

OP CODE: 19103024



Reg No :	
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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 NH4Cl 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.

 $(10 \times 1 = 10)$

Part B

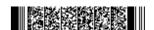
Answer any six questions.

Each question carries 5 marks.

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



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- 14. Briefly discuss about different branches of chemistry.
- 15. Lithium and magnesium shows similarities in properties. Justify the satement 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 chromatograhy?
- 21. Illustrate the instrumentation technique of HPLC.

 $(6 \times 5 = 30)$

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?

 $(2 \times 10 = 20)$

