

## CURRICULUM VITAE

**NAME** : Dr. SANDIP VINAYAK MAHAMUNI.  
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Associate Professor of Chemistry  
Rayat Shikshan Sanstha's  
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**BIRTH DATE** : 01/06/1981

**CASTE** : Hindu Sonar (OBC)

**LANGUAGES KNOWN** : Marathi, Hindi, English

### **ACADEMIC QUALIFICATIONS** :

Sr. No.	EXAM/ DEGREE	YEAR	INSTITUTE CONFERRING	MARKS OBTAINED %	CLASS
1.	S.S.C.	1996	C. Y. S. M. High school, Gandhinagar (Kolhapur Board)	76.80	Distinction
2.	H.S.C.	1998	Vivekanand College, Kolhapur (Kolhapur Board)	76.33	Distinction
3.	B. Sc. (Chemistry)	2001	Vivekanand College, Kolhapur (Shivaji University)	76.32	Distinction
4.	M. Sc. (Inorganic Chemistry)	2003	Shivaji University, Kolhapur	67.46	First
5.	Ph. D. (Chemistry)	2008	Shivaji University, Kolhapur		
6.	M. A. (Political. Sci.)	2013	Shivaji University, Kolhapur	60.00	First
7.	M.B.A.	2020	Shivaji University, Kolhapur	66.18	First

❖ Passed the Maharashtra State Certificate in Information Technology (MS – CIT)

July 2004

## **EXPERIENCE:**

### **A) RESEARCH**

#### **Title of Ph. D. Thesis**

**“Solvent extraction separation studies of aluminium(III), gallium(III), indium(III) and thallium(III) with 2-octylaminopyridine from real samples”**

**Research Guide: Dr. M. A. Anuse**

Professor and Head  
Department of Chemistry,  
Shivaji University, Kolhapur  
Maharashtra, Pin-416004

- Worked as a **Project Fellow** on UGC Sponsored Major Research Project from 19/7/2003 to 30/4/2005.
- **Research Projects completed:**
  - 1) Name of the project: Solvent extraction of refractory metals with N-n-octylcyclohexylamine  
Funding agency: University Grants Commission  
Amount sanctioned: Rs. 1,45,000/-  
Duration: Two years (2012-2014)  
Letter No.: 17-1975/11 (WRO) dated 21 Feb. 2012
  - 2) Name of the project: Analysis of agricultural soil quality parameters  
Funding agency: Shivaji University, Kolhapur  
Amount sanctioned: Rs. 10,000/-  
Duration: One year (2017)
  - 3) Name of the project: Separation and removal of some toxic metal ions from waste effluents  
Funding agency: Rastriya Uchchatar Shiksha Abhiyan (RUSA), New Delhi  
Amount sanctioned: Rs. 1,00,000/-  
Duration: Two years (2020-2022)  
Letter No.: SGM/RUSA/MRP/F.No.-4/2330/19-20 dated 20/01/2020

### **B) TEACHING**

UG: 14 years, PG: 16 years

- Assistant Professor, Rajarshi Chhatrapati Shahu College, Kolhapur, 05/05/2010 to 15/06/2011.
- Assistant Professor, S. G. M. College, Karad, 16/06/2011 to 04/01/2023.
- Associate Professor, S. G. M. College, Karad, 05/01/2023 to till date.
- Paper Setter, Examiner and Moderator for M. Sc. Part-I, II, B. Sc. Part-I, II, III Theory examinations of Shivaji University, Kolhapur
- Examiner for M.Sc. Part-I, II Practical Examination in Inorganic and Analytical Chemistry

- Worked as a Teaching Assistant in Chemistry at Department of Chemistry, Shivaji University, Kolhapur from 10/8/2005 to 10/8/2007
- Guiding students of M. Sc. Part-II Inorganic Chemistry, Analytical Chemistry and B. Sc. Part-III for completion of Research projects
- Expert assistant at B. Sc. Part-I, II, III and M. Sc. Part-I and II practical Examinations in Chemistry, Industrial Chemistry
- **Member, Academic Council, S. G. M. College, Karad**
- **Member, Board of Studies in Chemistry, S. G. M. College, Karad**
- **Coordinator, Department of Hotel Management and Catering Technology, S. G. M. College, Karad**
- **Chairman, Board of Studies in Hotel Management and Catering Technology, S. G. M. College, Karad**
- **Chairman, Paper Setter Board, B.Sc., M.Sc. Chemistry, B. Voc. Examination in Hotel Management and Catering Technology, S. G. M. College, Karad**

#### Recognitions:

- 1) **Permanent recognition of Shivaji University, Kolhapur as a Ph.D., M.Phil. Guide, Ref. No. SU/PGBUTR/Recog/40/8560 dated 19/08/2019**
- 2) Permanent recognition of Shivaji University, Kolhapur as a Post-Graduate teacher for M. Sc. Chemistry (T and D Teaching) Ref. No. SU/PGBUTR/Recog/2411 dated 20/06/2012
- 3) Permanent recognition of Shivaji University, Kolhapur as a Post-Graduate teacher for M. Sc. Chemistry Theory teaching Ref. No. SU/PGBUTR/Recog/143, 7128 dated 03/12/2011

#### TRAINING PROGRAMME COMPLETED:

Sr. No.	Duration	University/Institute
<b>Orientation Course</b>		
1.	03/10/2013 to 30/10/2013	Academic Staff College, University of Pune, Pune
<b>Refresher Course</b>		
2.	27/10/2014 to 15/11/2014	Academic Staff College, University of Mumbai, Mumbai
3.	08/12/2018 to 28/12/2018	Shivaji University, Kolhapur (Academic Staff College, University of Pune, Pune)
4.	16 weeks (Sept 2018 to Dec. 2018)	SWAYAM ARPIT Online Refresher Course in Chemistry

5.	16 weeks (Sept 2019 to Dec. 2020)	SWAYAM ARPIT Online Refresher Course in Chemistry
6.	02/06/2021 to 16/06/2021	Managing Online Classes & Co- Creating MOOCS (Level 2) Teaching Learning Centre, Ramanujan College, University of Delhi
<b>Faculty Development Programs</b>		
5.	22/08/2016 to 30/08/2016	Faculty Development Program on Soft Skills, “Global Business Foundation Skills” Infosys, Mysore
6.	July-August 2019	Designing Learner Centric MOOC SWAYAM, NPTEL-AICTE, Ministry of HRD, Government of India
7.	August-Sept. 2019	Bioinorganic Chemistry SWAYAM NPTEL-AICTE, Ministry of HRD, Government of India
8.	July-October 2019	Coordination Chemistry SWAYAM NPTEL-AICTE, Ministry of HRD, Government of India
9.	21/05/2020 to 26/05/2020	One Week Faculty Development Program, “Multimedia enriched e- Content Development” GAD-TLC SGTB Khalsa College, University of Delhi
10.	02/07/2020 to 17/07/2020	Two Weeks Faculty Development Programme on "Advanced Concepts for Developing MOOCS" Teaching Learning Centre, Ramanujan College, University of Delhi
11.	22/07/2021 to 28/07/2021	Multimedia Tools for Teaching and Learning Teaching Learning Centre, Ramanujan College, University of Delhi
12.	13/09/2021 to 18/09/2021	Short Term FDP: “Research Methodology and Data Analysis (Chemistry UGC HRDC Savitribai Phule Pune University
13.	29/09/2021 to 05/10/2021	Four-Quadrant Model for Development of E-Content, MOOCs and Teacher’s e-Kit GAD-TLC SGTB Khalsa College, University of Delhi

## LIST OF RESEARCH PUBLICATIONS

### a) Research papers published in journals: Title, Journal, volume, year, page

- National Journals: 3  
International Journals: 9
- 1) Liquid-liquid extraction and recovery of gallium(III) from acid media with 2-octylaminopyridine in chloroform: analysis of bauxite ore  
**S. V. Mahamuni**, P. P. Wadgaonkar, M. A. Anuse  
*Journal of the Serbian Chemical Society* 75 (8) (2010) 1099-1113.
  - 2) Solvent extraction of trivalent indium from succinate solution by 2-Octylaminopyridine in chloroform.  
**S. V. Mahamuni**, S. S. Kolekar, P. P. Wadgaonkar, M. A. Anuse  
*Journal of the Iranian Chemical Society* 6 (1) March 2009, 200-212.
  - 3) Rapid liquid-liquid extraction of thallium(III) from succinate media with 2-octylaminopyridine in chloroform as the extractant. 2-  
**S. V. Mahamuni**, P. P. Wadgaonkar, M. A. Anuse  
*Journal of the Serbian Chemical Society* 73 (4) (2008) 435-451.
  - 4) Extraction Behaviour of Aluminium (III) as Succinate in High Molecular Mass Amine  
**S. V. Mahamuni**, S. S. Kolekar, M. A. Anuse  
*Chemical Environmental Research* 17(3-4) (2008) 285-299.
  - 5) Sequential separation of selenium(IV) from tellurium(IV) by solvent extraction with N-n-octylaniline: Analysis of real samples  
B. M. Sargar, **S. V. Mahamuni**, M. A. Anuse  
*Journal of Saudi Chemical Society* 15 (2011) 177-185
  - 6) Solvent extraction separation of zirconium(IV) from succinate media with N-n-octylaniline.  
M. M. Rajmane, B. M. Sargar, **S. V. Mahamuni**, M. A. Anuse  
*Journal of the Serbian Chemical Society* 71 (3) (2006) 223-234.
  - 7) Extractive spectrophotometric determination of bismuth(III) in alloy samples using 1-amino-4, 4, 6-trimethyl (1H, 4H) pyrimidine-2-thiol.  
S.H. Gaikwad, **S. V. Mahamuni**, M. A. Anuse  
*Indian Journal of Chemical Technology*. 12 (2005) 365-368.
  - 8) Selective solvent extraction of tungsten(VI) with N-n-octylaniline in xylene  
M. M. Rajmane, **S. V. Mahamuni**, M. A. Anuse  
*Bulletin of Chemists and Technologists of Macedonia* 24 (1) (2005) 1-9.
  - 9) Extraction and separation of mercury(II) from succinate media with high molecular weight amine as an extractant  
*Journal of Saudi Chemical Society*, 19(1) January 2015, Pages 46-53.
  - 10) Hexavalent chromium recovery by liquid-liquid extraction with 2-octylaminopyridine from acidic chloride media and its sequential separation from other heavy toxic metal ions  
*Arabian Journal of Chemistry*, Volume 9, Supplement 2, November 2016, Pages S1420-S1427

- 11) A Rapid sensitive analytical spectrophotometric determination of selenium(IV) with 1-(Pyrimidine)-4,4,6-trimethyl-1,4-dihydropyrimidine-2-thiol  
**S. V. Mahamuni**, G. S. Kamble, U. B. More, M. M. Rajmane, M. A. Anuse  
*International Journal of Research and Analytical Reviews (IJRAR)*, 9 (4) November 2022, 241-245
- 12) Effect of temperature on photovoltaic solar cell cadmium telluride thin film  
 K. Rathod, V. More, J. Kshirsagar, S. Sonwane, K. Sandi, P. Kamble, G. Kamble, **S. Mahamuni**, M. Gaur, Y. Ling  
*Advances in Materials Physics and Chemistry*, 13 (2023) 1-15.

**b) Research papers published/presented in conferences/workshops, etc:**

- 1) Amine extraction of lead(II) and zirconium(IV) with succinate media.  
 A theme meeting on Emerging trends in Separation Science and Technology, Bhabha Atomic Research Centre (BARC), Mumbai, 22<sup>nd</sup> and 23<sup>rd</sup> July, 2004.
- 2) Liquid-liquid extraction of gallium(III) from acid solution using 2-octylaminopyridine as an extractant.  
 Royal Society of Chemistry, West India Section, Students Symposium, 25<sup>th</sup> – 26<sup>th</sup> November, 2005, National Chemical Laboratory, Pune.
- 3) 2-Octylaminopyridine as an extractant for liquid-liquid extraction of indium(III) from succinate media.  
 National Conference on, “Recent trends in Chemistry for Rural Development” organized by S. P. Mandal’s Dalit Mitra Kadam Guruji Science College, Mangalwedha, Dist. Solapur, 3<sup>rd</sup> and 4<sup>th</sup> May, 2006.
- 4) Liquid-liquid extraction of gallium(III) and indium(III) with 2-octylaminopyridine as an extractant.  
 Campaign on University Research and Training (COURT-2006), Shivaji University, Kolhapur, 6<sup>th</sup> and 7<sup>th</sup> October, 2006.
- 5) Rapid liquid-liquid extraction of thallium(III) with 2-octylaminopyridine as an extractant from succinate media.  
 International Conference on Emerging Trends in Chemical Sciences (ICETCS) 2007, 23<sup>rd</sup> to 25<sup>th</sup> January 2007, University of Mumbai, Mumbai.
- 6) Extraction behaviour of aluminium(III) as succinate in high molecular mass amine.  
 UGC-SAP National Seminar on Synthesis of New Materials for Industrial Applications, February 1st and 2nd, 2008, Department of Chemistry, Shivaji University, Kolhapur 416004, Maharashtra, India.
- 7) Solvent Extraction of Lanthanum(III) by N-n-octylaniline from Salicylate Media  
 DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology, March 12 -14, 2008, Department of Chemistry, University of Delhi, Delhi - 110007

- 8) Liquid-liquid extraction and spectrophotometric determination of gold(III) from acidic solution by 1-(2',4'-dinitrophenyl hydrazine)-4,4,6-trimethyl (1H,4H)-pyrimidine-2-thiol in the presence of pyridine  
International conference on Nanomaterials and Applications, ICNAMA-2008, 9<sup>th</sup> -11<sup>th</sup> December 2008, Shivaji University, Kolhapur.
- 9) Liquid-liquid extraction of lead(II): An efficient method for analysis of alloys, ores and pharmaceutical samples  
UGC-SAP National Seminar on "Advanced Synthetic Methodologies and Functional Materials (ASMFM-2009)", 23<sup>rd</sup> -24<sup>rd</sup> December 2009, Department of Chemistry, Shivaji University, Kolhapur
- 10) Liquid-liquid extraction and separation of cadmium(II) from other toxic metal ions by using high molecular weight amine  
DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology, SESTEC-2010, Kalpakkam, India.1-4 March 2010
- 11) Rapid Synergistic Extractive Spectrophotometric Determination of Silver(I) using 1-(2',4'-Dinitro aminophenyl)-4,4,6-trimethyl-1,4-dihydropyrimidine-2-thiol: Analysis of Ayurvedic, Thin Film, Photographic washing and Waste Water Sample  
UGC sponsored National Seminar on, "Advances in Coordination Chemistry", 17<sup>th</sup>-18<sup>th</sup> August 2010, Rajarshi Chhatrapati Shahu College, Kolhapur
- 12) Densities of Tetraalkylammonium iodides in methanol + water at  $T = 298.15$  K  
UGC sponsored National Seminar on, "Advances in Coordination Chemistry", 17<sup>th</sup>-18<sup>th</sup> August 2010, Rajarshi Chhatrapati Shahu College, Kolhapur
- 13) Liquid-liquid extractive separation studies of europium(III) using liquid anion exchanger  
UGC-SAP National symposium on, "Advances in synthetic methodologies and new materials", January 21 and 22, 2011, Department of Chemistry, Shivaji University, Kolhapur
- 14) Liquid-liquid anion exchange extraction studies of rhodium(III) from malonate media using high molecular weight amine  
UGC-SAP and DST-PURSE, National Seminar on, "Recent advances in synthetic chemistry and nanomaterials", January 21 and 22, 2012, Department of Chemistry, Shivaji University, Kolhapur
- 15) Rapid solvent extraction of molybdenum(VI) with high molecular weight amines from chloride media  
UGC-SAP and DST-PURSE, National Seminar on, "Recent advances in synthetic chemistry and nanomaterials", January 21 and 22, 2012 Department of Chemistry, Shivaji University, Kolhapur
- 16) Selective liquid-liquid extraction of ruthenium(III) from malonate media by *n*-octylaniline: Its separation from palladium(II), rhodium(III)  
DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology, SESTEC-2012, February 27- March 01, 2012, SVKM's Mithibai College, Vile-Parle, Mumbai.

- 17) Analytical applications of *N-n*-octylcyclohexylamine: Extraction separation of germanium(IV) from associated metal ions  
UGC sponsored National conference on, "Current Research in Chemical Sciences – CRCS-2013", 22<sup>nd</sup>-23<sup>rd</sup> January, 2013, Department of Chemistry, Shivaji University, Kolhapur.
  - 18) Synthesis of some Pyrazole Aldehyde Derivatives  
UGC Sponsored National conference on, "Frontiers of Research in Chemistry (FRC-2013), 27th-28th Dec. 2013. Department of Chemistry, Sadguru Gadage Maharaj College, Karad.
  - 19) Rapid extractive spectrophotometric studies of osmium(VIII) and palladium(II) with 1, 3 – bis (hydroxymethyl) benzimidazole-2-thione: simultaneous determination of osmium(VIII) and palladium(II)  
International Conference on, "Contemporary Research in Chemical and Life Sciences (ICCRCLS-2015)", Department of Chemistry, Sadguru Gadage Maharaj College, Karad.22-23 April 2015.
  - 20) Synthesis and characterization of bioactive 2,5-disubstitued 1,3,4 oxadiazoles  
BCUD, Savitribai Phule Pune University, Pune sponsored National conference on, "Interdisciplinary Approach in Scientific Research (IASR 2016)", 11<sup>th</sup>-12<sup>th</sup> January, 2016, S. M. Joshi College, Hadapsar, Pune, Maharashtra.
  - 21) Liquid - liquid extraction of molybdenum(VI) with *N-n*-octylcyclohexylamine from acidic medium, National Conference on Recent Developments in Chemical Sciences' RDCS-2018, 8<sup>th</sup>-9<sup>th</sup> March, 2018, University of Mumbai.
  - 22) Extractive Separation and Determination of Lanthanum(III) with High Molecular Weight Amine from Succinate Medium, National Conference on Recent Developments in Chemical Sciences' RDCS-2018, 8<sup>th</sup>-9<sup>th</sup> March, 2018, University of Mumbai
  - 23) Solvent extraction of tungsten(VI) with *N-n*-octylcyclohexylamine, National Conference on, "New Horizons in Green Chemistry and Toxicology", D. P. Bhosale College, Koregaon, 2<sup>nd</sup> April, 2019
  - 24) Analytical validation of paracetamol content in different drug samples by RP-HPLC technique, National Conference on Advances in Chemical Sciences, NCACS-2020, Yashwantrao Chavan College of Science, Karad, 8 Jan 2020.
  - 25) A Rapid sensitive analytical spectrophotometric method for determination of selenium(IV) using novel chromogenic extractant, Two Days International E-Conference on Sustainable Development in Chemistry and Scientific Applications, ICSDCSA-2021, Sadguru Gadage Maharaj College, Karad. 16-17 December 2021
  - 26) Adsorptive removal of Eriochrome Black-T using low cost adsorbent, National Conference on "Innovative Approaches in Chemical Sciences (IACS) and Chemquiz-2023" 10<sup>th</sup> and 11<sup>th</sup> February 2023
- c) **Book Published:**  
Innovative Approaches in Chemical Sciences, Prarup Publications, February 2023, ISBN: 978-81-961417-2-1

**d) Conferences/workshops attended**

- 1) "National Seminar on Material for Advanced Technologies (NASMAT-2006)", held in January 23-25, 2006 at Department of Physics, Shivaji University, Kolhapur (Maharashtra), India
- 2) Workshop on "Atomic Structure and Chemical Bonding" Jointly organized by Shivaji University, Kolhapur and Pune University, Pune at Department of Chemistry, Shivaji University, Kolhapur during March 11-12, 2006
- 3) One day workshop on, "History and Chemistry of water, food and soil" organized under Lead college scheme, Vivekanand cluster, Shivaji University, Kolhapur, on 23-1-2010 at Gopal Krishna Gokhale college, Kolhapur.
- 4) UGC sponsored State level seminar on, "Human Rights Education", organized by Rajarshi Chhatrapati Shahu College, Kolhapur, 15-16 October, 2010.
- 5) Workshop on, "Revised Syllabus of B.Sc. II", organized by Vivekanand College, Kolhapur, on 10<sup>th</sup> August, 2011.
- 6) One day Practical Oriented Workshop on, "Advanced Techniques in Biotechnology", organized by Department of Biotechnology, Yashwantrao Chavan Institute of Science, Satara, 23 January, 2012.
- 7) Workshop on, "Revised Syllabus of B.Sc. III", organized by Vivekanand College, Kolhapur, on 13<sup>th</sup> August, 2012.
- 8) UGC Sponsored State Level Seminar on, "Nuclear Chemistry", organized by Yashwantrao Chavan Institute of Science, Satara, on 6<sup>th</sup> October, 2012.
- 9) UGC sponsored National Seminar on, "Recent Trends in Microbial Fermentations", organized by S. G. M. College, Karad on 27<sup>th</sup> and 28<sup>th</sup> December, 2012.
- 10) One Day teacher's workshop on "Revised syllabus of M. Sc. II (Inorganic Chemistry)" sponsored by Shivaji University, Kolhapur and organized by Department of Chemistry, Balwant College, Vita, on 3<sup>rd</sup> September, 2013.
- 11) UGC Sponsored National Seminar on, "Recent Advances in Organometallic Chemistry", organized by Rajarshi chhatrapati Shahu College, Kolhapur, on 20<sup>th</sup> and 21<sup>st</sup> December, 2013.
- 12) UGC-SAP-DRS-II Sponsored National Symposium on, "Current Trends in Chemical and Nanosciences (CTCNS-2014)", organized by Department of Chemistry, Shivaji University, Kolhapur, on 17<sup>th</sup> – 18<sup>th</sup> January, 2014.
- 13) UGC Sponsored National Conference on, "Recent Trends and Issues in Renewable Energy (NCRTIRE-2014)", organized by Rajarshi chhatrapati Shahu College, Kolhapur, on 27<sup>th</sup> and 28<sup>st</sup> January, 2014.
- 14) One day Training workshop of B. Sc. Part II on, "New Revised Syllabus in Chemistry Paper-VII and Paper-VIII with Practicals sponsored by Shivaji University, Kolhapur and organized by Department of Chemistry, Yashwantrao Chavan Institute of Science, Satara, on 13<sup>th</sup> August, 2014.

- 15) R.C.S.C. Kolhapur and Marathi Rasayan Shastra Parishad organized and Karmaveer Vidya Prabodhini sponsored, One day state level seminar on, "Problems of teaching, Research at College Level and writing of research article", 02/02/2015, R. C. S. C. Kolhapur.
- 16) Lead College Scheme, One Day Workshop on, "Universal Human Value Education", organized by S. G. M. College, Karad and Shivaji University, Kolhapur on 26<sup>th</sup> February, 2015.
- 17) One day Teacher's workshop on, "Revised Syllabus of B.Sc. III Chemistry Sem. , Industrial Chemistry Paper XII and Sem. VI, Analytical Chemistry Paper XVI", organized by Department of Chemistry, Dahiwadi College, Dahiwadi on 25<sup>th</sup> August, 2015.
- 18) One day workshop on, "Research promotion activity for students", S. G. M. College, Karad, 27<sup>th</sup>-28<sup>th</sup> March, 2018..
- 19) International Conference on, "Advanced Research in Life Sciences", S. G. M. College, Karad, 10<sup>th</sup> Nov.2017.
- 20) One day Teachers trainings workshop, "Revised syllabus in Chemistry, B. Sc. I, Sem. I, Rajarshi Chhatrapati Shahu College, Kolhapur Kolhapur, 11/08/2018.
- 21) One day Teachers workshop, "Revised syllabus in Chemistry, B. Sc. I, Sem. II, A.S.C. College, Ramanandnagar, 13/08/2018
- 22) One day workshop, "Revised syllabus of M.Sc. I Analytical Chemistry", Jaysingpur College, Jaysingpur, 16/08/2018.
- 23) NATIONAL CONFERENCE ON EMERGING TRENDS IN CHEMICAL AND MATERIAL SCIENCES (ETCMS-2020) Organized by DEPARTMENT OF CHEMISTRY SHIVAJI UNIVERSITY, KOLHAPUR 6- 7th March, 2020.
- 24) FDP: National Webinar on, "Role of Teachers in Technology driven Higher Education" 25/04/2020, GAD-TLC SGTB Khalsa College, University of Delhi, National Seminar
- 25) FDP: National Workshop on, "Development of Teachers e-Kit" 27/04/2020 GAD-TLC SGTB Khalsa College, University of Delhi
- 26) FDP: National Webinar on, "Towards Excellence in Higher Education in India in the 21<sup>st</sup> Century: Challenges and Opportunities, 29/04/2020, GAD-TLC SGTB Khalsa College, University of Delhi, National Seminar
- 27) FDP: National Webinar on, "Challenges and Opportunities before Indian Higher Education due to Covid-19", 02/05/2020, GAD-TLC SGTB Khalsa College, University of Delhi
- 28) FDP: National Webinar on, "Corona Pandemic and Economic Challenges in India" 04/05/2020 GAD-TLC SGTB Khalsa College, University of Delhi, National Seminar
- 29) FDP: National Webinar on, "e-Content Development Methodology: Four Quadrant Model, OER's and Copyright issues", 15/05/2020, GAD-TLC SGTB Khalsa College, University of Delhi

- 30) FDP: National Webinar on, “Women in Higher Education: Issues and Challenges during Corona Pandemic”, 27/05/2020, GAD-TLC SGTB Khalsa College, University of Delhi
  - 31) FDP: National Webinar on, “Teaching During and Post COVID times” 12/06/2020, GAD-TLC SGTB Khalsa College, University of Delhi
  - 32) State Level Online Workshop on, e-Content Development and e-Assessment, SNTD Women’s University, 07/09/2020 to 11/09/2020
  - 33) One Day Online National Webinar entitled “Implementation of Academic Bank of Credits”, GAD-TLC SGTB Khalsa College, University of Delhi, 10/07/2021
  - 34) National Webinar entitled “Teacher’s e-Kit: A Four Quadrant Approach for Development of OERs for Higher Education”, GAD-TLC SGTB Khalsa College, University of Delhi, 09/09/2021
  - 35) One Day Workshop on, Intellectual Property Rights Awareness, Sadguru Gadage Maharaj College, Karad, 25/03/2022.
- a. Worked as a Committee member for a Training Programme on “Rural Agribusiness Development and Marketing” (March 13-18, 2006) held at Shivaji University, Kolhapur in collaboration with Asian Institute of Technology, Thailand
  - b. **Worked as a Organizing secretary for UGC sponsored National Seminar on, “Advances in Coordination Chemistry”, 17<sup>th</sup>-18<sup>th</sup> August 2010, Rajarshi Chhatrapati Shahu College, Kolhapur**
  - c. **Worked as a Organizer for One day Lead college seminar on, “Green Chemistry”, 5<sup>th</sup> March 2011, Rajarshi Chhatrapati Shahu College, Kolhapur**
  - d. **Worked as Treasurer for UGC Sponsored National conference on “Frontiers of Research in Chemistry (FRC-2013), 26<sup>th</sup> and 27<sup>th</sup> December, 2013, Sadguru Gadage Maharaj College, Karad**
  - e. **Examiner in “Rasayan Jatra: An Event for doing Chemistry”, R. C. S. C. Kolhapur, 02-03 February, 2015.**

## OTHER ACTIVITIES

***Extension work carried out:*** Analysis of Ores from Western Ghats of Sahyadri Region

- 1) Analysis of Hypo solutions for its silver content (Government Hospitals- Maharashtra)
- 2) Analysis of ore samples for its silver content
- 3) Analysis of alloys for its gold content
- 4) Analysis of Nitrogen, Phosphorus and Potassium content (NPK) from the soils of Shivaji University campus
- 5) Analysis of Suwarna Bhasma
- 6) Chemical analysis of water samples

### ***Annexure 1: Summary of Ph. D. Dissertation***

Solvent extraction also called as liquid-liquid extraction is one of the most versatile and popular method of separation used in analytical chemistry. The main reason for its versatility and popularity lies in the fact that it is simple, rapid and applicable at tracer and microgram concentration of metal ions.

The high molecular weight amines (HMWA's) can be regarded as "Liquid anion exchangers". 2-Octylaminopyridine (2-OAP) is a high molecular weight secondary amine acting as liquid anion exchanger by ion-pair formation with anionic metal complexes. Apart from the use of high molecular weight amines for the extraction of anionic complexes with the mineral acids, they proved most enhancing for the extraction of metal complexes with weak organic acids, such as salicylic acid, malonic acid, succinic acid, ascorbic acid etc.

The literature survey reveals that very few extraction methods are devoted for the extraction and separation of aluminium(III), gallium(III), indium(III) and thallium(III). These are industrially important metals and hence their separation and purification is desired.

In the present study, the synthesis and characterization of 2-octylaminopyridine was intended. The extractant was explored for the development of new analytical procedures for extraction of aluminium(III), gallium(III), indium(III) and thallium(III). The effect of pH, acidity, extractant and metal concentration, solvents, equilibrium time, aqueous to organic volume ratio, strippants and effect of foreign ions were studied critically to establish optimum conditions to achieve quantitative extraction and separation of these metals. The study was further extended to the determination of thermodynamic parameters such as  $\Delta H$ ,  $\Delta S$  and  $\Delta G$ . The developed methods were applied for the binary separations, analysis of synthetic samples, synthetic samples corresponding to alloys, real samples such as alloys, ores, pharmaceuticals.

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