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**SVIS-N-314 A-19**  
**B.Sc. VI Semester Degree Examination**  
**CHEMISTRY**  
**Paper - 6.1**  
**(New)**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instruction to Candidate:***

Answer all the three Sections.

**Section - A**

- I. Answer the following Questions: (15×1=15)
1. Expand BOD.
  2. Define Accuracy.
  3. What is absolute error?
  4. Write the significant figures for 0.205.
  5. Define TDS.
  6. Name the enzyme which convert starch to maltose.
  7. State Isoprene rule.
  8. What are alkaloids?
  9. Given an example of monocyclic mono terpenes.
  10. Write structural formula of quinine.
  11. Which of the following molecule shows pure rotational spectra Co, N<sub>2</sub>, O<sub>2</sub>?
  12. State Born-open heimer approximation.
  13. Give the selection rule for rotational spectra.
  14. Mention the units of Radiation.
  15. What is Isotopic effect?

**Section - B**

**II.** Answer any **FIVE** of the following: **(5×5=25)**

16. Mention the different methods involved in reporting analytical Data.
17. Write briefly about waste water treatment.
18. Elucidate the structure of Nicotine.
19. Explain the mechanism of enzymatic action.
20. Explain pure rotational, Raman spectra of diatomic molecule.
21. Give the applications of radiation chemistry.

**Section - C**

**III.** Answer any **FIVE** of the following Questions: **(8×5=40)**

22. a) Describe the determinate error and non-determinate errors. (4)
- b) Write note on significant errors. (4)
23. a) Describe the steps for estimation of nickel as DMG. (4)
- b) Write a note on determining the hardness of water. (4)
24. a) Describe the synthesis of Vitamin - C and mention its biological importance. (4)
- b) Describe the Isolation of terpenes. (4)
25. a) Describe the structure and uses of menthol and camphor. (4)
- b) Write a note on Acid-Base behaviour of amino acids. (4)
26. a) Describe the energy levels of a rigid rotator of a diatomic molecule. (4)
- b) Explain the energy levels of simple Harmonic Oscillator. (4)
27. a) Discuss the mechanism involved in the radiolysis of water. (4)
- b) Describe the energy equation of rotational spectra using Maxwell-Boltzmann distribution. (4)