KV SECL JHAGRAKHAND
SUMMER VACATIONS WORK
CLASS X
(SCIENCE)

PART-1

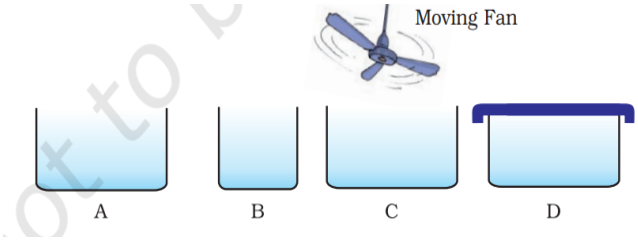
Q1. On converting 25°C, 38°C and 66°C to kelvin scale, the correct sequence of temperature will be
(a) 298 K, 311 K and 339 K
(b) 298 K, 300 K and 338 K
(c) 273 K, 278 K and 543 K
(d) 298 K, 310 K and 338 K

Q2. The boiling points of diethyl ether, acetone and n-butyl alcohol are 35°C, 56°C and 118°C respectively. Which one of the following correctly represents their boiling points in kelvin scale?
(a) 306 K, 329 K, 391 K
(b) 308 K, 329 K, 392 K
(c) 308 K, 329 K, 391 K
(d) 329 K, 392 K, 308 K

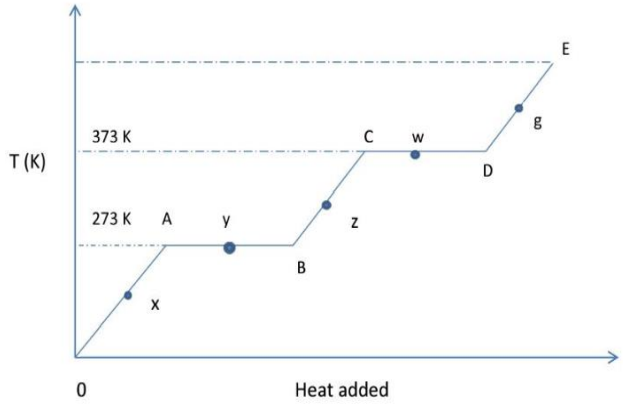
Q3. Comment on the following statements: (a) Evaporation produces cooling. (b) Rate of evaporation of an aqueous solution decrease with increase in humidity. (c) Sponge though compressible is a solid

Q4. You are provided with a mixture of naphthalene and ammonium chloride by your teacher. Suggest an activity to separate them with well labelled diagram.

Q5. Look at Fig. 1.3 and suggest in which of the vessels A,B, C or D the rate of evaporation will be the highest? Explain



Q6.A teacher asked a group of students to heat a given sample of ice and to draw a curve representing temperature rise as a function of heat added. After performing experiment at one atmospheric pressure, the students gave the following curve.

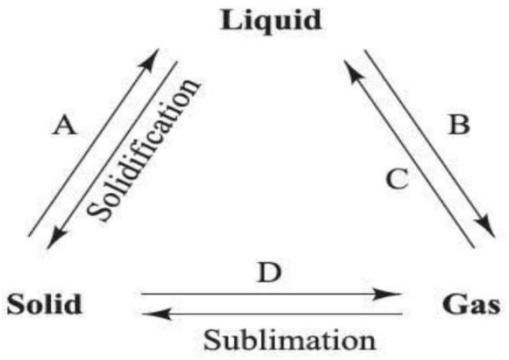


6.1- What is physical state of substance at point Y ?

6.2- Heat added per gram of the substance along the line CD is known asi) Specific heat ii) Reserve heat ii) Latent heat of vapourisation iv) none of these
6.3-What is the physical state of substance at point W?
6.4-Which line represents the change of state without undergoing any change of temperature? i) AB and CD ii) OA and AB iii) OA and BC iv) CD and DE.

Q7. (a) Conversion of solid to vapour is called sublimation. Name the term used to denote the conversion of vapour to solid.
(b) Conversion of solid state to liquid state is called fusion; what is meant by latent heat of fusion?

Q8. Classify the following into osmosis/diffusion
(a) Swelling up of a raisin on keeping in water.
(b) Spreading of virus on sneezing.
(c) Earthworm dying on coming in contact with common salt.
(d) Shrinking of grapes kept in thick sugar syrup.
(e) Preserving pickles in salt.
(f) Spreading of smell of cake being baked through out the house.
(g) Aquatic animals using oxygen dissolved in water during respiration



9.1 Name the processes- A, B, C and D.
9.2- Define Latent heat of fusion and Latent heat of vapourisation. Write the latent heat of fusion of ice and latent heat of vapourisation of water.
9.3- What are the conditions necessary for compressing gasesto form liquids?
Q10.Give reasons-

i) Why ice floats on water?
ii) Ice at 00C is more effective in cooling than water at the same temperature.
iii) Why steam causes more severe burns than hot water?

Q11. Evaporation is a process by which water converts into water vapour at temperature below its boiling point. During evaporation only the surface molecules will absorb heat and increase their kinetic energy to overcome the force of attraction. Evaporation causes cooling effect. Unlike boiling, evaporation depends on various factors like temperature, wind speed, surface area and humidity

11.1-Explain why boiling is a bulk phenomenon whereas evaporation is a surface phenomenon.
11.2-Give reason why our palm feels cool, when we put acetone or spirit on it ?
11.3-Why a cooler cool better on a hot and dry day?
11.4- Explain four factors responsible for the change in rate of evaporation.

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PART – 2

1. NCERT EXAMPLAR questions – MATTER IN OUR SURROUNDINGS

4. A brief Write up or PORTFOLIO to any concept of the chapter The "Natural Resources "(In separate file).

PART-3

1.WORK SOMETHING FOR RSBVP (Rajya Stariya Bal Vaigyanik Pradarshani) (CAN VISIT GIVEN WEBSITE https://ncert.nic.in/jn-national-science-exhibition.php **)**
2.NATIONAL CHILDERENS SCIENCE CONGRESS.
3.INSPIRE AWARD (IDEA COMPETITION): Any innovative idea

NOTE: DEAR STUDENTS DON'T DO THIS AS A WORKLOAD, USE IT TO IMPROVE CONCEPT AS WELL FOR PRACTICE.

For you all----

"The expert in anything was once a beginner." So, let's beign.

"Success is the sum of small efforts, repeated."