

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw neat labelled diagrams wherever necessary

Q.1.A Multiple choice questions (Attempt any nine)

09

1. The number of molecules whose concentration determines the rate of the reaction is called as _____.
a) Molecularity of reaction b) Rate of reaction
c) Order of reaction d) Pseudo order reaction.
2. The friction in a flowing fluid is called as _____.
a) Density b) Surface tension c) Viscosity d) Capillary action
3. Plant gets water through the roots because of _____.
a) Capillarity b) Viscosity c) Gravity d) Elasticity
4. A reaction in which all the reactants are in the same phase is called _____.
a) Homogenous b) Heterogenous c) Intermediates d) Molecular
5. The first temperature at which solid changes into turbid liquid is known as _____.
a) Transition point b) Melting point c) Boiling point d) Zero point
6. The property of an element to form a long chain of same atom is known as _____.
a) Catenation b) Oxidation c) Reduction d) Hydrogenation
7. When concentration of _____ reaches to 0.8ppm it can cause instant death.
a) Oxygen b) Hydrogen c) Nitrogen d) Carbon monoxide
8. _____ is an example of Green house gases.
a) Hydrogen b) Oxygen c) Methane d) Nitrogen
9. The hydroxides of Group I elements are _____ in water and alcohol.
a) Soluble b) insoluble c) partially soluble d) partially insoluble
10. Isomers having asymmetric carbon atoms but still optically inactive are called as _____ isomer.
a) Diastereomer b) Racemic mixture c) Meso d) Geometrical
11. Geometrical isomerism is due to _____ rotation of carbon carbon double bond.
a) Allowed b) Restricted c) Optical d) Circular
12. In Fischer projection formula, the horizontal bonds are _____ the plane of paper.
a) Below b) Right c) Left d) Above
13. Isomers of a compound which are not related as mirror images are called as _____.
a) Enantiomers b) Diastereomers c) Optical isomers d) Meso

Q.1.B Match the columns.

03

- | | |
|--------------------------|------------------|
| a) Surface tension | i) Nicol's prism |
| b) Plane polarised light | ii) soil |
| c) Sink of CO | iii) Drop number |

VCD/7/12/23

FYBSC

SEM I

CHEMISTRY II

2.5 HRS

75 marks

350

Q.1.C State True or False.

03

- The most common method to stop the reaction is chilling or freezing the reaction mixture.
- SO₂ affects the visibility and leads to reduction in brightness, contrast between the objects.
- In Fischer projection formula, if two similar groups are on the same side it is called as a Threo isomer.

Q.2 Attempt any four.

20

- Explain Pseudo First order reaction with suitable example.
- What is the Second order reaction? Derive the integrated rate law for a second order reaction with equal initial concentration.
- Write the difference between order and molecularity of a reaction.
- First order reaction is 25% complete in 30 minutes. Calculate the specific reaction rate and half time.
- What is Liquid crystal? Write the classification and application of the liquid crystal.
- Define Surface tension of liquid. How is it measured by using Stalagmometer?

Q.3 Attempt any four.

20

- Explain occurrence, properties and uses of CaCO₃.
- Explain the Greenhouse effect with its consequences.
- Describe metallic and non-metallic characters of main group elements using appropriate properties.
- Write a short note on – Anomalous behavior of Lithium.
- Give a method of preparation of sodium bicarbonate. Write balanced equation for the action of heat and acid on sodium bicarbonate
- Explain the diagonal relationship between B and Si.

Q.4. Attempt any four.

20

- What is Stereoisomerism? Explain Geometrical isomerism with examples.
- What is a Racemic mixture? Explain Resolution of racemic mixture.
- What are Enantiomers? State the characteristics of Enantiomers.
- Explain Optical isomerism in Lactic acid and Tartaric acid
- What is meant by Projection formula? Explain Fischer projection formula in detail.
- Distinguish between: - i) Enantiomers and Diastereomers and ii) Optical isomerism and Geometrical isomerism