THEORY QUESTIONS BANK

1. Using kinetic theory of matter, explain why (i) evaporation causes cooling (II) boiling water changes to steam without any change in temperature, although heat is being supplied to the water (b) State two factors each which affect the (i) boiling point of a liquid (ii) rate of evaporation of a liquid (c) On a certain day, the temperature and dew point of air were found to be 16°C and 10°C respectively. From tables, the corresponding saturation vapour pressure was obtained as 13.5mmHg and 9.2mmHg respectively. Calculate the relative humidity of the sample
2. 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 thermometer flask(ii) Explain how the flask can retain heat for a very long time
3. 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
4. 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
5. Explain wave motion (ii) list four physical properties of a wave (iii) A wave is represented by the equation y = 0.0.20 sin 0.40π(x- 60t) where all distances are measured in centimeters , time in second. Determine (i) wavelength (ii) frequency (iii) period
6. Describe an experiment to show how to determine the specific heat capacity of a solid iron ball (b)Heat was applied to ice at a temperature of -25°C until it is completely transform to steam. Calculate the total quantity of heat required for this process