



Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S.R. Sapre Commerce and
Vid. Dadasaheb Pitre Science College
(Autonomous)

Late Kakasaheb Pandit Educational Campus,
Devrukh, Dist: Ratnagiri- 415 804, Maharashtra

NAAC Accredited 'A' Grade (Third Cycle), Mumbai University Best College Award 2009-10

Syllabus

Programme: T. Y. B. Sc.

Course- Chemistry Practical-IV

w.e.f. Academic Year 2021-22

Choice Based Credit System
T. Y. B. Sc.
Chemistry Syllabus
To be implemented from the Academic year 2021-22

Course Content
Semester V

Course Code	Unit	Topics	Credits	L/Week
USCHT51	I	Molecular Spectroscopy		
	II	Electrochemistry		
	III	Nuclear Chemistry		
	IV	Surface Chemistry & Colloidal State		
USCHT52	I	Molecular Symmetry and Chemical Bonding		
	II	Solid State Chemistry		
	III	Chemistry of Inner Transition Elements		
	IV	Some Selected Topics		
USCHT53	I	Mechanism of Organic Reactions; Pericyclic Reactions & Photochemistry		
	II	Stereochemistry & Heterocyclic Chemistry		
	III	IUPAC & Synthesis of Organic Compounds		
	IV	Spectroscopy-I & Natural Products		
USCHT54	I	Statistical Treatment of Analytical Data-II		
	II	Classical Methods of Analysis (Titrimetry)		
	III	Optical Methods		
	IV	Methods of Separation-I		
USCHP51		Chemistry Practicals I		
USCHP52		Chemistry Practicals II		
USCHP53		Chemistry Practicals III		
USCHP54		Chemistry Practicals IV		

Chemistry Practicals

Semester V

Paper IV: Analytical Chemistry

1. Spectrophotometric estimation of fluoride
 2. Estimation of magnesium content in Talcum powder by complexometry, using standardized solution of EDTA
 3. Determination of COD of water sample.
 4. To determine potassium content of a Fertilizer by Flame Photometry (Calibration curve method).
 5. To determine the amount of persulphate in the given sample solution by back titration with standard Fe (II) ammonium sulphate solution.
 6. To determine the amount of sulphate in given water sample turbidimetrically.
- [Note: Calculation of percent error is expected for all the experiments.]

Reference Books for Practicals:

Analytical Chemistry

1. Principles of Instrumental Analysis, 5th Edition, By Skoog, Holler, Nieman.
2. Principles of Polarography by Jaroslav Heyrovský, Jaroslav Kůta, 1st Edition, Academic Press, eBook ISBN: 978148326478.
3. Solvent extraction and ion exchange, J Marcus and A. S. Kertes Wiley INC 1969. 4. D.A. Skoog D.M. West and F.J. Holler, Fundamentals of Analytical Chemistry, 7th Edition (printed in India in 2001) ISBN Publication.
4. Analytical Chemistry, J.G. Dick, 1973 Tata McGraw Hill Publishing Co. Ltd. New Delhi.
5. Quantitative analysis, Dey & Underwood, Prentice Hall of India, Pvt. Ltd. New Delhi
6. Fundamentals of Analytical Chemistry, Skoog 8th edition, Saunders college publishing