

**APPLIED CHEMISTRY (BS-ADP 6<sup>th</sup> Semester)**

<b>Module Code:</b>	<b>Chem-332</b>
<b>Module title:</b>	<b>Unit Processes &amp; Chemicals</b>
<b>Name of Scheme:</b>	<b>BS-ADP 6th Semester</b>
<b>Department:</b>	<b>School of Chemistry</b>
<b>Faculty:</b>	<b>Science</b>
<b>Module Type:</b>	<b>Optional</b>
<b>Module Rating:</b>	<b>2 credits</b>

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**OBJECTIVES**

This course will help the students in assessing the Unit processes in Organic Industries. The students will learn about the basic raw materials and their applications in chemical industries.

**SYLLABUS OUTLINE:**

1. **Unit Processes in Organic Synthesis:**  
Introduction, agents, mechanism, general procedure and application of Nitration; Halogenation; Sulphonation; Esterification and Oxidation.
2. **Basic Industrial Raw Materials:**  
Origin/Source, Properties, Chemistry and industrial applications of Acetylene, propylene, Ethylene, BTX, Naphthalene, Butadiene and Styrene.

**RECOMMENDED BOOKS:**

1. Applied Chemistry, Haq Nawaz Bhatti and Muhammad Salman, 2017, Caravan Book Publisher, Pakistan.
2. Shereve's Chemical Process Industries, 5th Ed.1975 by G.T.Austin, McGraw Hill Book Co. New York.
3. Industrial Organic Chemicals, by H.A.Witcoff and B.J.Reuben, John Wiley & Sons Inc. New York.
4. Riegel's handbook of Industrial Chemistry, Ed. J.A.Kent, CBS Publishers and Distributors, New Delhi (1997).
5. Chemical Process Design, Robin Smith, McGraw Hill Book Co. New York. (1995).
6. Hand Book of Industrial Chemicals, by SIRI Board of Consultants and Engineers, Small Industries Research Institute, New Delhi (1995).
7. Industrial chemistry, B. K. Sharma, Krishna Prakashan Media (P) Ltd., Ed-15 (2006).