



**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-III**

**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 III: Organic Chemistry**

**Separation of Binary solid-solid mixture** (2.0 gms mixture to be given).

1. Minimum Six mixtures to be completed by the students.
2. Components of the mixture should include water soluble and water insoluble acids (carboxylic acid), water insoluble phenols (2-naphthol, 1-naphthol), water insoluble bases (nitroanilines), water soluble neutral (thiourea) and water insoluble neutral compounds (anilides, amides, m-DNB, hydrocarbons)  
After correct determination of chemical type, the separating reagent should be decided by the student for separation.
4. Follow separation scheme with the bulk sample of binary mixture.
5. After separation into component A and component B, one component (decided by the examiner) is to be analyzed and identified with melting point.

#### Reference Books for Practicals:

##### **Organic Chemistry**

1. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
2. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000). Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic chemistry, 5th Ed., Pearson (2012)
4. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., Textbook of Practical Organic Chemistry, Prentice-Hall, 5th edition, 1996