddenly poured into it?

A. Anomalous expansion of water B. greater specific latent heat capacity of water compared to that of glass C. high density of water D. Unequal expansion of the interior and exterior walls of the cup.

1. Which of the following statements about an electrical insulator is correct?

A. It contains electrons but they are not free to move B. It contains no electrons at all C. It contains some protons D. It contains some electrons but more protons.

1. Which of the following statements about lines of force is not correct?

A. it is an imaginary lines B. lines of force cannot cross one another C. the lines are straight if the field is uniform D. it represents the direction of the electric field direction at that point.

1. A brass rod is 2m long at a certain temperature change of 100K (linear expansivity of brass = 1.8Χ105/K)

A. 0.3600m B. 0.18m C. 0.036m D. 0.0036m.

1. If L, S and V are the linear, area and volume expansivities of a given metal respectively, which of the following equations is correct?

A. L-S = 0 B. V-2S = 0 C. S-2L = 0 D. 2S- L= 0.

1. Solar energy reaches the earth by earth by the process of

A. conduction B. radiation C. Convection D. refraction.

1. Which of the following physical processes cannot be explained by molecular theory of matter?

A. Evaporation B. Thermal conduction C. Radiation of heat D. Convectional current in fluid

1. The force between the molecules of a liquid in contact with that of a solid is

A. Cohesive B. Magnetic C. Adhesive D. Repulsive.

1. The region around a magnet in which the magnetic influence is experienced is called

A. magnetic flux B. magnetic field C. magnetic meridian D. magnetic declination.

1. One common characteristic of solids, liquid and gases is that

A. All the three have fixed volume B. Their molecules have the same size C. Their molecular are always in motion D. All the three have the same intermolecular forces.

1. Which of the following items can be used to compare the relative magnitude of electric charges on two bodies?

A. Ebonite rod B. Gold leaf electroscope C. Proof planes D. The electrophorus.

1. The density of P of a spherical ball of diameter d and mass m is given by

A. ρ = 3m/4πd³ B. ρ = 4πmd³ C. ρ = 6m/πd³ D. ρ = 3m/2πd³.

1. The pressure in a liquid

A. Is the same at all points in the liquid B. Decreases with depth C. Is the same in all directions at a given point D. Is equal to the atmosphere pressure.

1. The silver coating on the inside of a vacuum flask reduces heat loss

A. conduction B. radiation C. condensation D. convection

1. The friction which exists between two layers of liquid in relative motion is called

A. capillarity B. surface tension C. viscosity D. cohesion.

1. Which of the following substances does not conduct electricity?

A. Graphite B. Glass C. Sulphuric acid D. Table salt solution

1. Which of the following states of matter do the molecules vibrate about their mean positions?

A. liquids and gases only B. solids, liquids and gases C. solids D. gas.

1. Which of the following devices converts heat energy to electrical energy?

A. transformer B. dynamo C. thermocouple D. thermostat.

1. Which of the following items can be used to compare the relative magnitude on two bodies

A. ebonite rod B. gold-leaf electroscope C. proof planes D. the electrophorus.

1. Which of the following surface will radiate heat energy best?

A. Red surface B. White surface C. Black surface D. Yellow surface.

1. The bursting of water pipes during very cold weather, when the water in the pipes from ice could be attributed to

A. Contraction of pipes when cooled B. Expansion of water on freezing C. Contraction of water on freezing D. Expansion of ice on melting

1. A metal rod 800mm is heated from 10⁰ C to 95⁰ C if it expands by 1.36mm, the linear expansively of the metal is?

A. 20x102/k B. 2x10-2/k C. 5x10-3/k D. 2x10-5/k

1. Which of the following is not an example of force

A. tension B. weight C. friction D. mass

1. Power is defined as the

A. Product of force and time B. Capacity extent of a force C. Product of force and distance D. Energy expanded per unit time

1. The bimetallic strip is used in a

A. generator B. electric Iron C. electric fan D. radio

1. Which of the following units is fundamental?

A. Joule B. Kelvin C. Pascal D. Watt

1. Density is a measure of the

A. quantity of matter an object contains B. space an object occupies C. compactness of matter with respect to its size D. surface area of an object

1. Which of the following is the is the best for measuring the diameter of a thin constantan wire?

A. caliper B. metre rule C. micrometer screw guage D. vernier caliper

1. A thermometer records 680mmHg at steam point and 440mmHg at ice point. The temperature it records at 380mmHg is

A. -25°C B. -20°C C.20°C D. 25°C

1. Which of the following statements about Archimede’s principle is correct? the upthrust on a body is a measure of the

A. mass of the fluid displaced B. weight of the body C. volume of the body D. weight of the fluid displaced

1. The normal body temperature of a human being is

(a) 100˚C (b) 97.6˚C (c) 36.9˚C (d) 10˚C.

1. Which of the following does not need a medium for heat transfer?

A. Conduction B. Radiation C. Convention D. Absorption.

1. Which one of the following is not magnetic?

A. iron B. steel C. copper D. plastic

1. Which of the following is not a conductor of electricity

A. Human body B. Silver C. Earth D. Glass.

1. A short chain is usually attached to the back of petrol tanker trailing behind it to ensure that the

A. petrol tanker is balance on road B. heat generated by friction in the engine can be conducted to the floor C. charges generated by friction in the

tanker is conducted to the earth D. tanker moves slowly as the chain touches the road surface.

PART B: THEORY

ANSWER ANY FIVE QUESTIONS IN THIS PART

1. Use the kinetic theory of matter to explain the mechanism by which heat is transmitted through solids and liquids (ii) Explain the meaning of the statement, the linear expansivity of copper is 0.000012/k (b) Draw and label a diagram showing the essential parts of a thermo flask and Explain how the flask can retain heat for a very long time
2. (a) Draw the electric field pattern around

(i) A positive charge (ii) Two like charges (iii) Two unlike charges

(b) State four properties of electric lines of force.

1. Define the upper point and the lower fixed point as used in the thermometer (b) The electrical resistance of the element in a platinum thermometer at 100°C, 0°C and room temperature are 75.000, 63.000 and 64.992Ω. use the data to determine the room temperature
2. (a) What is meant by electrostatics induction?

(b) Draw a labelled diagram of a gold-leaf electroscope, and explain how it can be positively charged using a piece of silk and glass rod.

1. (a) Metals are good conductors of heat whereas wood is a poor conductor of heat. Discuss this statement with reference to mechanism of heat transfer in solids.

(b) With the aid of diagrams, explain land and sea breeze

1. . (a) Give two application of I. Convection II. Conduction III. Radiation

(b)Why are car radiators and motorcycle engine fitted with cooling fins that are painted dull black and have the largest possible surface areas?

(c) Explain the following: I. An aluminum pot on a heater feels hotter its wooden handle.

II. A metal cup and a book are both at room temperature but the cup feels colder to

the touch than book.

III. I feel cooler when wearing a white shirt than a black shirt on hot afternoons

1. Explain why it is desirable to install an air conditioner near the ceiling of a room and not close to the floor (b) State three applications of expansion of metals (c)State two advantages of alcohol over mercury as a thermometric liquid