

Shri. Shivaji Education Society, Amravati's  
Science College, Nagpur

**Internal Academic Audit 2018-19**

(Information to be submitted by Head of the Department for Internal Academic Audit)

Department: -----Chemistry

Period of assessment: Session: 2018-19

**CRITERION I – CURRICULAR ASPECTS**

1.1 Certificate/ Diploma Courses introduced during the Academic year

| Name of the Certificate Course                         | Name of the Diploma Courses | Date of introduction and duration | focus on employability/ entrepreneurship | Skill development |
|--|-----------------------------|-----------------------------------|--|-------------------|
| Certificate course in Environment and water management |                             |                                   |  |                   |

1.2. New programmes/courses introduced during the Academic year

| Programme with Code | Date of Introduction | Course with Code | Date of Introduction |
|---------------------|----------------------|------------------|----------------------|
|                     |                      |                  |                      |

1.3 Students enrolled in Certificate/ Diploma Courses introduced during the year

|                | Certificate | Diploma Courses |
|----------------|-------------|-----------------|
| No of Students | 17          |                 |

1.4 Value-added courses imparting transferable and life skills offered during the year

| Value added courses | Date of introduction | Number of students enrolled |
|---------------------|----------------------|-----------------------------|
| -                   |                      |                             |

1.5 Field Projects / Internships under taken during the year

| Project/Programme Title | No. of students enrolled for Field Projects / Internships |
|-------------------------|---|
|                         |   |

## CRITERION II -TEACHING-LEARNING AND EVALUATION

### 2.1. Student - Full time teacher ratio (current year data)

| Year    | Number of students enrolled in the subject (UG) | Number of students enrolled in the subject (PG) | Number of full time teachers available in the department teaching only UG courses | Number of full time teachers available in the department teaching only PG courses | Number of teachers teaching both UG and PG courses |
|---------|---|---|---|---|--|
| 2018-19 | Total = 978<br>Granted=729<br>Nongranted=249    | 45  | 07 = Regular<br>04 = Adhoc  | Adhoc -02   | Regular02  |

### 2.2 No of teachers using ICT for effective teaching with Learning Management Systems

| Number of teachers on roll | Number of teachers using ICT (LMS, e-Resources) | ICT tools and resources available | Number of ICT enabled classrooms | Number of smart classrooms | E-resources and techniques used |
|----------------------------|---|-----------------------------------|----------------------------------|----------------------------|---------------------------------|
| 11                         | 11  | yes                               | 03                               | 03                         | yes                             |

(LMS), E-learning resources etc. (current year data)

### 2.3 Students mentoring system available in the Department?

| Number of students enrolled in the Department | Number of fulltime teachers | Mentor: Mentee Ratio |
|---|-----------------------------|----------------------|
| 978   | Regular -07<br>Adhoc -04    | 11: 289              |

### 2.4. Number of full time teachers appointed during the year

| No. of sanctioned positions | No. of filled positions | Vacant positions | Positions filled during the current year | No. of faculty with Ph.D |
|-----------------------------|-------------------------|------------------|--|--------------------------|
| 11                          | 07                      | 04               | Nil                                      | 07                       |

### 2.5 Honours and recognitions received by teachers (*received awards, recognition, fellowships at State, National, International level from Government, recognized bodies during the year*)

| Year of award | Name of full time teachers receiving awards from state level, national level, international level | Designation | Name of the award, fellowship, received from Government or recognized bodies |
|---------------|---|-------------|--|
| -             | -   | -           | -  |

## 2.6 Pass percentage of students

| Program me Code | Programme name | Number of students appeared in the final year examination | Number of students passed in final semester/year examination | Pass Percentage |
|-----------------|----------------|---|--|-----------------|
| B.Sc            | B.Sc.          | 289   | 238  | 82.35%          |
| M.Sc            | M.Sc.          | 22  | 17   | 77.27%          |

## CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

### 3.1. Research funds sanctioned and received from various agencies, industry and other Organizations

| Nature of the Project   | Duration | Name of the funding Agency | Total grant sanctioned | Amount received during the Academic year |
|---|----------|----------------------------|------------------------|--|
| Major projects  | Nil      | Nil                        |                        |  |
| Minor Projects  |          |                            |                        |  |
| Interdisciplinary Projects  | -        | -                          |                        |  |
| Industry sponsored Projects   |          |                            |                        |  |
| Projects sponsored by the University/ College                               |          |                            |                        |  |
| Students Research Projects<br><i>(other than compulsory by the College)</i> |          |                            |                        |  |
| International Projects  |          |                            |                        |  |
| Any other(Specify)  |          |                            |                        |  |
| Total   |          |                            |                        |  |

### 3.2 Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

| Title of Workshop/Seminar | Date(s) |
|---------------------------|---------|
| Nil                       |         |



3.3 Awards for Innovation won by Institution/Teachers/Research scholars/Students during the Year

| Title of the innovation | Name of the Awardee | Awarding Agency | Date of Award | Category |
|-------------------------|---------------------|-----------------|---------------|----------|
| Best Researcher Award   | Dr. R. A. Deshmukh  | College         | 30.04.2018    |          |

3.4 No of teachers who receive recognition/awards

| State | National | International |
|-------|----------|---------------|
| -     | -        | -             |

3.5 Ph. Ds awarded during the year (*applicable for PG College, Research Center*)

| Name of the Department | No. of Ph. Ds Awarded                     |
|------------------------|---|
| Chemistry              | 01 under the supervision of Dr R.D.Urkude |

3.6 Research Publications in the Journals notified on UGC website during the year

|               | Department | No. of Publication | Average Impact Factor, if any |
|---------------|------------|--------------------|-------------------------------|
| National      |            |                    |                               |
| International | Chemistry  | 01                 |                               |

3.7 Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

| Department | No. of publication         |
|------------|----------------------------|
| Chemistry  | Book – 1 Rajni Publication |

3.8 Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index

| Title of the paper | Name of the author | Title of the journal | Year of publication | Citation Index | Institutional affiliation as mentioned in the publication | Number of citations excluding self citations |
|--------------------|--------------------|----------------------|---------------------|----------------|---|--|
| -                  |                    |                      |                     |                |   |  |

3.9 h-index of the Institutional Publications during the year. (based on Scopus/ Web of science)

| Title of the paper | Name of the author | Title of the journal | Year of publication | h-index | Number of citations excluding self citations | Institutional affiliation as mentioned in the publication |
|--------------------|--------------------|----------------------|---------------------|---------|--|---|
| -                  |                    |                      |                     |         |  |   |

3.10 Faculty participation in Seminars/Conferences and Symposia during the year:

| No. of Faculty               | International level | National level | State level | Local level |
|------------------------------|---------------------|----------------|-------------|-------------|
| Attended Seminars/ Workshops | 05                  | 08             | -           | -           |
| Presented papers             | 02                  | 01             | -           | -           |
| Resource Persons             |                     |                |             |             |

3.11 Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organizations through during the year

| Title of the Activities | Organizing unit/ agency/ collaborating agency           | Number of teachers co-ordinated such activities | Number of students participated in such activities |
|-------------------------|---|---|--|
| Tree Plantation         | Dept. Chemistry in Collaboration with OASCA             | 01  | 50   |
| Olympiad exam           | Dept. of chem. In Collaboration with TTAT. Pvt Ltd Pune | 01  | 350  |
| Visit to Forensic Lab   | Department of Chemistry                                 | 02  | 30   |

3.12 Awards and recognition received for extension activities from Government and other recognized bodies during the year

| Name of the Activity | Award/recognition | Awarding bodies | No. of Students benefited |
|----------------------|-------------------|-----------------|---------------------------|
|                      |                   |                 |                           |

3.13 Students participating in extension activities with Government Organizations, Non-Government Organizations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

| Name of the scheme | Organising unit/ agency/ collaborating agency | Name of the activity | Number of teachers <b>coordinated</b> such activities | Number of students participated in such activities |
|--------------------|---|----------------------|---|--|
| Swachh Bharat      | College in Colaboration with NSS              | Swachh Bharat        | 01  | 50   |
| Blood Donation     | College in Colaboration with GMC              | Blood Donation       | 01  | 62   |

3.15 Number of Collaborative activities for research, faculty exchange, student exchange during the year

| Nature of Activity | Participant | Source of financial support | Duration |
|--------------------|-------------|-----------------------------|----------|
|                    |             |                             |          |

3.16 Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the year

| Nature of linkage | Title of the linkage | Name of the partnering institution/ industry /research lab with contact details | Duration (From-To) | participant |
|-------------------|----------------------|---|--------------------|-------------|
|                   | Nil                  |   |                    |             |

3.5.3 MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

| Organisation | Date of MoU signed | Purpose and Activities | Number of students/teachers participated under MoUs |
|--------------|--------------------|------------------------|---|
| Nil          |                    |                        |   |

#### **CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES**

| 4.1.2 Details of augmentation in infrastructure facilities during the year        |                                    |             |
|---|------------------------------------|-------------|
| Facilities  | Existing                           | Newly added |
| Laboratories  | 05                                 | -           |
| No. of important equipments purchased ( $\geq$ 1-0 lakh) during the current year. | UV Visible, HPLC, Rota-evaporators | Nil         |
| Value of the equipment purchased during the year                                  | -                                  | --          |



|                |          |    |    |
|----------------|----------|----|----|
| (Rs. in Lakhs) |          |    |    |
| Others         | LCD      | 01 |    |
|                | Computer | 03 | 03 |

4.3.4 E-content developed by teachers such as: e-PG-Pathshala, CEC (under e-PG-Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/ NMEICT /any other Government initiatives & institutional (Learning Management System (LMS) etc

| Name of the teacher | Name of the module | Platform on which module is developed | Date of launching e - content |
|---------------------|--------------------|---------------------------------------|-------------------------------|
| -                   |                    |                                       |                               |

### CRITERION V - STUDENT SUPPORT AND PROGRESSION

5.1.2 Number of capability enhancement and development schemes such as Remedial coaching, Bridge courses, Personal Counselling and Mentoring etc.,

| Name of the capability enhancement scheme | Date of implementation | Number of students enrolled | Agencies involved |
|---|------------------------|-----------------------------|-------------------|
| Personal Counseling and Mentoring         | 02.07.2018             | 289                         | -                 |

5.2.2 Student progression to higher education in percentage during the year

| Year    | Number of students enrolling into higher education | Programme graduated from | Department graduated from | Name of institution joined  | Name of Programme admitted to          |
|---------|--|--------------------------|---------------------------|---|--|
| 2018-19 | -  | B.Sc.                    | Chemistry                 | 1) Shivaji Science College<br>2) RTM Nagpur.<br>3) Institute of Science, Nagpur | M.Sc.( 05)<br>M.Sc.( 06)<br>M.Sc.( 06) |

5.2.3 Students qualifying in state/ national/ international level examinations during the year (eg: NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

| Items | No. of Students selected/ qualifying | Registration number/roll number for the exam |
|-------|--------------------------------------|--|
|       |                                      |  |

|                           |     |  |
|---------------------------|-----|--|
| NET                       | Nil |  |
| SET                       |     |  |
| SLET                      |     |  |
| GATE                      |     |  |
| GMAT                      |     |  |
| CAT                       |     |  |
| GRE                       |     |  |
| TOFEL                     |     |  |
| Civil Services            |     |  |
| State Government Services |     |  |
| Any Other                 |     |  |

5.3.2 No. of enrolled Alumni of the department: **30**

### **CRITERION VI –GOVERNANCE, LEADERSHIP AND MANAGEMENT**

6.3.3 No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

| Title of the professional development programme | Number of teachers who attended | Date and Duration (from – to) |
|---|---------------------------------|-------------------------------|
|   | Nil                             |                               |

6.4.2 Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

| Name of the non government funding agencies/ individuals | Funds/ Grants received in Rs. | Purpose |
|--|-------------------------------|---------|
|  | Nil                           |         |

### **CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES**

| 7.1.4 Inclusion and Situatedness   |                          |                             |                      |             |                  |                         |
|--|--------------------------|-----------------------------|----------------------|-------------|------------------|-------------------------|
| Enlist most important initiatives taken to address locational advantages and disadvantages during the year |                          |                             |                      |             |                  |                         |
| Year   | Number of initiatives to | Number of initiatives taken | Date and duration of | Name of the | Issues addressed | Number of participating |
|  |                          |                             |                      |             |                  |                         |



|  |   |  |                |            |  |                    |
|--|---|--|----------------|------------|--|--------------------|
|  | address locational advantages and disadvantages | to engage with and contribute to local community | the initiative | initiative |  | students and staff |
|  |   |  |                |            |  |                    |

#### 7.1.6 Activities conducted for promotion of universal Values and Ethics

| Activity | Duration (from-----to-----) | Number of participants |
|----------|-----------------------------|------------------------|
|          |                             |                        |

#### 7.1.7 Initiatives taken by the department to make the campus eco-friendly

#### 7.2 Best Practices: Describe at least two best practices of the department

- (i) Prizes and medals sponsored by faculty members for scoring higher marks in chemistry
- (ii) Classes on UG had engaged by PG students.

#### 7.3 Institutional Distinctiveness: Provide the details of the performance of the department in one area distinctive to its vision, priority and thrust

1. Chemistry is unique among science. The PG Programme in Chemistry is designed to give students a broad yet deep understanding of the chemical phenomenon. An increasingly important aspect of laboratory work is learning to use scientific instrumentation. The Department of Chemistry has PG course i.e M.Sc with specialization of Organic Chemistry. The students get admission as per the merit list. The students not only from Maharashtra but other states like Madhya Pradesh also show a first preference for securing the admission in our PG department. PG students learn to use a broad array of instruments including visible spectrophotometer, UV- visible spectrophotometer, HPLC, Centrifuse machine, etc .
2. The PG Chemistry Program culminates dissertation for sem (IV) students for partial fulfillment of degree which significantly explored area of their Scientific interest. The dissertation is carried out by the students under the supervision of faculty members.
3. Department of chemistry also plan guest lectures of acclaimed scientist on specific topic at smart class room. We invite senior Professors and Scientist as guest speaker which undoubtedly foster the knowledge and eventually interest which matters to large extent
4. Seminars of students are arranged in the department regularly. These seminars are also intended to develop their communicational and presentational skills.
5. In the session 2017-18 three students of PG Department namely
6. a)Ankita Dande 2)Ashwini Borkar 3)Ms.Nagma Patel secured Merit Position

in RTM Nagpur University Examination.

B In session 2018-19 Ms.Azmia Sadaf and Ms.Isha Chauhan bagged first prize  
.in competition held at Hislop College on periodic table

The vision of the Department is to groom students with competencies and employability skills to become part of Top Notch Companies. The Faculty members assists the students to become self reliant and improve their soft skills. Placement drives are conducted in the college campus where reputed companies participated. The placement cell also facilitates students to attain job fairs organized in other places.

7. An Industrial visit has its own importance in a career of a student who is pursuing a professional degree. It is considered as a part of college curriculum . Student visit companies and get insight regarding the internal and actual working environmental of company. The Industrial visit provides an excellent opportunity to students to understand the functioning of machineries and applications of chemistry which is helpful to become a entrepreneur .

Provide the weblink of the institution in not more than 500 words

#### **8. Future Plans of action for next academic year (500 words)**

In order to foster global challenges and inculcating moral values among the students, following activities will be organized in the next year for overall development of stakeholders.

1. To organize ozone Day
2. To organize World Water Day
3. To organize campus cleaning drive
4. To arrange poster competition on Periodic Table.
5. To organized chemistry olympiad exam.
6. To organize conferences, workshop, seminars, seminar competitions and quiz competitions etc.
7. To submit proposals for major and minor research projects to funding agencies like DST, UGC CSIR etc for financial assistance.
8. To enhance publications in journal of national and international repute.
9. To form linkage with national laboratories like NCL, forensic, NEERI, IICT Hyderabad and AGMARK etc.
10. To arranged the lectures of eminent scientists and professors.
11. To encourage the UG and PG students towards research and competitive examinations.
12. To synthesize the drugs, dyes, nanomaterials and adsorbents for the betterment life.



13. To arrange the training programme for the students in collaboration with NEERI.

\_\_\_\_\_  
Signature of the Head / Coordinator of the Department

Name \_\_\_\_\_ Date: \_\_\_\_\_

## Alumni of the Department

The alumni of Chemistry Department have Occupied Position of eminence in all Walks of Life and have greatly contributed to the growth of Chemistry in the country and abroad.

They have occupied highest position in Educational Institutions Pharmaceutical Industries, CSIR Laboratories, Government Organizations. In the recent past our students have also cleared SET, NET, GATE etc.

| Name of Student           | Occupation                             | Place   |
|---------------------------|--|---|
| Dr. A.V. Gomashe          | Registrar                              | RTMNU, Nagpur.  |
| Mr. Arun Dongare          | Assistant commissioner                 | Nagpur  |
| Dr.Sunil P. Kulkarni      | Scientist                              | Canada  |
| Dr.Mrs.Samiksha Raut      | Scientist                              | New York  |
| Dr.J.D.Eche.              | Associate professor                    | VNIT Nagpur   |
| Mr.Garave                 | Director                               | Anakon lab. Nagpur  |
| Mr. Laxmikant B. Rewatkar | Assistant Director                     | Forensic lab  |
| Dr.C.J.Chandekar          | Associate professor                    | Shri. Shivaji Science College. Nagpur                           |
| Dr.D.W.Deshkar            | Associate professor                    | Shri. Shivaji Science College. Nagpur                           |
| Dr.(Mrs.)N.S. Dhoble.     | Associate professor                    | Sevadal Mahila Mahavidyalya Nagpur                              |
| Dr.(Mrs.)D.M.Borikar      | Assistant professor                    | Dr. Ambedkar College Nagpur.                                    |
| Dr .P. N. Tatode          | Associate professor                    | N.A.College, Umrer.   |
| Ms. Kavita Mudliya        | Associate professor                    | Ramdeobaba Engineering College.                                 |
| Dr. H. W. Khandare        | Associate professor                    | Department of Geology RTMNU NAGPUR.                             |
| Dr.(Mrs.) R.D.Urkude      | Assistant professor                    | Shri Shivaji Science College. Nagpur                            |
| Dr. S. N . Patil          | Ex-VC                                  | SGBAU, Amravati.  |
| Dr. A.M.Pophare           | Prof. Dept. of Geology                 | RTM Nagpur University, Nagpur                                   |
| Dr. P.R.Likhar            | Scientist G                            | ICT Hyderabad   |
| Dr. J.B. Bhagat           | Deputy Director                        | ONGC  |
| S.B.Pise                  | Pilot                                  | Indian Air force  |
| Dr. R.N.Chuhan            | Sr. Geologist                          | GSI Nagpur  |
| Rekha Gajbhiye            | Geologist                              | GSD Wardha  |
| Jaya Shende               | Sr. Geologist                          | GSI Nagpur  |
| Dr. R.N.Jugade            | Associate Professor                    | Department of Chemistry, RTM Nagpur University, Nagpur.         |
| DR. P. D. Burghate        | Associate Professor                    | Department of Chemistry, Shri. Shivaji Science College, Nagpur. |
| Aniket Bijwe              | Batch 2014<br>Aniket.bijwe38@gmail.com | Cipla   |



|                        |                                  |     |
|------------------------|----------------------------------|-----|
|                        | 9765863884                       |     |
| Harshewadhini Pantwane | Batch 2014<br>UPSC<br>7841835299 | GSI |
| Trivenee Kahalkar      | Batch2014 MPSC<br>7304492052     |     |
| Virendra Khobragade    | Batch2016<br>7907882841          | CGM |