

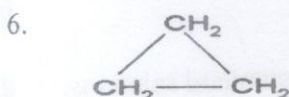
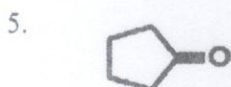
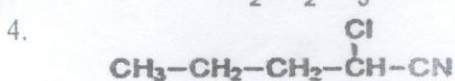
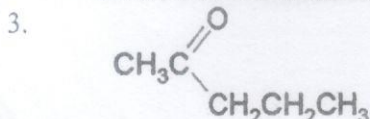
**NOTE:**

1. Attempt all questions.
2. All questions carry equal marks.
3. Draw neat labelled diagrams wherever necessary.
4. For Q 2, Q 3 and Q 4 attempt A and B OR C and D.

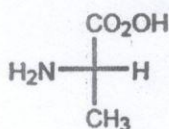
**Q 1 Do as directed (Any fifteen)**

15

1. Define. Octet rule.
2. What is meant by Prefix and Suffix?  
Write IUPAC name of following structures (3 to 6):



7. What is the endpoint?
8. \_\_\_\_\_ is a process in which a standard reagent (titrant) is added to a solution of an analyte until the reaction between the analyte and reagent is judged to be complete.  
a. Titration    b. Solubilization    c. Gravimetric method    d. Precipitation
9. The substance or analyte being titrated by the titrant in a titration reaction is known as the \_\_\_\_\_.  
a. titrant    b. titrand    c. analyte    d. solute
10. \_\_\_\_\_ involves a metal-ligand complexation reaction.  
a. Neutralization reaction    b. Complexometric reaction    c. Precipitation reaction    d. Redox reaction
11. Define Titrant.
12. \_\_\_\_\_ is characterized by the weighing of the end product of analysis in which the weighing form has a known mass relationship with the substance to be estimated.  
a. Titration    b. Solubilization    c. Gravimetric method    d. Precipitation
13. Which form of optical isomers rotates the plane of polarized light towards the right?  
a. Racemic mixture    b. Laevorotatory    c. Meso    d. Dextrorotatory
14. Identify the molecule shown below chiral or achiral?



15. Define. Configuration.
16. In Threose isomer the hydroxyl groups are on the \_\_\_\_\_ side.  
a. right    b. same    c. left    d. opposite

17. True or False. Meso-tartaric acid is optically inactive as it is a racemic mixture.  
18. Draw Newman projection formulae of Erythro-2,3-dibromobutane.  
19. What is *Cis* isomers ?  
20. A racemic mixture is represented as \_\_\_\_\_.  
a. d      b. l      c. dl      d. rm

- Q. 2 A Explain the different types of chemical bonding. 08  
Q. 2 B Write Lewis dot symbols for atoms of the following elements: 07  
Mg, Na, B, Ne, Al, K, C.

OR

- Q. 2 C Draw the structures for the following compounds: 08  
1) 3-ethyl-4,5-dimethylpentane  
2) 3-phenyl-1-propyne  
3) 4-methylhexanoic acid  
4) 1-pentene  
Q. 2 D Give a detailed account on Ionic Bond. 07

- Q. 3 A What are standard solutions? Explain primary and secondary standard solutions. 08  
Q. 3 B What is an indicator? Explain its type. 07

OR

- Q. 3 C What are the factors affecting Gravimetric analysis? 08  
Q. 3 D Write a brief note on the neutralization curve? 07  
Q. 4 A What is conformational analysis? Draw the various conformations of Ethane using Sawhorse and Newman projection formula. 08  
Q. 4 B Explain Stereogenic center with suitable example. 07  
OR  
Q. 4 C Differentiate between Optical isomerism and geometric isomerism. 08  
Q. 4 D Explain Constitutional isomerism with any 3 types. 07

- Q. 5 Write short notes on any three of the following 15  
a. Nature of Hydrogen bonding  
b. IUPAC nomenclature of Rules  
c. Displacement titration  
d. Precipitation  
e. Asymmetric carbon atom.