

Q.P. Code: USBT 102

Basic chem II

2 ½ Hours

VCD - 23/11/19

Total Marks: 75

1. Attempt all questions.
2. All questions carry equal marks.
3. Draw neat labeled diagrams wherever necessary.
4. Use of log tables and non-programmable calculator is allowed.
5. 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 configuration.
2. Define chirality.
3. Define asymmetric carbon atom.
4. The compound which have same molecular formula and same structure, but differ in arrangement of atoms in space with respect to a double bond are known as _____
5. The various temporary molecular shapes which result from the rotation of groups about a single bond are called _____ of a molecule.
6. State true or false. In Newmann projection formula, the front carbon atom is represented by a point from which three bond radiate.
7. State true or false. In Fischer projection formula, a broken wedge indicates the bond below the plane of the paper.
8. Define the term : Titration.
9. What is a TD pipette?
10. Define : Primary standard.
11. What is 'equivalence point' in titration?
12. Explain the term : Ostwald ripening.
13. List any two materials used for filtration in gravimetry.
14. Explain the term : Peptization.
15. Define Partition Coefficient.
16. Device used for sample application in Paper chromatography.
17. Process used to separate insoluble particles from liquid is _____
(Drying, Filtration, Extraction)
18. _____ cuvette is used for UV spectroscopy.

(Quartz, silica, plastic)

19. True or False. Tungsten lamp is used as source in colorimetry.
20. True or False. Chromatography cannot be used to purify volatile substance.

- Q. 2 A Explain structural isomerism and its types with suitable examples. 08
Q. 2 B Comment on representation of configuration by Sawhorse projection formula. 07

OR

- Q. 2 C Describe Erythro, Threo and Meso isomers. 08
Q. 2 D Comment on conformations of Ethane and conformational isomerism with suitable diagram. 07

- Q. 3 A List the requirements for a chemical reaction for use in titrimetry. 08
Q. 3 B Give an account of precipitation process in gravimetric analysis. 07

OR

- Q. 3 C Explain the 'ion effect' on solubility of precipitates in gravimetry. 08
Q. 3 D Give an account of classification of indicators. 07

- Q. 4 A Explain Thin Layer Chromatography. 08
Q. 4 B What is Precipitation? Explain it in detail. 07

OR

- Q. 4 C What is Chromatography? Discuss Column Chromatography. 08
Q. 4 D Explain the principle and instrumentation of Colorimeter. 07

- Q. 5 Write Short notes on **any three** of the following 15
a. Racemic mixture.
b. Enantiomers.
c. Back titration.
d. Mechanism of precipitate formation in gravimetry.
e. Types of Paper chromatography.
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