K22U 1282

Reg. No. : .....

Name : .....

II Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement Examination, April 2022
(2019 Admission Onwards)
COMPLEMENTARY ELECTIVE COURSE IN CHEMISTRY/POLYMER CHEMISTRY
2C02CHE/PCH : Chemistry (For Physical & Biological Sciences)

Time : 3 Hours Max. Marks : 32

SECTION – A

Very short answer type. **Each** carries **1** mark. Answer **all 5** questions.

1. The IUPAC name of acetic acid is
2. Cycloheptatrienyl cation is also known as _____ ion.
3. Give an example for multimolecular colloid.
4. The major factor contributing towards the stability of a lyophobic sol is the _____ on the colloidal particles.
5. As what compounds are the Group II cations precipitated during intergroup separation ? **(5×1=5)**

SECTION – B

Short answer type. **Each** carries **2** marks. Answer **any 4** questions out of 6.

6. What is Tyndall effect ?
7. Explain the term gold number.
8. Differentiate Benzenoid and non-Benzenoid aromatic compounds.
9. Name two indicators used in acid base titrations. Indicate the pH range over which they change color.
10. What do you mean by quenching of fluorescence ?
11. How is end point detected in permanganometric titrations ? Why ? **(4×2=8)**

P.T.O.

SECTION – C

Short essay type. **Each** carries **3** marks. Answer **any 3** questions out of 5.

12. Differentiate bio-luminescence and chemi-luminescence by citing suitable examples.

13. What are the applications of colloids ?

14. Distinguish between accuracy and precision relating to analytical results.

15. What effect will be the addition of more nitrogen have on the following equilibrium, observed in a vessel at constant volume ? $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$.

16. State and explain the law of mass action. **(3×3=9)**

SECTION – D

Long essay type. **Each** carries **5** marks. Answer **any 2** questions out of 4.

17. Explain the methods for the purification of sols.

18. Discuss the hybridization of carbon in the following molecules and illustrate how the concept explains their shapes
    i) ethylene
    ii) acetylene.

19. Explain the intergroup separation of Group III cations based on the principles.

20. 12g of $NaNO_3$ dissolved in water gave 0.6 L of the solution. Calculate molarity and molality of the solution. Density of the solution is 1.15 g/mL. (Na = 23, N = 14, O = 16). **(2×5=10)**
