

KENDRIYA VIDYALAYA IIT Campus , Chennai -600 036.

Holiday Home Work – Summer Vacation

Class XII- CHEMISTRY

1. Any Investigatory project of your own choice (example water holding capacity of various synthetic fibre, pigment from natural products and dyeing over the cloth and its surface reaction)/CBSE listed can be prepared and submitted on 25/06/2017 as rough file (after the approval of the teacher finalization can be done)
2. All group members as per the topic assigned can be prepare the PPT.

Solid State:

1. It is face centered cubic lattice A metal has cubic lattice. Edge length of lattice cell is 2\AA . The density of metal is 2.4g cm^{-3} . How many units cell are present in 200g of metal.
2. A metal crystallizes as face centered cubic lattice with edge length of 450pm. Molar mass of metal is 50g mol^{-1} . The density of metal is?

Solution:

Q 1. (a). Define the following terms.

1. Mole fraction
2. Ideal solutions

(b) 15 g of an unknown molecular material is dissolved in 450 g of water. The resulting solution freeze at $-0.34\text{ }^{\circ}\text{C}$. what is the molar mass of material? K_f for water = $1.86\text{ K Kg mol}^{-1}$.

Q 2.(a) Explain the following :

1. Henry's law about dissolution of a gas in a liquid .
2. Boiling point elevation constant for a solvent

(b) a solution of glycerol ($\text{C}_3\text{H}_8\text{O}_3$) in water was prepared by dissolving some glycerol in in 500 g of water. The solution has a boiling point of $100.42\text{ }^{\circ}\text{C}$. what mass of glycerol was dissolved to make this solution?

K_b for water = $0.512\text{ K Kg mol}^{-1}$

3. Chemistry In Every day life

Q-1 Mention one important use of the following-

- (i) Equanil (ii) Sucrose

Q-2 Define the following and give one example-

- (i) Antipyretics (ii) Antibiotics

Q-3 Name the medicines used for the treatment of the following-

- (i) Tuberculosis (ii) Typhoid

Q-4 what are tincture of iodine?

Q- 5 What is artificial sweetening agent? Give two examples?

Q-6 How is synthetic detergents better than soaps?

Q-7 what are sulpha drugs? Give two examples?

.Q-8 what forces are involved in holding the active sites of the enzymes?

Q-9 Describe the following giving an example in each

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| case- (i) Edible colours | (iv) disinfectants |
| (ii) Antifertility drugs | (v) broad spectrum antibiotics |
| (iii) antiseptics | (vi) zwitterion |

Q-10 what are Biodegradable and non-biodegradable detergents? Give one example of each.

.Q-11 what are barbiturates? To which class of drugs do they belong? Give two examples.

Q-12. what is the use of –(i) Benadryl (ii) sodium benzoate (iii) Progesterone

Q-13. Identify the type of drug-

- (i) Ofloxacin (ii) Aspirin (iii) Cimetidine

