

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc (Analytical Chemistry)**  
**Semester: IV**  
**Syllabus with Effect from: June - 2013**

<b>Paper Code: PS04CANC03</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Analysis of Industrial Products</b>	

Unit	Description in detail	Weightage (%)
I	<p><b>Polymer analysis:</b>            Introduction of polymer analysis, Theory of polymer analysis, Properties of polymer, Polymer analysis by various Instrumental and classical methods.</p> <p><b>Forensic Analytical Analysis:</b>            Introduction and Importance of forensic Analytical analysis, Drug Identification: overview, drug classes, spot tests, Toxicology: ethanol, breath testing, headspace GC, Trace analysis: microscopy-hair, fiber, glass analysis AA and AE spectroscopy, IC, SEM, forensic pathologist, DNA analysis.</p>	25%
II	<p><b>Analysis of Agro-chemicals:</b>            Introduction of pesticides and fertilizers, compositional and residual analysis, Classical and instrumental method of insecticides and pesticides analysis, ISI specification and analysis of BHC, Malanion, DDT....etc.</p>	25%
III	<p><b>Pharmaceutical and Clinical analysis:</b>            Introduction and overview of pharmaceutical analysis, Sulfa drugs, Antipyretic and Analgesics, Barbitarates and antibiotics, Instrumental techniques use in pharmaceutical analysis; Clinical analysis: Introduction and overview of clinical analysis, Composition of blood, collection and preservation of samples and its analysis, GC &amp; MS in clinical analysis, Pharmacogenic testing.</p>	25%
IV	<p><b>Oil and Fat analysis:</b>            Introduction of oil and fat analysis, Chemical composition of oil and fat and its importance, Acid value, R. M. Value, P.V. Value, Saponification value, Iodine value, Ester value, Acetyl value, Peroxide value, thiocynogen number, Ratio of saturated and unsaturated fatty acids, Detection of adulterants.</p> <p><b>Soap And Synthetic Detergent Analysis:</b>            Matter insoluble in alcohol, free alkali, free acid, combined alkali and total anhydrous soap, total fatty mater (TFM) silica present as alkaline silicate and its analysis.</p>	25%

**Basic Text & Reference Books:-**

- Commercial method of analysis By Foster Dec Snell, Frank M. Biffeu Taraporwak and sons
- Encyclopedia of Industrial chemical analysis Vol. I & II wil W. Scott
- D. Van Nostrand Co. Inc. Princeton New Jersey, Toranto, N.Y.
- Spectroscopy of Polymer IInd Edition By Jack L. Koenig , Elseveir Science Inc. 655 Avenue of Americas, New York USA.
- Polymer science and technology By Joel R. Fried, Prentice – Hall of India private limited, New Delhi – 110 001.
- Standard Methods of Chemical analysis Vol. I & II wil W. Scott D. Van Nostrand Co. Inc. rinceton New Jersey, Toranto, N.Y.



- Food composition and analysis By Howard Tribold, Leonard W. Auranel D Van Nostrand Company, Inc. Prienceton, New Jersey, Toronto
- Metallurgical analysis By B. C. Agrawal & S. P. Jain Khanna Publisher
- Applied complexometry By Rudolf Pribill and R. A. Chalmers Oxford N. Y.
- W.G. Eckert, Introduction to Forensic Sciences, Second Edition, Elsevier, New York, 1992.
- B.A. J. Fisher, Techniques of Crime Scene Investigation, Seventh Edition, CRC Press, Boca Raton, 2004.
- Analytical Chemistry by Gary D Christon 6<sup>TH</sup> Edition, Wiley India

