QP CODE: 21102424

21102424

Reg No : .....

Name : .....

## B.Sc DEGREE (CBCS) EXAMINATIONS, OCTOBER 2021

### First Semester

### Core Course - CH1CRT01 - GENERAL AND ANALYTICAL CHEMISTRY

(Common to B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry, B.Sc Chemistry Model III Petrochemicals)

2017 Admission Onwards

A94809A4

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Give any two examples for Paradigram shifts.
2. What are interdisciplinary areas of chemistry and physics?
3. What are the trends in atomic sizes in the periodic table?
4. What is screening constant?
5. Give the chemical formula of Nessler's reagent.
6. What is alkalimetry?
7. Define acidimetry and alkalimetry.
8. What are metal ion indicators?
9. Mention the remedy for post precipitation.
10. Name any two reagents used for detecting the position of colourless compounds in TLC.
11. Name the detectors used in high performance liquid chromatography.
12. Round off the number 8.5672 to four significant figures.

(10×1=10)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. How inductive approach helped in formulating Darwin's theory of evolution?

14. How chemistry plays an important role in our everyday life?

15. State modern periodic law. What is the cause of periodicity?

16. Discuss Pauling's scale of electronegativity.

17. Differentiate between valency and oxidation number with suitable examples.

18. What are redox tirrations? Discuss about redox indicators.

19. What is the principle of fractional distillation?

20. How does column chromatography separates compounds?

21. Name the type of detectors used in gas chromatography and mention their applications.

(6×5=30)

**Part C**

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Give a summary of scientific methods used in research field.

23. Explain the principles of acid-base titrations with the help of different titration curves.

24. Explain briefly the principle and applications of ion exchange chromatography.

25. The following concentrations of Fe were reported in a set of measurements: 20.2, 20.4, 20.3, 20.1, 19.9, 20.0, and 19.8 ppm. Calculate (a) mean (b) average deviation from mean (c) standard deviation (d) relative standard deviation (e) coefficient of variation and (f) variance.

(2×10=20)