K22U 1049

Reg. No. : .....

Name : .....

II Semester B.Sc. Degree (CBCSS – Supplementary) Examination, April 2022
(2016 – 2018 Admissions)
COMPLEMENTARY COURSE IN CHEMISTRY
2C02 CHE : Chemistry (For Physical and Biological Sciences)

Time : 3 Hours

Max. Marks : 32

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. What is meant by flocculation value ?
2. What are buffer solutions ?
3. Name two redox indicators.
4. Give two examples of first order reaction.
5. State Le Chatlier principle.

(1×5=5)

SECTION – B

Answer **any four** questions. **Each** question carries **2** marks.

6. What is meant by zeta potential ?
7. For the reaction $N_2O_4 \rightarrow 2NO_2$. $K_p = 0.157$ atm at 300 K. Calculate K_c.
8. Explain zero order reaction with examples.
9. Why is the quantum yield of H_2-Cl_2 reaction high ?
10. Distinguish between order and molecularity.
11. Why is it necessary to add NH_4Cl prior to the addition of NH_4OH in third group ?

(2×4=8)

P.T.O.

SECTION – C

Answer **any three** questions. **Each** question carries **3** marks.

12. Explain the factors affecting chemical equilibrium.

13. Discuss the laws of photochemistry.

14. Write a note on dichrometric titration.

15. Describe the collision theory of reactions.

16. Explain the following :
    a) Protective colloid
    b) Gold number.

(3×3=9)

SECTION – D

Answer **any two** questions. **Each** question carries **5** marks.

17. Discuss the classification of errors.

18. a) Explain the effect of temperature on reaction rate.
    b) Explain one method for order determination. **(3+2)**

19. Explain the properties of colloids.

20. a) Give the thermodynamic derivation of chemical equilibrium.
    b) How is K_p related to K_c for the formation of NH_3 ?

(5×2=10)