

1. 0.2 g of an organic compound on complete combustion produces 0.44 of CO_2 , then the percentage of carbon in it is -
 1. 50%
 2. 60%
 3. 70%
 4. 80%

2. In Kjeldahl's method, nitrogen present is estimated as:
 1. N_2
 2. NH_3
 3. NO_2
 4. None of the above

3. The Prussian blue colour obtained during the test of nitrogen by Lassaigne's test is due to the formation of:
 1. $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$
 2. $\text{Na}_3[\text{Fe}(\text{CN})_6]$
 3. $\text{Fe}(\text{CN})_3$
 4. $\text{Na}_4[\text{Fe}(\text{CN})_5\text{NOS}]$

4. In Duma's method of estimation of nitrogen, 0.35 g of an organic compound gave 55 ml of nitrogen collected at 300 K temperature and 715 mm pressure. The percentage composition of nitrogen in the compound would be- (Aqueous tension at 300 K, 15 mm)
 1. 16.45
 2. 17.45
 3. 14.45
 4. 15.45

5. The most suitable method of separation of 1:1 mixture of ortho and para-nitrophenols is:
 1. Chromatography
 2. Crystallization
 3. Steam distillation
 4. Sublimation

6. The Lassaigne's extract is boiled with con. HNO_3 while testing for halogens. By doing so it
 1. Helps in the precipitation of AgCl
 2. Increases the solubility product of AgCl
 3. Increases the concentration of NO_3^- ions
 4. Decomposes Na_2S and NaCN , if formed.

7. Assertion (A): CCl_4 doesn't give precipitate of AgCl on heating with AgNO_3 .
Reason (R): CCl_4 is a non-polar molecule.
 1. A & R both are correct and R is the correct explanation of A.
 2. A is correct but R is not correct.
 3. A & R both are correct and R is not the correct explanation of A.
 4. A & R, both are false

8. 0.1688 g organic compound when analyzed by the Dumas method yield 31.7 mL of moist nitrogen measured at 14°C and 758 mm mercury pressure. Determine the % of N in the substance (Aqueous tension at 14°C = 12 mm)
 1. 30.9%
 2. 10%
 3. 40%
 4. 21.9 %

9. The latest technique for isolation, purification and separation of organic compounds is -
 1. Crystallisation
 2. Distillation
 3. Sublimation
 4. Chromatography
10. A mixture of calcium sulphate and camphor can be separated by
 1. Filtration
 2. Evaporation
 3. Sublimation
 4. Chromatography
11. 0.3780 grams of an organic chloro compound gave 0.5740 grams of silver chloride in Carius estimation. % of chlorine present in the compound is -
 1. 25%
 2. 37.59%
 3. 42%
 4. 05.70 %
12. In the Carius method, 0.468 grams of an organic sulphur compound gives 0.668 grams of barium sulphate. The percentage of sulphur in the given compound is -
 1. 19.59%
 2. 25.40%
 3. 09.24%
 4. 27.59%
13. The purification method based on the difference in solubilities of the compound and the impurities in a solvent is
 1. Crystallisation
 2. Distillation
 3. Chromatography
 4. Isolation
14. The fragrance of flowers is due to the presence of some steam volatile organic compounds called essential oils. These are generally insoluble in water at room temperature but are miscible with water vapor in the vapor phase. A suitable method for the extraction of these oils from the flowers is
 1. Distillation
 2. Crystallisation
 3. Distillation under pressure
 4. Steam distillation
15. During hearing of a court case, the judge suspected that some changes in the documents had been carried out. He asked the forensic department to check the ink used at two different places. According to you which technique can give the best results?
 1. Column chromatography
 2. Solvent extraction
 3. Distillation
 4. Thin layer chromatography
16. The principle involved in paper chromatography is
 1. Adsorption
 2. Partition
 3. Solubility
 4. Volatility

17.

Match Column I with Column II.

Column I	Column II
A. Dumas method	1. AgNO_3
B. Kjeldahl's method	2. Silica gel
C. Carius method	3. Nitrogen gel
D. Chromatography	4. Ammonium sulphate

Codes

	A	B	C	D
1.	3	4	1	2
2.	1	2	3	4
3.	1	4	3	2
4.	4	1	3	2

18.

Assertion: Components of a mixture of red and blue inks can be separated by distributing the components between stationary and mobile phases in paper chromatography.

Reason: The colored components of inks migrate at different rates because paper selectively retains different components according to the difference in their partition between the two phases.

- Both assertion and reason are true and the reason is the correct explanation of assertion.
- Both assertion and reason are true and the reason is not the correct explanation of assertion.
- Assertion is true but the reason is false.
- Assertion is false but the reason is true.

19.

During estimation of nitrogen present in an organic compound, the ammonia evolved from 0.5 g of the compound in Kjeldahl's estimation of nitrogen, neutralized 10 mL of 1 M H_2SO_4 . The percentage of nitrogen in the compound is-

- 46.0 %
- 51.0%
- 56.0%
- 49.0%

20.

In sulphur estimation, 0.157 g of an organic compound gave 0.4813 g of barium sulphate. The percentage of sulphur in the compound is-

- 39.10 %
- 48.13 %
- 42.10 %
- 52.43 %

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