REPORT: EXPERT LECTURE ON THE PRACTICAL APPLICATION OF LOGARITHM TABLES

Venue: Government College Solan, Himachal Pradesh

Resource Person: Dr. Deepak Gupta

Organizing Department: Department of Mathematics

Participants: Students of B.Sc. (Mathematics) and B.Sc. (Chemistry)

1. Overview of the Event

The Department of Mathematics at Government College Solan organized a specialized expert lecture today focused on the "Effective Use of Logarithm and Antilogarithm Tables." The session was specifically designed for students of Mathematics and Chemistry to strengthen their computational accuracy in academic and laboratory settings.

2. Objectives

The primary objective of the lecture was to bridge the gap between theoretical knowledge and the practical calculation of complex numerical data. Key focus areas included:

* Understanding the components of a logarithm: Characteristic and Mantissa.

* Mastering the use of Mean Difference columns for four-digit precision.

* Applying logarithmic rules to simplify multiplication, division, and powers in scientific equations.

3. Key Highlights of the Lecture

Dr. Deepak Gupta provided a comprehensive walkthrough of the logarithmic system, emphasizing its interdisciplinary importance:

* For Mathematics Students: The lecture covered the transition from exponential forms to logarithmic forms and the role of common logarithms (log_{10}) in solving higher-order algebraic equations.

* For Chemistry Students: Dr. Gupta demonstrated the essential role of logs in calculating pH values, reaction kinetics, and solving the Nernst Equation in electrochemistry.

* Hands-on Training: The session moved beyond theory, as students were guided through the physical log table booklets. Dr. Gupta demonstrated how to locate values quickly and how to correctly place the decimal point when finding the Antilog.

4. Practical Session and Interaction

Following the presentation, students participated in an interactive drill. They were tasked with solving a series of mixed problems involving:

1. Calculation of H^+ ion concentration from pH.

2. Complex multiplication using the property: \log(m \times n) = \log m + \log n.

3. Determining the characteristic for numbers both greater than and less than one.

Dr. Gupta addressed individual queries, specifically correcting common errors related to "Bar" notation in negative characteristics.

5. Conclusion

The lecture concluded with a vote of thanks to Dr. Deepak Gupta for his insightful and student-centric approach. The sessic successfully equipped the students of Government College Solan with a vital skill set that will enhance their performance in both mathematics and competitive scientific examinations.

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