

## Chemistry - 12th Class Chemistry Chapter 13 Short Questions Preparation

Q1. Define and differentiate between essential and non essential amino acids.

**Ans 1:** The ten amino acids which body can be synthesized called non-essential amino acids, The remaining ten amino acids when the body is not able to synthesize are called essential amino acids, The essential amino acids must be supplied to our body through our diet because they are required for proper health and growth, The deficiency of essential amino acids may cause disease.

Q2. What is meant by Polypeptide and protein?

**Ans 1:** The formation of peptide bonds can continue until a molecule containing a several hundred thousand amino acid is formed, Such a molecule is called polypeptide or protein. By convention a peptide having molecular mass more than 10,000 is called protein.

Q3. What is the Ninhydrin Test?

**Ans 1:** Ninhydrin reacts with amino acids to form an intensely coloured bluish violet product, The ninhydrin reaction is also widely used to visualize amino acids separately by paper chromatography.

Q4. Write down formula of palmitic and stearic acid.

**Ans 1:** Formula of palmitic is:  $C_{15}H_{31}COOH$   
Formula of stearic acid is:  $C_{17}H_{35}COOH$

Q5. What are Fatty acids?

**Ans 1:** The aliphatic monocarboxylic acids are commonly called fatty acids because higher member of this series such as palmitic acid stearic acid etc. obtained by the hydrolysis of fats or oils.

Q6. What is peptide bond?

**Ans 1:** The formation of peptide bonds can continue until a molecule containing several hundred thousand amino acids is formed, Such a molecule is called polypeptide or protein.

Q7. What happens when following are heated?

1. Sodium formate and soda lime
2. Sodium acetate and soda lime

**Ans 1:** 1. When sodium formate is heated with soda lime, it decomposes to give sodium carbonate and hydrogen.  
2. When sodium acetate is heated with soda lime, it decomposes to give sodium carbonate and methane.

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Q8. Explain acidic and basic character of amino acid?

**Ans 1:** On the basis of dipolar ion structure, the acidic and basic reaction of amino acids may be represented :

1. When an acid is added to an amino acid the carboxylic acid group accepts the proton, therefore the basic character is due to this group,
2. When an alkali is added to an amino acid, the  $\text{-NH}_2$  group releases the proton and therefore the acidic character is due to this group.

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Q9. Give four uses of acetic acid?

**Ans 1:** Acetic acid is used:

1. as a coagulant for latex in rubber industry.
2. in the manufacturing of plastic rayon and silk.
3. in medicine as a local irritant.
4. in the manufacturing of pickles.

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Q10. Differentiate between acidic and basic amino acids?

**Ans 1:** The amino acids which contain two carboxyl groups are called acidic acids, while those containing two amino groups are called basic acids while lysine is a basic amino acid.

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