

- Q.1 Select the correct option. (12)**
- 1- The work done will be maximum, when the angle between the force and distance is
 a) 45° b) 0° c) 90° d) 180°
 - 2- Hydrocarbon + oxygen $\xrightarrow{\quad}$ carbon dioxide +
 a) water b) water + oxygen c) water + heat energy d) none
 - 3- The efficiency of electric motor is
 a) 88% b) 80% c) 55% d) 90%
 - 4- 1 liter = _____ m^3
 a) 10^3 b) 10^2 c) 10^{-3} d) 10^{-6}
 - 5- The density of aluminum = _____ Kgm^{-3}
 a) 1000 c) 89 d) 2500 d) 2700
 - 6- 1 Pa = _____
 a) Nm b) Nm^{-1} c) Nm^2 d) Nm^{-2}
 - 7- Boiling pt. of mercury is _____ c°
 a) -59 b) -357 c) 357 d) -39
 - 8- SI unit of specific heat capacity is
 a) JKg^{-1} b) $1 Kg^{-1} K^{-1}$ c) $J K^{-1}$ d) none
 - 9- Water freezes at
 a) 0of b) 32of c) -273k d) ok
 - 10- Colored surface is a _____ emitter.
 a) good b) bad c) best d) worst
 - 11- In solids, heat is transferred by
 a) radiation b) conduction c) convection d) absorption
 - 12- In gases, heat is mainly transferred by
 a) molecular collision b) conduction c) convection d) radiation

(Subjective)

- Q.2 Write short answer of the following. (10)**
- i- Convert 1120 watts into hp.
 - ii- Define efficiency and what is its unit?
 - iii- Write the name of the parts of solar house heating system.
 - iv- Define mechanical energy.
 - v- Define the unit of power.
 - vi- Justify the statement that different energy resources are causes of pollution.
 - vii- Write some important features of kinetic molecular model of matter.
 - viii- What is the difference between stress and pressure.
- Q.3 Write short answer of the following. (10)**
- i- Why a glass tube 10m long is required for water barometer?
 - ii- State Archimedes principal.
 - iii- Why a log of wood floats on water whereas a steel pin sinks?
 - iv- Define tensile strain. Write its unit.
 - v- What is thermal equilibrium?
 - vi- What should be the properties of thermometric liquid?
 - vii- What is internal energy of a body?
 - viii- Convert $50^\circ C$ into Fahrenheit scale.
- Q.4 Write short answers of the following. (any five). (10)**
- i- Define Heat capacity.
 - ii- What is latent heat of fusion?
 - iii- What do you know about anomalous expansion of water?
 - iv- Define convection.
 - V- Why Styrofoam boxes are used to keep food hot or ice cream cold for long time?
 - vi- Give some uses of non conductors.
 - vii- How do thermals help birds to fly for hours without flapping their wings?
 - viii- Write some factors that affect rate of emission of radiation.

Part II

- Note: Attempt any two questions. (18)**
- Q.5 (a) State Pascal's law. Write its applications. (5)
 - (b) A man has pulled a cart through 35m applying a force of 300 N. find work done by man. (4)
 - Q.6 (a) Define evaporation. Write factors that affect rate of evaporation. (5)
 - (b) What would be the volume of ice formed by freezing 1 liter of water? (4)
 - Q.7 (a) Write a note on thermal conductivity. (5)
 - (b) How much ice will be melt by 50,000J of heat? (4)