

QP CODE: 19103024



Reg No :

Name :

B.Sc.DEGREE (CBCS) EXAMINATION, NOVEMBER 2019

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

1564DA37

Time: 3 Hours

Maximum Marks :60

Part A

*Answer any **ten** questions.*

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

1. What is empiricism?
2. Define paradigm shift.
3. The first ionisation energy of beryllium is greater than that of lithium but reverse is true for second ionisation enthalpy. Why?
4. In Pauling's scale, which is the most electronegative element?
5. Define equivalent mass.
6. What is the purpose of NH_4Cl during the precipitation of group III cations?
7. What is weight percentage?
8. What is the pH range of methyl orange indicator?
9. Give the structure of edta.
10. How can you detect the positions of colourless compounds in thin layer chromatography?
11. Name the main components of GC apparatus.
12. Write the expression for confidence limit.

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Using the example of Darwin's theory comment on Paradigm shift?





14. Briefly discuss about different branches of chemistry.
15. Lithium and magnesium shows similarities in properties. Justify the statement with examples and give reasons for this.
16. Briefly explain Fajan's rules.
17. What are the basic requirements for a primary standard?
18. Discuss briefly about different types of redox indicators.
19. Explain the principles and steps involved in the gravimetric estimation of iron.
20. Illustrate how lanthanides are separated by ion exchange chromatography?
21. Illustrate the instrumentation technique of HPLC.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. How could you consider chemistry as a centre of science connecting other branches of chemistry? Explain.
23. Explain the following
(i) Fractional distillation (ii) Solvent extraction
(iii) Crystallisation (iv) Filtration
24. Give a brief account on the principle, experimental techniques and the applications of column chromatography.
25. What are errors? Discuss on different types of errors. How do you minimize them?

(2×10=20)

