B.Sc. DEGREE EXAMINATION,APRIL 2019
III Year VI Semester
Instrumental Techniques in Analytical Chemistry

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Write down the Ilkovic equation and mention the terms involved in it.
2. What are the disadvantages of polarography?
3. What is meant by optical purity?
4. What is optical activity?
5. Define the term chemical shift.
6. What is meant by shielding effect?
7. What is meant by nitrogen rule in mass spectroscopy?
8. Write the fragments of acetophenone molecule.
9. Mention the types of computers.
10. What are called identifier?
11. Mention some of the key terms of a C program.
12. List out any two applications of amperometry.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Along the principle explain the functioning of amperometry.
14. How glucose is estimated by polarimetry?
15. Explain the splitting pattern of 1HNMR of ethanol.
16. Explain the following terms (a)Isotopic peak (b)Meta stable peak (2x2.5)
17. Write a 'C' program to determine normality of solutions.
18. Draw the block diagram of NMR instrumentation.
19. Mention some of the features of programming language.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Discuss the qualitative and quantitative applications of polarography.
21. Explain the principle and instrumentation of polarimetry.
22. Write a short note on (a)Spin-spin coupling (b)Coupling constant (5+5)
23. Discuss the basic principle and instrumentation of Mass spectrum.
24. (a)Draw the block diagram of a digital computer. (5)
    (b)What are the symbols of flow chart? Mention its applications. (5)

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