

**PHYSICAL CHEMISTRY (BS-ADP 7<sup>th</sup> Semester)**

<b>Module Code:</b>	<b>Chem-407</b>
<b>Module title:</b>	<b>Solution Chemistry</b>
<b>Name of Scheme:</b>	<b>BS-ADP 7<sup>th</sup> Semester</b>
<b>Department:</b>	<b>School of Chemistry</b>
<b>Faculty:</b>	<b>Science</b>
<b>Module Type:</b>	<b>Compulsory</b>
<b>Module Rating:</b>	<b>2 credits</b>

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**OBJECTIVES**

This course will be helpful for students for their learning in fundamentals of solution chemistry.

**SYLLABUS OUTLINES**

The thermodynamic properties of solution. The solution process. Conditions of equilibrium between phases. Theoretical basis of Raoult's equation. Deviation from ideal behavior. Compound formation and association. Separation of solid solutions. Semi Permeable membranes. The cause of semi-permeability. Mechanism of osmotic pressure. Dilute solutions and the Gas Laws. The Bombardment theory. Objections to the Bombardment theory. Review of the theories. Determination of the molecular weight by Osmometry.

**RECOMMENDED BOOKS**

1. Physical Chemistry by Kundu, N and Jain, S.K.S. Chand and Company Ltd. 1984.
2. Physical chemistry by Atkins, P.W. 5th Ed., W.H. Freeman and Company, New York, 1994.
3. Physical Chemistry by Alberty, R.A. and Silbey. R.J., John Wiley, New York, 1995.
4. Physical chemistry by Engel, T. and Ried, P., 1st Ed., Pearson Education, Inc. 2006.
5. Physical Chemistry, Samuel Glasstone, 1995. Macmillan and Co. Ltd. St. marlins Street, London.
6. Principles of Physical chemistry, Maron and Prutton, 1965 the Macmillan Company, Collier Macmillan Ltd. London.
7. Physical Chemistry, Barrow, 1973, McGraw Hill, Tokyo.