

GOKHALE EDUCATION SOCIETY'S

H.P.T. ARTS AND R.Y.K. SCIENCE COLLEGE, NASHIK-05

DEPARTMENT OF CHEMISTRY

DST-FIST Sponsored -2008, 2013

WELCOMES

NAAC PEER TEAM

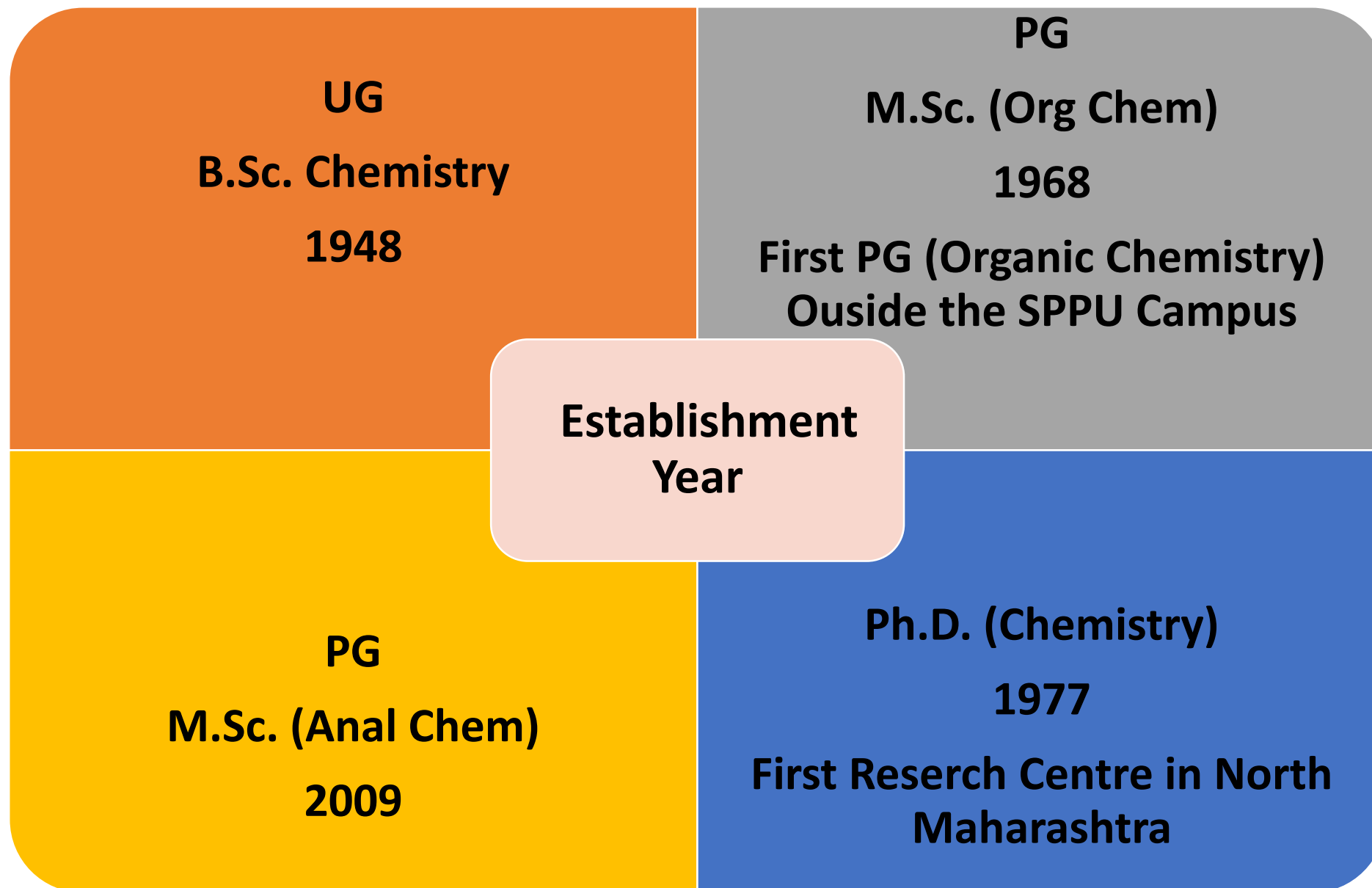
4 Cycle Assessments

Presented

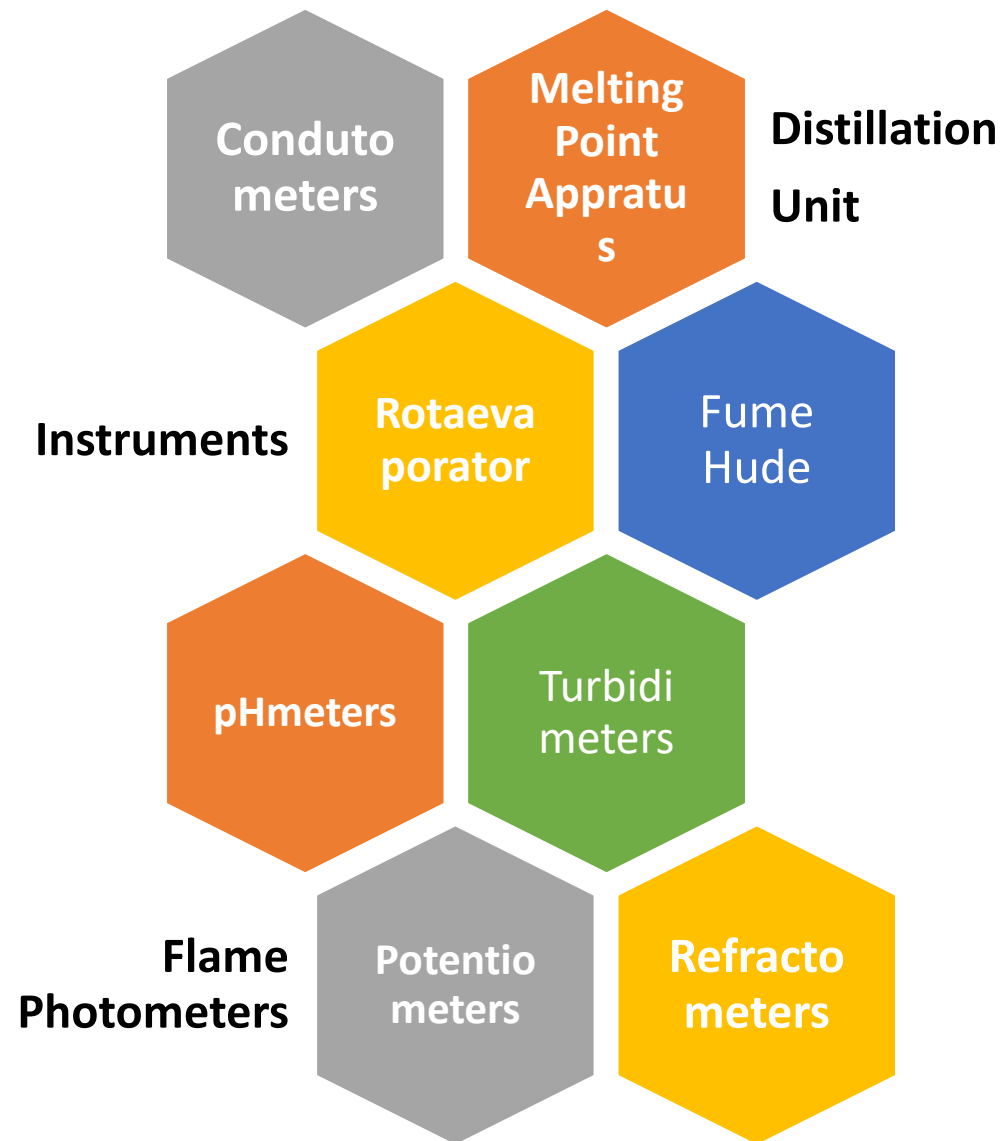
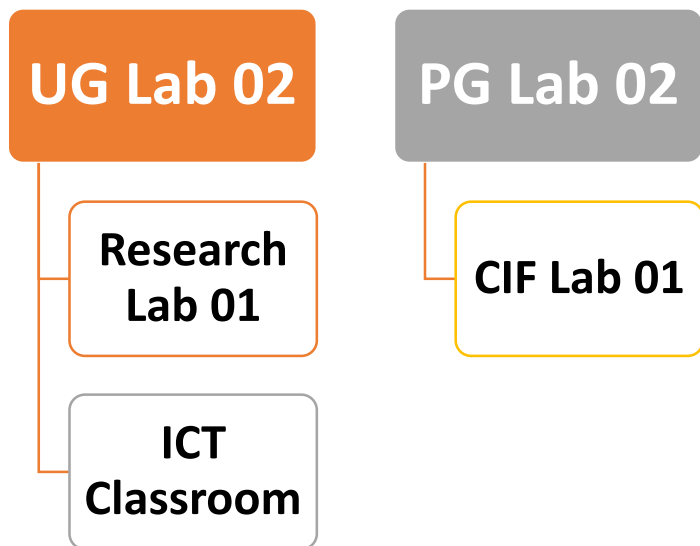
By

Prof. Dr. Sanjeevan Kharat

HEAD, DEPARTMENT OF CHEMISTRY



Infrastructural Facility and Instruments



CIF Facility



Established in 2008 under DST-FIST Program

**Sophisticated Instruments
UV-visible Spectrophotometer
FTIR
HPLC**

CIF serves for our UG/PG/Research students , persons from small industries, and students of other Colleges

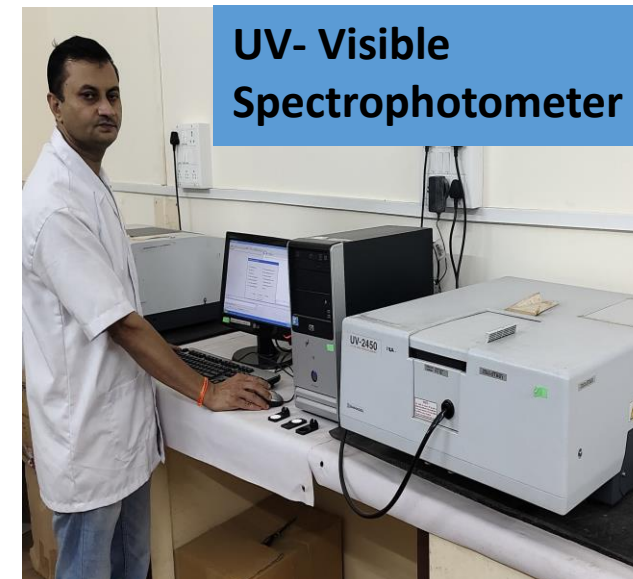
Serves sample analysis reports

Maintains Sophisticated Analytical Facility Effectively

HPLC



UV- Visible Spectrophotometer

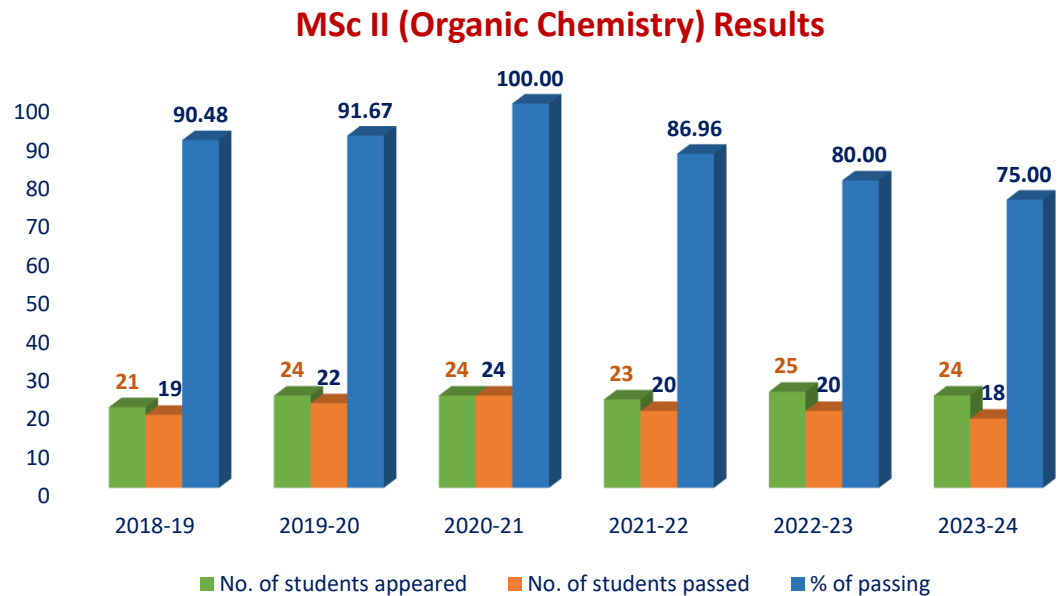
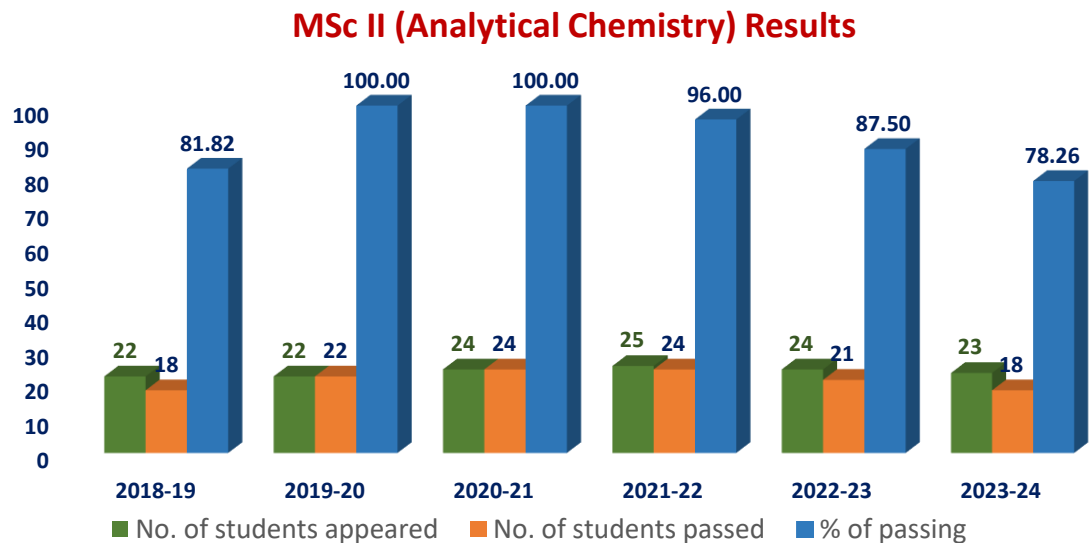
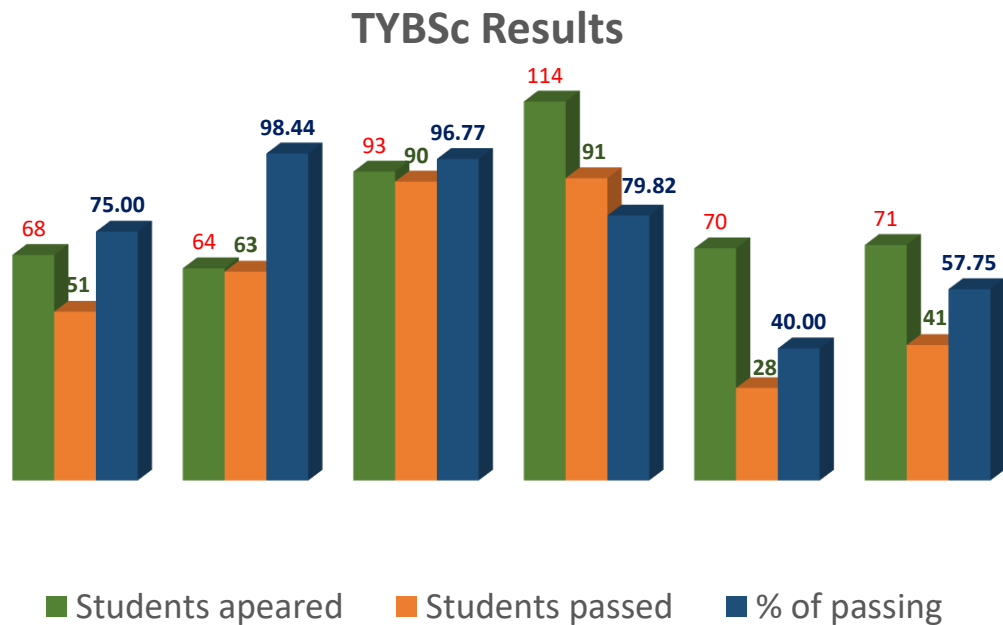
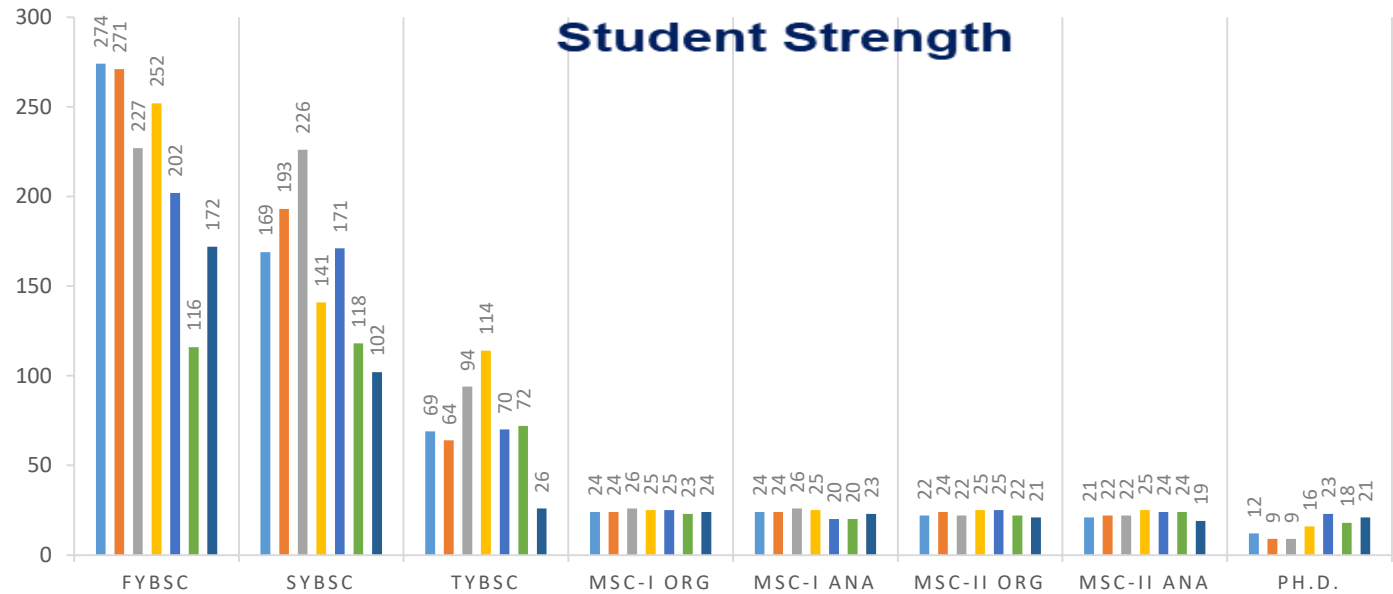


FACULTY MEMBERS

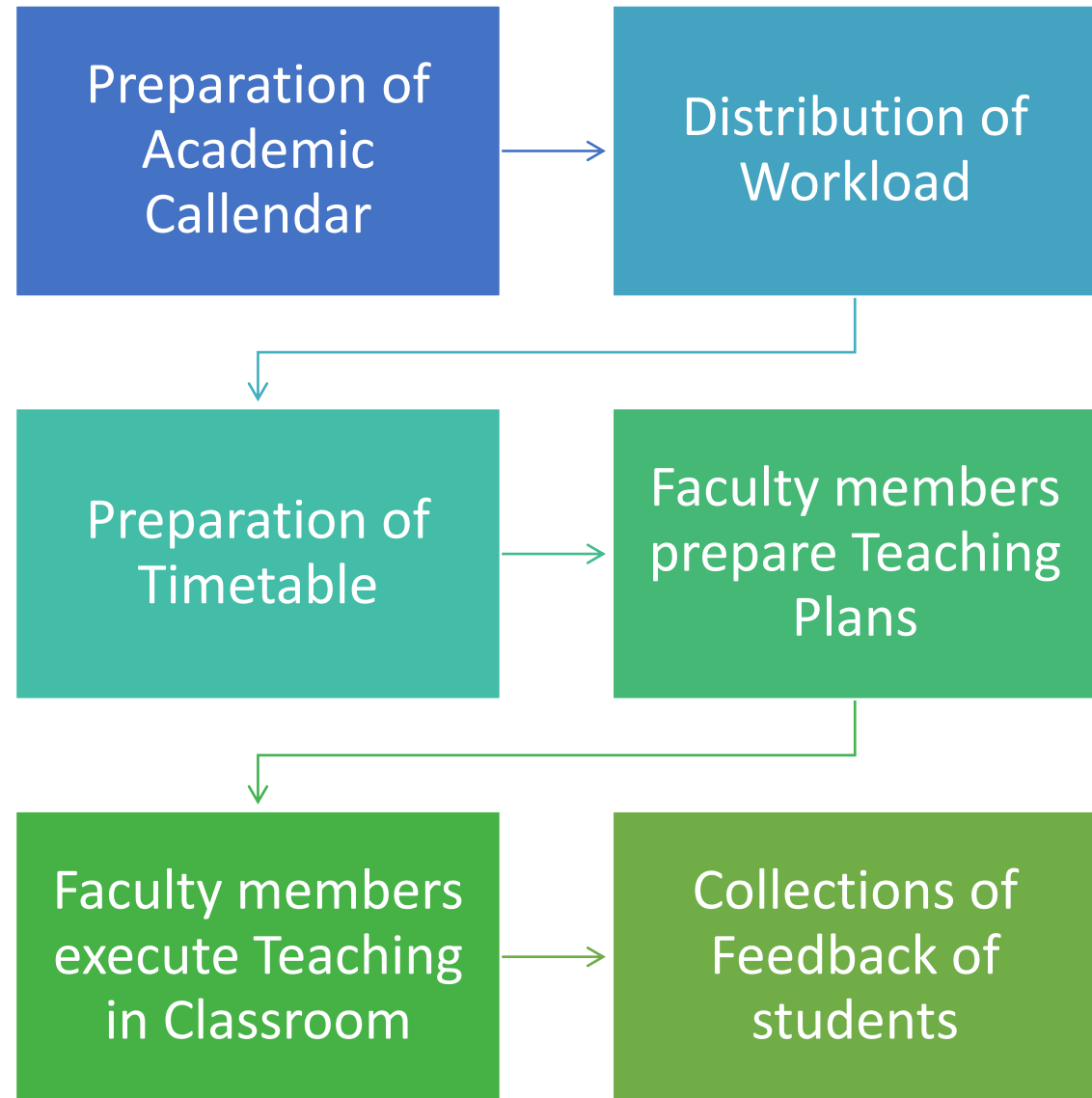


| Sr. No. | Name & Designation | Qualification | Experience |
|---------|--|---------------------------|------------|
| 1 | Prof. Dr. S. J. Kharat, Professor, HOD. Chemistry | M. Sc., Ph. D. | 35 Years |
| 2 | Prof. Dr. S. V. Patil, Professor | M. Sc., Ph. D., NET, SET | 19Years |
| 3 | Prof. Dr. M. B. Suryawanshi, Professor | M. Sc., Ph. D., SET | 19Years |
| 4 | Dr. J. A. Agashe, Professor | M. Sc., Ph. D.,SET | 17Years |
| 5 | Dr. V. U. Patil, Associate Professor | M. Sc., Ph. D. | 20 Years |
| 6 | Dr. V. J. Desale, Assoicate Professor | M. Sc., Ph. D.,NET, SET | 18Years |
| 7 | Dr. M. B. Dhande, Associate Professor | M. Sc., Ph. D.,SET, B. Ed | 15 Years |
| 8 | Dr. M. D. Patil, Assoicate Professor | M. Sc., Ph. D.,SET | 16 Years |
| 9 | Mr. P.S. Game, Assistant Professor | M. Sc., NET | 13 Years |
| 10 | Dr. K. K. Sanap, Assistant Professor | M. Sc., Ph. D.,NET | 11 Years |
| 11 | Dr. A. G. Dholi, Assistant Professor | M. Sc., M. Phil, Ph. D. | 26 Years |
| 12 | Dr. A. A. Patil, Assistant Professor | M. Sc., Ph. D. | 09 Years |
| 13 | Dr. R. P. Jadhav, Assistant Professor | M. Sc., Ph. D. | 09 Years |
| 14 | Dr. S. R. Sonawane, Assistant Professor | M. Sc., Ph. D. | 08 Years |
| 15 | Ms. K. P. Dange, Assistant Professor | M. Sc., SET | 08Years |
| 16 | Dr. R. M. More, Assistant Professor | M. Sc., SET | 07 Years |
| 17 | Ms. V. J. Lothe, Assistant Professor | M. Sc | 05 Years |
| 18 | Ms. A. K. Gujarathi, Assistant Professor | M. Sc., SET, NET | 02 Years |

STUDENTS STRENGTH & RESULTS



Effective Curriculum Delivery



**Felicitation of Chemiad 2024
1st prize winner students with the hands of
Vice Chancellor, SPPU, Pune**



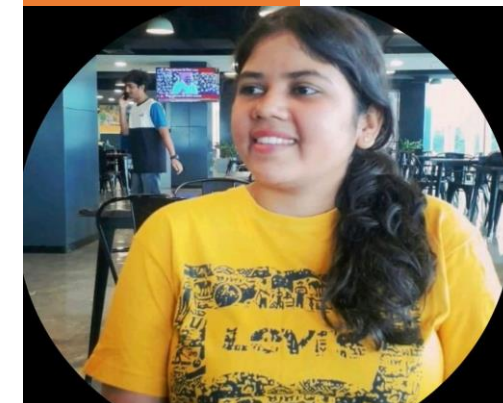
ESTEEMED RECRUITERS



STUDENTS ACHIEVEMENTS AND PROGRESSION (Since 2018)

- 72 Students Progression BSc to M.Sc.
- 47 students placed in various industries
- 04 University Rank Holder (Gold Medal, PG: 3, UG:1)
- 39 students qualified NET/SET/GET/IIT JAM/PET Examinations
- 04 students CHEMID Competition Conducted by SPPU
 - 01 Platinum Rank
 - 02 Gold Rank
 - 01 Silver Rank
- Every Year 02 Students attended IIT Bombay Summer School
- 01 TYBSc student selected for Internship HRD Division, Thiruvananthapuram
- 01 Student selected for Summer Research Fellowship, INSA, NASI, IASc
- 02 Student selected for National Level NIUS camp, Mumbai

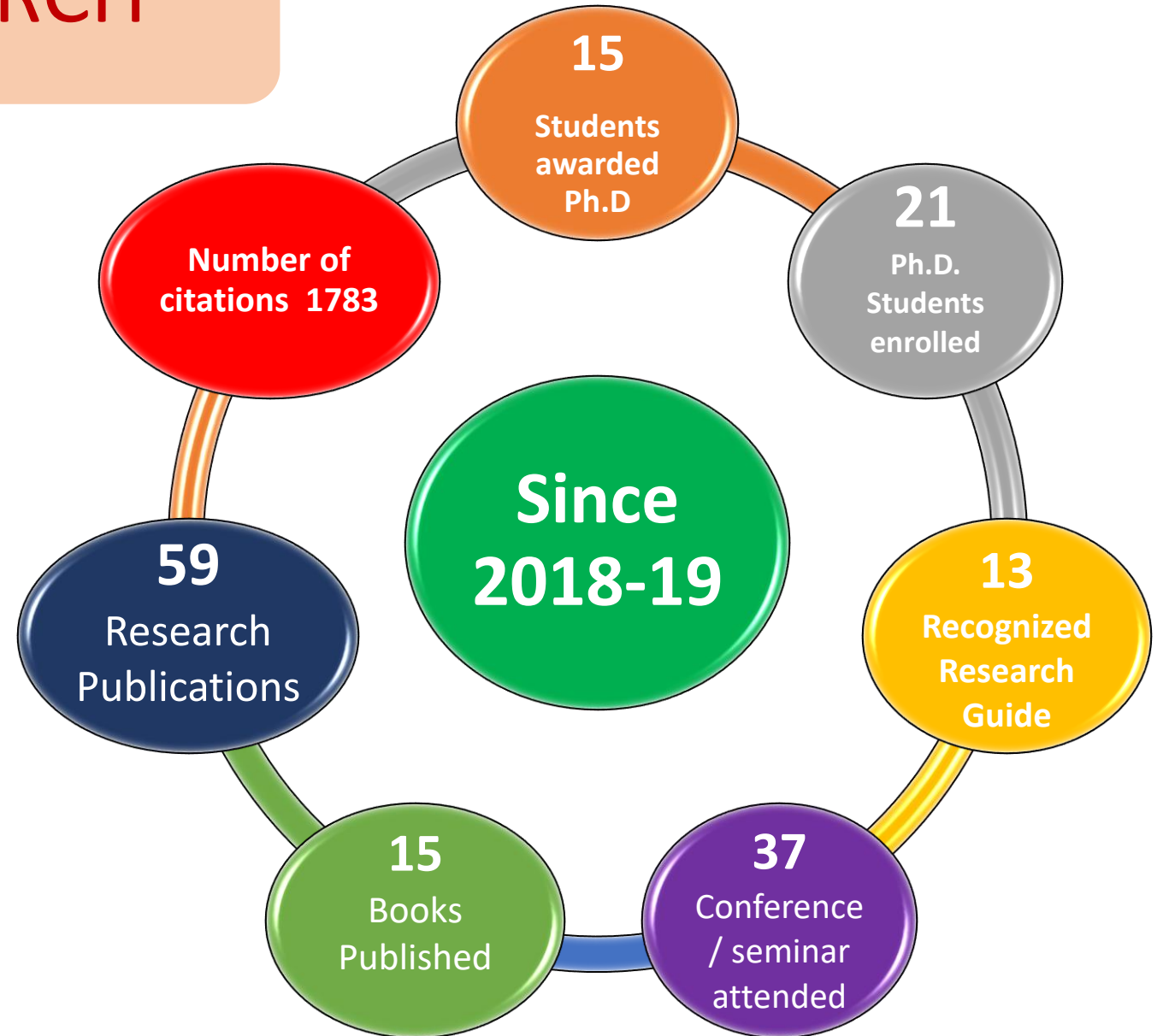
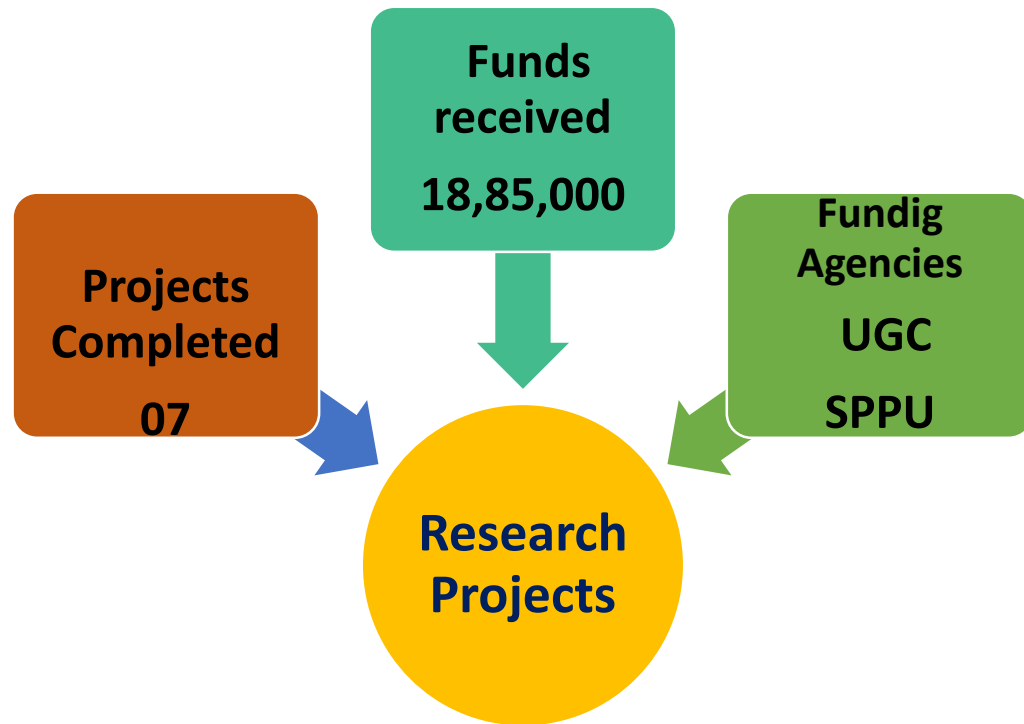
GOLD MEDAL



GOLD MEDAL



RESEARCH



MOUs with Industries and Institutions



Prochemdev Private Limited, Pimpri-Chinchwad, Pune

C S Flavours and Fragrances, Marine line, Mumbai

Lairus Pharma Pvt Ltd, Nashik

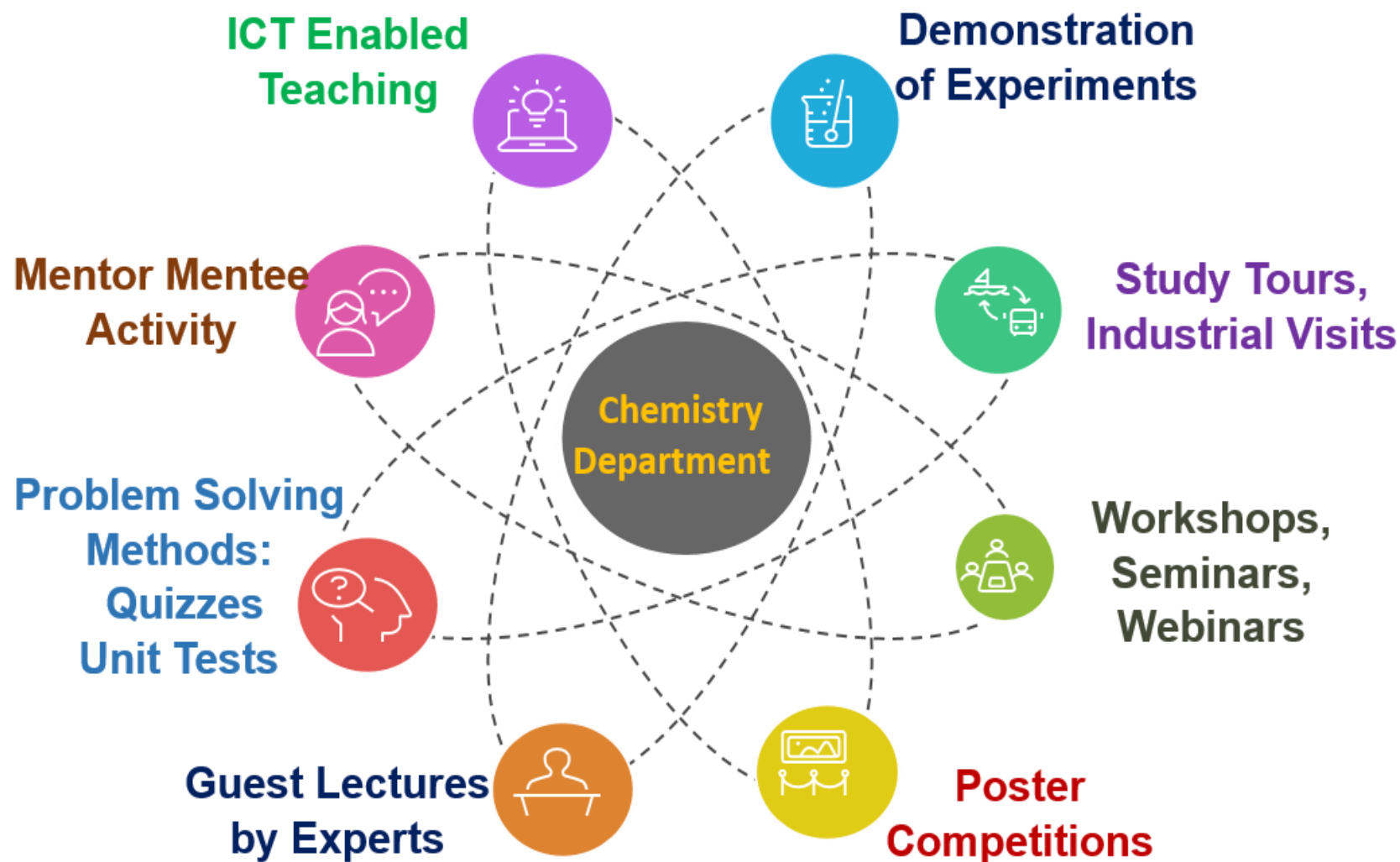
Catalogic Technologies LLP, Taloja MIDC, New Mumbai

PVG's College of Science & Commerce, Nashik

Arni Analytical, Nashik

Institute De Ecologia, Xalapa, Veracruz, Mexico

Teaching Learning Processes



Problem Solving Method: To enhance student engagement and learning

Read-Think-Analyse Based Learning Method :

Students read the problem carefully, highlight the formula and write given values and units and apply the theoretical concept.

Perform the calculations and check if answer makes sense logically and chemically

Project Based Learning (PBL) Method : To promote research and problem solving skill – Students completed 98 research projects

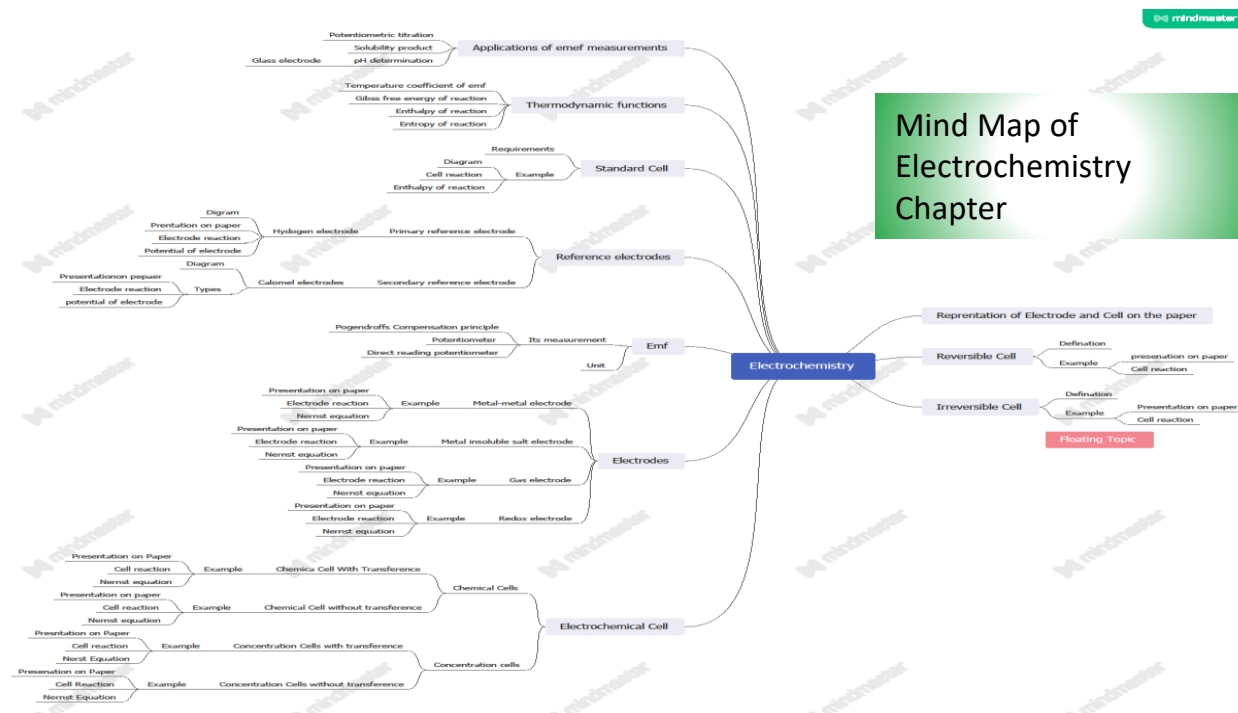
Mind Mapping Method: Visual tool like mind map helps students to organise information and identify the relationships

Chemquiz Competition to focus on Chemistry Knowledge

Online Quizzes on Academic topics

Participation of students in Chemiad Competition

Participation of students in intercollegiate competition



Participative Learning Method

Workshop and Seminar (04) students participate actively through activity and discussions

Industry- Academy Interactions (06): Talk of person from industry

Guest Lectures (08): Experts talks on various topics

Poster Presentation (03): Students present ideas on specific topics



National Conference (2022): Challenges and Opportunities in Chemistry Research

Guest Lecture on IIT JAM /GATE Exam Awareness



Poster Presentation



Industry- Academia Interactions



Experiential Learning Method

Demonstration
of Experiments
In the beginning
of term

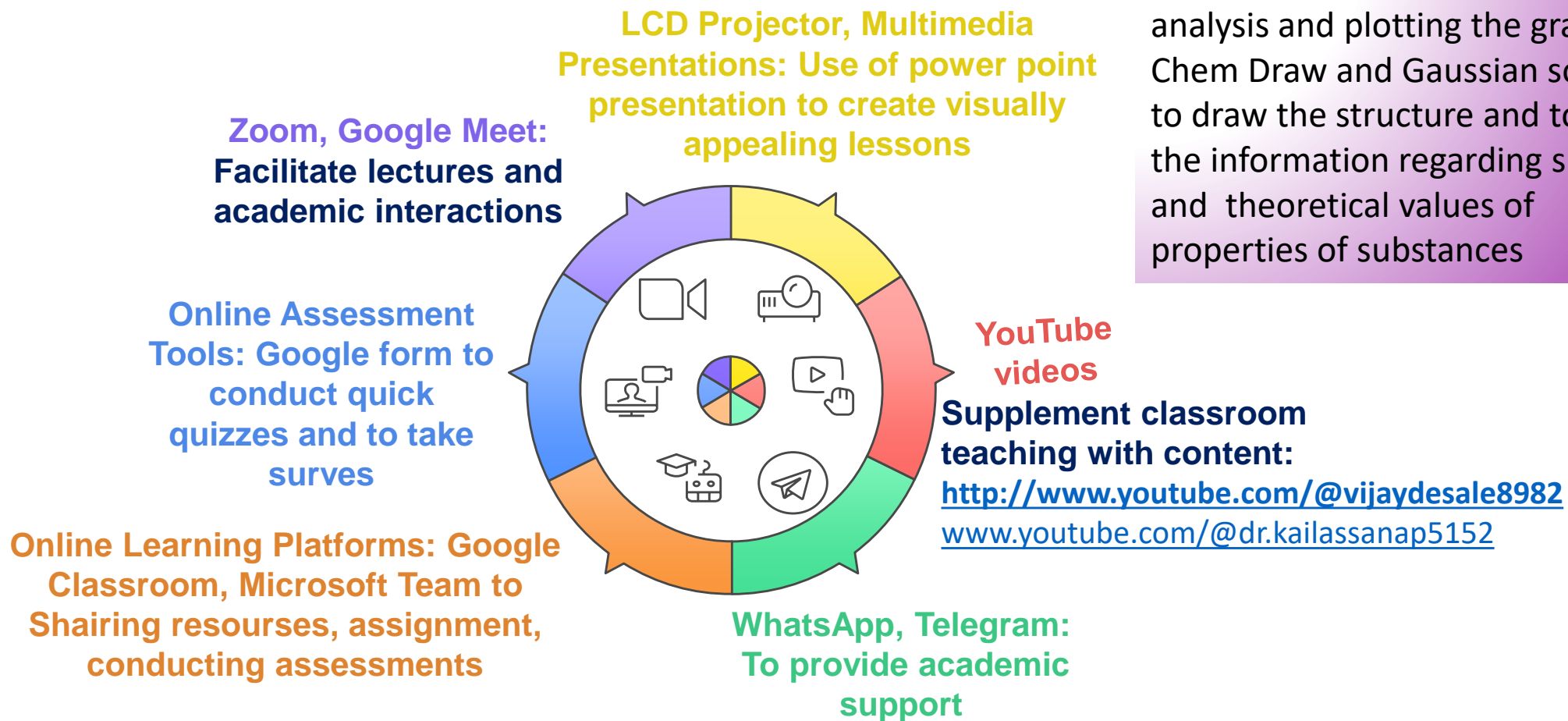
Soap Making
Workshop (02):
187 (Students
Benfited)

Hand on training
of Instruments:
45 (Took Part)

Industrial Visits
to Chemical,
Pharmaceutical
Industries
Organized: (07
Visits Arranged)



The Extent of ICT-Enabled Tools and Online Resources in Chemistry Teaching



Data Analysis Software:
For higher level, Excel for data analysis and plotting the graphs
Chem Draw and Gaussian software to draw the structure and to get the information regarding spectra and theoretical values of properties of substances

CONTINUOUS INTERNAL ASSESSMENT (CIA) COMPONENTS

For Theory Courses

Mid-semester exam

Assignments

Seminars

Class tests

Attendance

For Practical Courses

Mid-semester exam

Lab performance

Lab-book

Viva-voce

Attendance

Evaluation Process of Mid-Semester Examination

| | |
|---|---|
| 1 | Planning for Internal Evaluation Initial planning phase for evaluation |
| 2 | Preparation of Notice and Time Table Creating necessary documents and schedules |
| 3 | Appointment of Invigilator Assigning a supervisor for the examination |
| 4 | Conduction of Examination Executing the examination process |
| 5 | Assessment of Papers Evaluating the examination papers |
| 6 | Display of Results Announcing the examination results |
| 7 | Grievance Redressal if any Addressing any complaints or issues |

PSOs of UG and PG Courses

PSOs of UG Courses

PSO-1: Students completing this course will have understanding of basic concepts and application of Physical Chemistry, Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Industrial Chemistry

PSO-2: Skills of micro scale technique will be developed

PSO-3: Skill of handling various instruments like potentiometer, conductometer, pH-meter etc.

PSO-4: Able to solve problems in Chemistry

PSOs of PG Courses

PSO-1: Demonstrate proficiency in advanced terms, theories, principles, and techniques of chemistry through different courses, laboratory experiments, and research projects

PSO-2 Develop a foundational understanding of research methodologies, including literature review, hypothesis formulation, experimental design, data analysis, and interpretation

PSO-3 Acquire hands-on experience with advanced chemistry-related equipment

Attainment Evaluation Methods of Cos and PSOs

Direct Method

Result Analysis of End Semester Exam and Internal Assessments of students

Classify students as Slow learners and Advanced learners

For Slow Learners Department conducts Remedial Teaching Sessions

For Advanced Learners Department conducts counselling sessions for competitive exam to encourage the professional growth

Indirect Method

Students feedback for evaluation and learning experience

Department conducts alumni survey to measure the applicability of the course

Cross Cutting Issues in Chemistry

Human Value

Environmental impact: Improper disposal of waste generated during Chemistry Practicals contributes to environmental issues like water pollution and air pollution

Prevent generation of waste:

To prevent waste generation students use micro-scale techniques to perform the practical.

By using the Rota Evaporator Instruments pure solvents are obtained from liquid waste and used for further practicals

Disposal of Solid Chemicals Waste:

Solid Chemical waste is buried in soil

Professional Ethics

Ph.D.students learn professional ethics in Course Work through lectures

PG Students learn Professional Ethics in Research Methodology Course

Department arranges the Guest Lectures

Prestigious Alumni



**Dr. Ravi Phatke, Scientist,
CSIR-IIIM Jammu**



**Dr . Aslam Shaikh
Assistant Professor,
IIT- Ropar, Punjab**



**Dr. Gorakhnath Jachak
Scientist (CSIR-CDRI), UP**



**Dr. Kishor Handore,
Scientist, (CSIR-NCL), Pune**



**Dr. Varoon Singh
Scientist, National Dope
Testing Laboratory, New Delhi**



**Dr. Anant Ghumare,
Entrepreneur, Founder of
Horizon Industries, Lairus
Pharma Pvt Ltd & Imperia
Herbal LLP**



**Dr. Ganesh Wagh,
Senior Manager,
Evonik India Pvt Ltd**



**Dr. Pramod Sabale,
Assistant General Manager
NATCO Pharma, Hyderabad**



**Dr. Balasaheb Ghotekar,
Post-doctoral research Associate,
University of Georgia, USA**



**Nachiket Deepak More,
EaSI-CAT PhD student.
School of Chemistry
University of St Andrews, UK**

Best Practices of the Department

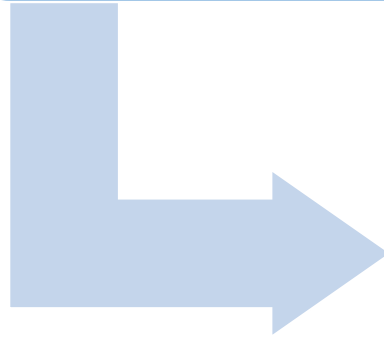
Industry-
Academia
interactions

Mentor-Mentee
Activity

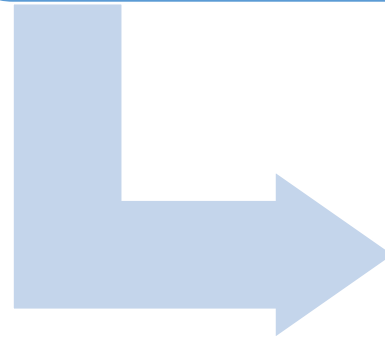
Students
Feedback

Future Plans of Department

Development of
Patents



Development of
International
Colabration



Credit courses
based on food,
water, and soil
analysis

Thank you