

I. Fill in the blanks (5)

1. Volume temperature relationship is given by_____.
2. The number of protons present in tritium _____.
3. ____ acid is oxidizing agent and cannot be used for the preparation of hydrogen.
4. If the temperature is reduced to half _____ would also reduce to half.
5. $293\text{K} = \text{_____}^{\circ}\text{C}$

II. Give reasons (3)

1. All temperature in the absolute scale are in positive figures.
2. Concentric sulphuric acid is not used in the laboratory preparation of hydrogen.
3. Hydrogen is collected by the downward displacement of water and not of air even though it is lighter than air.

III. Answer in a sentence (4)

1. Give the product when the reactants are calcium and water.
2. Which test should be made before collecting hydrogen in a gas jar.
3. Why it is necessary to compare gases at STP?
4. What is diffusion.

IV. Answer the following questions (8)

1. State boyle law giving it's mathematical expression and graphical representation.
2. 1 litre of a gas at 10 degree Celsius is heated till both its volume and pressure are tripled find the new temperature?
3. Why are calcium and sodium metals not used in the lab preparation of hydrogen?
4. Give the manufacture of Hydrogen by Bosch process