

**Internal Quality Assurance Cell ( IQAC)  
SGT University**

**Annual Report (Aug 2016- July 2017)  
Department of .Chemistry**

**Edited by**.Dr. Sonali Bhandari.....  
**Department of..Chemistry**.....

The Department offers B.Sc.(Non Medical), M.Sc.(Chemistry) and Ph.D. in Chemistry. The faculty believes in making science more exciting, understandable and relevant subject to the general public in an attempt to encourage more people to take an interest. Our Department is home to national and internationally renowned faculty, have state-of-art research facilities. We prize science that is both collaborative and interdisciplinary as well as excellence in teaching and research from both our faculty and our students.

We give individual attention and hands-on practice to students in experimental work. We organize field and industrial trips to educate students about practical applications. Our syllabus is comparable with all other reputed institutions and cover most of the syllabus of NET examination. Our faculty assist students for summer and winter training as well as internships in industries.

Our special emphasis on practical training (more than theory) prepares students for better understanding and working in the real world.

**Department at a Glance (2016-17)**

**Name of the Department:** Chemistry

**Year of establishment:**

UG 2014      PG 2015

**1. List of Faculty with designations (Table.1)**

**TABLE 1: DEPARTMENT OF CHEMISTRY**

| Name of Faculty        | Designation         | Educational Qualifications           | Teaching Experience (Years) | Publications            |
|------------------------|---------------------|--------------------------------------|-----------------------------|-------------------------|
| Dr. Ravi Kumar Rana    | Assoc. Prof. (HOD)  | M.Sc, Ph.D(2004)                     | 16                          | 15                      |
| Dr. Ajay Kumar         | Professor           | M.Sc, Ph.D(1986)                     | 31                          | Paper=54<br>Books= 05   |
| Dr. Sonali Bhandari    | Associate Professor | M.Sc, Ph.D(1998)                     | 16                          | Paper = 13<br>Books = 1 |
| Dr. Anjali Gupta       | Assistant Professor | M.Sc, Ph.D(2003),<br>NET,GATE        | 9                           | 10                      |
| Dr. Manoj Trivedi      | Assistant Professor | M.Sc, M.Tech,<br>Ph.D                | 2                           | 46                      |
| Dr. Divya Tyagi        | Assistant Professor | M.Sc., Ph.D.                         | 16                          | 10                      |
| Dr. Irfan Hussain Lone | Assistant Professor | M.Sc, NET-<br>JRF,GATE<br>Ph.D(2016) | 2                           | 5                       |
| Mr. Anjaneyulu Bendi   | Assistant Professor | M.Sc, CSIR-NET                       | 9                           | 4                       |
| Dr. Nisha              | Assistant Professor | M.Sc.,<br>Ph.D.(2016)                | 0                           | 6                       |

**2. Names of programmes offered (UG, PG, M.Phil., Ph.D., M.Sc., etc.)**

**TABLE 2: PROGRAMMES OFFERED IN THE DEPARTMENT OF CHEMISTRY**

| Course | Program             | Duration                 | Intake | Specialization         |
|--------|---------------------|--------------------------|--------|------------------------|
| UG     | B.Sc. (Non Medical) | 3 Years<br>(6 semesters) | 50     | Mathematics<br>Physics |

|    |                      |                          |    |   |
|----|----------------------|--------------------------|----|---|
|    |                      |                          |    | Chemistry   |
| PG | M.Sc.<br>(Chemistry) | 2 Years<br>(4 semesters) | 30 | 1. Physical Chemistry<br>2. Organic Chemistry<br>3. Inorganic Chemistry |

### 3. Education:

#### a). Hours of teaching in each subject

##### Undergraduation

**TABLE 3: HOURS OF TEACHING In B.Sc. (CHEMISTRY)**

| B.Sc. (NM) | Subject             | Theory (hrs/year) | Practical       |
|------------|---------------------|-------------------|-----------------|
| I Year     | Physical Chemistry  | 70                | (@ 6 hrs /week) |
|            | Organic Chemistry   | 70                |                 |
|            | Inorganic Chemistry | 70                |                 |
| II Year    | Physical Chemistry  | 70                | (@ 6 hrs /week) |
|            | Organic Chemistry   | 70                |                 |
|            | Inorganic Chemistry | 70                |                 |
| III Year   | Physical Chemistry  | 70                | (@ 6 hrs /week) |
|            | Organic Chemistry   | 70                |                 |
|            | Inorganic Chemistry | 70                |                 |

##### Postgraduation

**TABLE 4: HOURS OF TEACHING In M.Sc. (CHEMISTRY)**

| M.Sc.<br>(Chemistry) | Subject | Theory<br>(hrs/year) | Practical |
|----------------------|---------|----------------------|-----------|
|----------------------|---------|----------------------|-----------|

|                       |                        |               |              |
|-----------------------|------------------------|---------------|--------------|
| I Year                | Physical Chemistry     | 90            | (@8hrs/week) |
|                       | Organic Chemistry      | 90            | (@8hrs/week) |
|                       | Inorganic Chemistry    | 90            | (@8hrs/week) |
| II Year - Semester I  | Organic Chemistry I    | 90            | (@8hrs/week) |
|                       | Organic Chemistry II   | 90            | (@8hrs/week) |
|                       | Organic Chemistry III  | 90            | (@8hrs/week) |
|                       | Physical Chemistry I   | 90            | (@8hrs/week) |
|                       | Physical Chemistry II  | 90            | (@8hrs/week) |
|                       | Physical Chemistry III | (@ 4hrs/week) | (@8hrs/week) |
| II Year - Semester II | Organic Chemistry IV   | (@ 4hrs/week) | (@8hrs/week) |
|                       | Organic Chemistry V    | (@ 4hrs/week) | (@8hrs/week) |
|                       | Organic Chemistry VI   | (@ 4hrs/week) | (@8hrs/week) |
|                       | Physical Chemistry IV  | (@ 4hrs/week) | (@8hrs/week) |
|                       | Physical Chemistry V   | (@ 4hrs/week) | (@8hrs/week) |
|                       | Physical Chemistry VI  | (@ 4hrs/week) | (@8hrs/week) |

Other trainings.....

**TABLE 3: OTHER TRAININGS**

| S.No | Course | Training | Date | Outcome |
|------|--------|----------|------|---------|
|------|--------|----------|------|---------|

|    |                                  |  |                                     |   |
|----|----------------------------------|--|-------------------------------------|---|
| .  |                                  |  |                                     |   |
| 1. | M.Sc. (Chemistry) I and II Years | Educational Visit to Inter University Accelerator Centre (New Delhi)                                   | 9th March, 2017                     | Insight into Nuclear Physics and Physics of Materials   |
| 2. | ALL UG and PG students           | Guest lecture by Dr. Vepa Kameswara Rao, DRDE, Gwalior on "Fundamental and Applications of Biosensors" | 15th March, 2017                    | Biosensors nowadays are ubiquitous in biomedical diagnosis as well as wide range application in disease progression, Environmental monitoring, Food control, Drug discovery and Biomedical research |
| 3. | PG students                      | Training @ Central Forensic Sciences Laboratory (Hyderabad)  | 20th March, 2017 - 30th March, 2017 | Two weeks intensive training program on " <b>Spectroscopic and Chromatographic Techniques</b> "   |
| 4. | PG students                      | An Industrial visit of to Sphaera Pharma. Pvt. Ltd., IMT Manesar, Haryana                              | 19th April, 2017                    | Insight into Research and Development in Drug Discovery   |
| 5. | UG and PG students               | Educational visit to Asola Wild Life Sanctuary (New Delhi)   | 21st February, 2017                 | Students learnt about <b>conservation education</b> and <b>nature interpretation programs.</b>  |

**b). Continued Education (workshop, seminar, symposium, conferences)**

**i) Summary of the above, department wise (Total No.)**

**TABLE 4: CONTINUED EDUCATION**

| Event                    | Attended  | Organized | Paper / poster presented | Guest lectures delivered | Keynotes delivered |
|--------------------------|-----------|-----------|--------------------------|--------------------------|--------------------|
| Conference national      | -         | -         | -                        | -                        | -                  |
| Conference international | 2         | -         | 2                        | -                        | -                  |
| Conventions              | -         | -         | -                        | -                        | -                  |
| Symposium                | -         | -         | 1                        | -                        | -                  |
| Workshops                | 7         | -         | -                        | -                        | -                  |
| Others                   | 1         | -         | -                        | -                        | -                  |
| <b>Total</b>             | <b>10</b> |           | <b>3</b>                 | -                        | -                  |

ii). Details of above, Faculty member wise...

| Faculty Member Name | Continued Education  |
|---------------------|--|
| Dr. Ravi Rana       | <p><b>Conference Attended</b></p> <p>1. International Conference on ‘<b>Innovative Developments in Science, Technology and Management (IDSTM-2017)</b>’ held at Ganga Technical Campus, Bahadurgarh, Haryana on 29<sup>th</sup> January 2017.</p>  |
| Dr. Ajay Kumar      | NIL  |
| Dr. Sonali Bhandari | <p><b>Paper/Poster Presented</b></p> <p>1. National Symposium on <b>Annual Conventions on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems &amp; of Indian Society of Remote Sensing &amp; Indian Society of Geomatics</b> in the Indian Institute of Remote Sensing, Dehradun from 7<sup>th</sup> to 9<sup>th</sup></p> |

|                  |  |
|------------------|--|
|                  | <p>December, 2016.</p> <p><b>Workshops</b></p> <ol style="list-style-type: none"> <li>2. Consultation workshop on '<b>Availability of Clean Water and the Problem of Waste Water in Gurgaon</b>' organized by Transdisciplinary Research Cluster on Sustainability Studies, Jawaharlal Nehru University, Delhi held in Shama Tourist Complex, Gurgaon, Haryana on February 7<sup>th</sup> to 9<sup>th</sup>, 2017.</li> <li>3. Faculty Development Program on 'Pedagogic and Personal Effectiveness Workshop', Shree Guru Gobind Singh Tricentenary University, Gurgaon, 10th-12th January, 2017.</li> <li>4. Workshop on 'Wine Appreciation' organized by SULA Vineyards, Shree Guru Gobind Singh Tricentenary University, Gurgaon, 23rd March, 2017.</li> <li>5. Pre-symposium tutorial on 'Watershed Management in Mountainous Landscape', <i>National Symposium on Recent Advances in Remote Sensing and GIS with special emphasis on mountain ecosystems &amp; Annual Conventions of Indian Society of Remote Sensing and Indian Society of Geomatics</i>, Indian Institute of Remote Sensing, Dehradun, India, December 5th-6th, 2016.</li> <li>6. U.S. EPA STAR Grant Review Meeting and Webinar Performance on 'Effectiveness of Green Infrastructure Stormwater Management Approaches in the Urban Context: A Philadelphia Case Study Progress Review', 9th May, 2017.</li> </ol> |
| Dr. Anjali Gupta | <p><b>Paper/Poster Presented</b></p> <ol style="list-style-type: none"> <li>1. <b>International Conference on Recent Trends in Chemical Sciences 2017</b> organized by Government College Bikaner in association with Indian Chemical Society on 12-13<sup>th</sup> January, 2017- "<b>Synthetic, spectroscopic and structural aspects of Trimethylantimony(V) complexes with oximes containing heterocyclic ring system</b>".</li> </ol> <p><b>Workshops</b></p> <ol style="list-style-type: none"> <li>2. Faculty Development Program on 'Pedagogic and Personal Effectiveness Workshop', Shree Guru Gobind Singh Tricentenary University, Gurgaon, 10th-12th January, 2017.</li> </ol>  |
| Dr. Irfan Lone   | <p><b>Workshops</b></p> <ol style="list-style-type: none"> <li>1. MHRD sponsored GIAN course on "<b>Recent Developments in Nano Materials for Energy and Health Care Applications</b>" from 19<sup>th</sup> -24<sup>th</sup> December,2016 organized by the Department of Chemistry, Jamia Millia Islamia.</li> </ol>  |

|                      |  |
|----------------------|--|
|                      | <p><b>Paper/Poster Presented</b></p> <p>2. Presented a research paper as invited talk and chaired a Session at the “<b>Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM-2017)</b>” held at Mahatma Gandhi University Kottayam ,Kerala India from 10-12 February 2017.</p>  |
| Dr. Nisha            | <p><b>Workshops</b></p> <p>1. Consultation workshop on ‘<b>Availability of Clean Water and the Problem of Waste Water in Gurgaon</b>’ organized by Transdisciplinary Research Cluster on Sustainability Studies, Jawaharlal Nehru University, Delhi held in Shama Tourist Complex, Gurgaon, Haryana on February 7<sup>th</sup> to 9<sup>th</sup>, 2017.</p> <p>2. Faculty Development Program on 'Pedagogic and Personal Effectiveness Workshop', Shree Guru Gobind Singh Tricentenary University, Gurgaon, 10th-12th January, 2017.</p> |
| Mr. Anjaneyulu Bendi | <p><b>Conference Attended</b></p> <p>1) International Conference on ‘<b>Innovative Developments in Science, Technology and Management (IDSTM-2017)</b>’ held at Ganga Technical Campus, Bahadurgarh, Haryana on 29<sup>th</sup> January 2017.</p>  |

#### 4. Publications:

##### i) Journal articles

##### a). Summary of publication department wise (Total No.):

| S. no. | Type          | Total no. Of Articles | National | International | others |
|--------|---------------|-----------------------|----------|---------------|--------|
| 1      | Indexed       | -                     | -        | 2             | -      |
| 2      | Non indexed   | -                     | -        | -             | -      |
| 3      | Peer reviewed | -                     | -        | -             | -      |
| 4      | Non           | -                     | -        | -             | -      |



|  |               |  |  |  |  |
|--|---------------|--|--|--|--|
|  | peer reviewed |  |  |  |  |
|--|---------------|--|--|--|--|

b) Details of the above (to be furnished faculty member wise).

- (papers published in peer reviewed journals (national / international, listed in National/International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database, International Social Sciences Directory, EBSCO or any other indexing agency,Citation Index (source)google scholar, Research Gate, Scopus,SNIP, SJR Impact Factor ... range / average, h-index)

| S. no. | Article in Vancouver style  | National/ international | Databas e | Citatio n index Range/ average | SJR / SNI P | h- inde x | Impac t factor |
|--------|---|-------------------------|-----------|--------------------------------|-------------|-----------|----------------|
| 1.     | Bhandari, S. <b>International Journal of Social Sciences and Humanities</b> , 3(1), 2017,43-52. | International           |           |                                |             |           |                |
| 2.     | Lone I.H., <b>Material Research Bulletin</b> , 89, 2017, 185-192                                | International           |           |                                |             |           |                |
|        |   |                         |           |                                |             |           |                |

- Non -indexed publications NIL
- Popular press writings / others NIL

ii) Abstracts published in conference proceedings. (faculty member wise)  
NIL

**iii) Books with ISBN with details (faculty member wise)**

NIL

**a) Chapters in Books**

**b) Edited Books**

**c) Books publishers**

**d) Monographs**

**5. Details of patents and income generated**

NIL

**6. Awards and Honours**

**Awards / recognitions received at the national and international level by (in Table. format...)**

• **Faculty**

Chaired a Session at the “Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM-2017)” held at Mahatma Gandhi University Kottayam ,Kerala India from 10-12 February 2017.

• **Others**

• **Doctoral / post doctoral fellows**

• **Students**

**7. Consultancy and Participation as expert , income generated, (brief note on each)**

NIL

**8. Research**

**i). Details of the Funded projects department wise:**

| <b>Sn o.</b> | <b>Name of the faculty/ departm</b> | <b>Name of PI</b> | <b>Fundin g agency</b> | <b>Indian agency / WHO / Internati</b> | <b>Project title</b> | <b>Grants receive d</b> | <b>Completed / ongoing/ new project</b> |
|--------------|-------------------------------------|-------------------|------------------------|--|----------------------|-------------------------|---|
|--------------|-------------------------------------|-------------------|------------------------|--|----------------------|-------------------------|---|

|    | ent       |                  |          | onal / SGT University |  |   | submitted |
|----|-----------|------------------|----------|-----------------------|--|---|-----------|
| 1. | Chemistry | Dr. Anjali Gupta | DST-SERB | -                     | Synthesis, Characterization and Application of OrganoBismuth compounds | - | Submitted |
|    |           |                  |          |                       |  |   |           |

**ii) Details of other non funded / self funded projects: department wise ( list only)**

NIL

**iii) Student projects: NIL**

| Sno. | Name of the student | Name of Guide | Course PhD, MD, MDS, MSc, JRF, SRF | Funded/ self funded | Indian agency / WHO / International / SGT University | Project title | Grants received | Completed/ ongoing |
|------|---------------------|---------------|------------------------------------|---------------------|--|---------------|-----------------|--------------------|
|      |                     |               |                                    |                     |  |               |                 |                    |
|      |                     |               |                                    |                     |  |               |                 |                    |
|      |                     |               |                                    |                     |  |               |                 |                    |
|      |                     |               |                                    |                     |  |               |                 |                    |
|      |                     |               |                                    |                     |  |               |                 |                    |

o percentage of students who have done in-house projects including inter-

departmental projects

- percentage of students doing projects in collaboration with other universities /industry / institute

**9. Patient Care, please provide detail in enumerative figures during the year of consideration. ( write NA if not applicable)**

|                                |    |
|--------------------------------|----|
| <b>Facilities available</b>    | NA |
| <b>Operations / procedures</b> | NA |
| <b>ICU details</b>             | NA |
| <b>Emergency Duties</b>        | NA |
| <b>OPD clinics</b>             | NA |

**10. Other Significant Events**

**1. TRIP TO SURAJKUND MELA (Faridabad)**

The Undergraduate and Postgraduate students of Faculty of Physical Sciences visited **SURAJKUND MELA** on 14.02.2017. The 31<sup>st</sup> Surajkund International Crafts Mela-2017 is organized by the Authority & Haryana Tourism in collaboration with Union Ministries of Tourism, Textiles, Culture and External Affairs. The students met a number of renowned national and international folk artistes and cultural groups and enjoyed their performances. The Mela is a custodian of a large number of heritage crafts involving use of traditional skills. The multi-cuisine Food Court at mela provides ethnic cuisines from all over the world, which provided culinary excitement to the students.

**2. TRIP TO CHAMBA HILL STATION**

A trip to Chamba Hill Station for the scholars students of undergraduate was organized by the SGT University from **6th April to 9th April 2017**. The main aim of the trip was to motivate and encourage each and every student towards study and to give the chance to build closer bonds with their collegemate. During the trip, students and faculty Ms. Minni Ruhil visited Tehri dam, Surkhanda Mata ka Mandir, Dhanaulti Eco Park and the DJ night. The three day trip tend to be the most memorable moments of a student's career. Since the trip was organized after the exams it helped them to experience new environments and enjoy day away from the classroom.

**3. GOLD MEDAL AWARDS TO MERITORIOUS STUDENTS**

The university organized its 4th Convocation on 18.03.17 to provide the degrees to the students of different courses, during this program our students awarded with the Gold

Medals. This is one of the best moment for the students, in such away the management encouraging the students to achieve their goals.

#### **4. FAREWELL PARTY - "LAMHE"**

Faculty of Physical Sciences, SGT University organized a farewell party "LAMHE" on 16<sup>th</sup> May, 2017 at TV Studio, 3<sup>rd</sup> Floor, Dental building. The Farewell began with Lamp lighting by the Dean, Dr Ravi Rana, and all HOD's. The dance performances of Ms Deepshikha, Ms Kritika and Mr Deepak and the songs sung by Ms Anju and Ms Meenaz were much appreciated. Titles were given to the outgoing students of B Sc and M Sc by their juniors. Students of final year participated in **Ramp Walk** and Question round which was judged by Mr Harsh Upreti (FHTM), Dr Ruchika Yadav (Forensic Sciences) & Ms Shivani Yadav (FPS). The Batch was presented mementos by the faculty members and wished them good luck for their future. Some exciting games were also arranged for the students and were enjoyed by all.

Different tags were awarded to the students. **Ms Chetna (M Sc Physics)** was crowned with the title of **Ms. Farewell** and **Mr. Rajat (M Sc Physics)** was awarded the title of Mr. Farewell. There was a tie for the title of Mr Handsome and Ms Candy Crush. Mr. Raman (M Sc Physics) and Mr Prateek (BSc Non-Medical) won the title of Mr Handsome and Ms Drishty (M Sc Physics) and Ms Nitika (M Sc Chemistry) were given the title Ms Candy Crush. The function was concluded with cake cutting ceremony followed by lunch.

#### **11. Courses in collaboration with other universities, industries, foreign institutions, etc.**

NIL

#### **12. Details of programmes discontinued, if any, with reasons**

NIL

#### **13. Examination System: Annual/Semester/Trimester/weekly Semester**

#### **14. Choice Based Credit System –Give brief note**

In session 2016-17, this system was not introduced.

#### **15. Participation of the department in the courses offered by other departments, courses in collaboration with other universities, industries, foreign institutions, etc.**

1. Faculty of Engineering (Department of Chemistry), Faculty of Forensic Sciences, Faculty of Allied Health (Microbiology), Department of Communications
2. Faculty Development Program on 'Pedagogic and Personal Effectiveness Workshop', Shree Guru Gobind Singh Tricentenary University, Gurgaon, 10th-12th January, 2017.

3. Workshop on 'Wine Appreciation' organized by SULA Vineyards, Shree Guru Gobind Singh Tricentenary University, Gurgaon, 23rd March, 2017.
16. **Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad (e.g. Commonwealth fellowships, WHO fellowships, UNESCO fellowships etc)**  
NIL
17. **Faculty serving in**
- a) National committees**
- b) International committees**
- c) Editorial Boards**
- Dr. Sonali Bhandari
1. Appointed to the editorial board of *Universal Journal of Educational Research* (Horizon Research Publishing) from 05/27/2014 and conclude in 05/26/2017
  2. Appointed to the editorial board of *Scientific Society Of Advanced Research And Social Change*
- d) any other (please specify)**
18. **Faculty recharging strategies (Capacity Building programmes) (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). (give details)**  
NIL
19. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance ( updated till date)**

| Name          | Qualification             | Designation                        | Specialization   | No. of     | No. Of thesis/                                      |
|---------------|---------------------------|------------------------------------|--|------------|---|
|               |                           |                                    |  | Years of   | dissertations                                       |
|               |                           |                                    |  | Experience | guided till now ( Ph.D. / M.Phil./ PG/ UG/Students) |
| Dr. Ravi Rana | Ph.D(2004)<br>MDU, Rohtak | Associate<br>Professor<br>and Head | Solution<br>Thermodynami<br>cs, Electro<br>chemistry,<br>Corrosion | 16         | -   |

|                     |  |                        |  |    |   |
|---------------------|--|------------------------|--|----|---|
| Dr. Ajay Kumar      | Ph.D (1986)<br>Uni., of Delhi  | Professor              | Bio physical<br>and Bio<br>Organic   | 31 | - |
| Dr. Sonali Bhandari | Ph.D.(1998)<br>Bath<br>University, UK                                | Associate<br>Professor | Organometalic<br>Chemistry   | 16 | - |
| Dr. Anjali Gupta    | M.Sc, NET,<br>GATE, PhD<br>(2003), Uni. of<br>Rajasthan              | Assistant<br>Professor | Organometallic<br>Chemistry  | 09 | - |
| Dr. Manoj Trivedi   | M.Sc., Ph.D.   | Assistant<br>Professor | Organic<br>Chemistry   | 02 |   |
| Dr. Diya Tyagi      | Ph.D.,<br>Choudhury<br>Charan Singh<br>University,<br>Meerut         | Assistant<br>Professor | Organic<br>Chemistry   | 16 |   |
| Dr. Nisha           | Ph.D.(2016),<br>Guru Nanak<br>Dev University,<br>Amritsar            | Assistant<br>Professor | Medicinal<br>organic<br>chemistry  | 00 | - |
| Dr. Irfan Lone      | CSIR-JRF,<br>GATE,<br>Ph.D (2016)<br>Jamia Millia<br>Islamia , Delhi | Assistant<br>Professor | Synthesis,<br>characterizatio<br>n and<br>properties of<br>metal and<br>metal oxide<br>nanoparticles | 02 | - |
| Mr. A. Bendi        | M.Sc,<br>CSIR-NET  | Assistant<br>Professor | Synthesis of<br>Biologically<br>active<br>Heterocyclic<br>Compounds                                  | 09 | - |

**20. List of senior Visiting Fellows, adjunct faculty, emeritus professors**

1. Guest lecture by Dr. Vepa Kameswara Rao, DRDE, Gwalior on “Fundamentals and Applications of Biosensors” on 15th March, 2017.
2. Guest Lecture by Dr. J.K. Chhabra, Ex Consultant Professor IIT Allahabad, Ex Scientist F and Deputy Director, Photonics Group, Central Scientific Instruments Organization on "Fibre Optics", 27th-28th March, 2017.

**21. Programme wise Student Teacher Ratio (Table)**

| S.No. | Program                    | No. of Students | No. of Teachers | Student Teacher Ratio |
|-------|----------------------------|-----------------|-----------------|-----------------------|
| 1.    | B.Sc.(Non Medical)         | 42              | 8               | 37                    |
| 2.    | M.Sc.(Chemistry)           | 35              |                 |                       |
| 3.    | B.Tech.(Applied Chemistry) | 216             |                 |                       |

**22. Number of academic support staff (technical) and administrative staff: (in Table form)**

| S.No. | No. of Technical Staff | No. of Administrative Staff |
|-------|------------------------|-----------------------------|
| 1.    | 01                     | NA                          |

**23. Establishment of Research facility / centre (during the year of consideration)**

NIL

**24. Student profile programme-wise ( No. only):**

| Name of the Programme | Applications Received wherever known | Selected |        | Pass percentage |        |
|-----------------------|--------------------------------------|----------|--------|-----------------|--------|
|                       |                                      | Male     | Female | Male            | Female |
|                       |                                      |          |        |                 |        |



|                                    |    |    |    |          |          |
|------------------------------------|----|----|----|----------|----------|
|                                    |    |    |    |          |          |
| B.Sc.(Non Medical)<br>1st semester | 32 | 23 | 9  | 3 (13%)  | 3 (33%)  |
| B.Sc.(Non Medical)<br>2nd semester | 10 | 6  | 4  | 0 (0)    | 4 (100%) |
| B.Sc. (NM) 3rd Sem                 | 9  | 5  | 4  | 0 (0)    | 2 (50%)  |
| B.Sc. (NM) 4th Sem                 | 8  | 3  | 5  | 1 (33%)  | 3 (60%)  |
| B.Sc. (NM) 5th Sem                 | 8  | 3  | 5  | 1 (33%)  | 5 (100%) |
| B.Sc.(NM) 6th sem                  | 8  | 3  | 5  | 1 (33%)  | 5 (100%) |
| M.Sc.(Chem) 1st Sem                | 18 | 2  | 16 | 1 (50%)  | 8 (50%)  |
| M.Sc.(Chem) 2nd Sem                | 17 | 3  | 14 | 0 (0)    | 13 (92%) |
| M.Sc.(Org. Chem) 3rdSem            | 9  | 1  | 8  | 1 (100%) | 7 (87%)  |
| M.Sc.(Phys..Chem) 3rdSem           | 8  | 2  | 6  | 1 (50%)  | 5 (83%)  |
| M.Sc.(Org. Chem) 4th Sem           | 9  | 1  | 8  | 1 (100%) | 8 (100%) |

|                                  |   |   |   |          |             |
|----------------------------------|---|---|---|----------|-------------|
| M.Sc.(Phy<br>s..Chem)<br>4th Sem | 6 | 1 | 5 | 1 (100%) | 5<br>(100%) |
|----------------------------------|---|---|---|----------|-------------|

**25. Diversity of Students ( No. only):**

| <b>Name of the Programme</b> | <b>% of Students from the Same University</b> | <b>% of students from other Universities within the State</b> | <b>% of students From Universities outside the State</b> | <b>% of students from other countries</b> |
|------------------------------|---|---|--|---|
|                              |   |   |  |   |
|                              |   |   |  |   |
|                              |   |   |  |   |
|                              |   |   |  |   |

**26. Student progression ( No. Only)**

First batch of UG and PG will pass out after July 2017.

| <b>Student progression</b>    | <b>Percentage against enrolled</b> |
|-------------------------------|------------------------------------|
| <b>UG to PG</b>               |                                    |
| <b>PG to M.Phil.</b>          |                                    |
| <b>PG to Ph.D.</b>            |                                    |
| <b>Ph.D. to Post-Doctoral</b> |                                    |
| <b>Employed</b>               |                                    |

|                          |                                      |  |
|--------------------------|--------------------------------------|--|
| <input type="checkbox"/> | <b>Campus selection</b>              |  |
| <input type="checkbox"/> | <b>Other than campus recruitment</b> |  |
| <b>Entrepreneurs</b>     |                                      |  |

**27. Diversity of staff ( No. Only):**

|   |                |  |
|---|----------------|--|
| <del>Percentage of faculty who are graduates of the same university</del> | <del>NIL</del> |  |
| <del>From other universities within the State</del>                       | <del>01</del>  |  |
| <del>from universities from other States</del>                            | <del>07</del>  |  |
| <del>From universities outside the country</del>                          | <del>01</del>  |  |

**28. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt.**

NIL

**29. Present details of departmental infrastructural facilities regarding**

**a) Library ( no. of Books and Journals)**

No. of Books: 500

No. of Journals: 03

**b) Internet facilities for staff and students**

Wi-fi and computer facilities are available

**c) Total number of class rooms**

10

**d) Class rooms with ICT facility**

10

**e) Students' laboratories**

03

**f) Research laboratories**

Research facilities are available in Physical and Organic Labs

**30. List of doctoral, post-doctoral students and Research Associates**

a) from the host institution/university NIL

b) from other institutions/universities NIL

**31. Number of post graduate students getting financial assistance from the university.**

**32. FEEDBACK System (Brief note)**

Students are encouraged to talk to batch-in-charges and mentors to address the issues. The faculty provides feedback to student directly through faculty member dealing with them in the class, through the mentors, HoD and the Dean. IQAC of the SGT University started auditing lectures and providing direct feedback to the faculty member without involving the management.

**33. Student enrichment programmes [give details of (special lectures / workshops / seminar) involving external experts.]**

A number of scientific visits and industry visits were arranged. Some outlines here. Extension lectures were also arranged in that period.

**Other Trainings:**

| S.No | Course                         | Training   | Date            | Outcome   |
|------|--------------------------------|--|-----------------|---|
| 1.   | M.Sc. (Chemistry) and II Years | Educational Visit to Inter University Accelerator Centre (New Delhi) | 9th March, 2017 | Insight into Nuclear Physics and Physics of Materials |

|    |                        |  |                                     |   |
|----|------------------------|--|-------------------------------------|---|
| 2. | ALL UG and PG students | Guest lecture by Dr. Vepa Kameswara Rao, DRDE, Gwalior on "Fundamental and Applications of Biosensors" | 15th March, 2017                    | Biosensors nowadays are ubiquitous in biomedical diagnosis as well as wide range application in disease progression, Environmental monitoring, Food control, Drug discovery and Biomedical research |
| 3. | PG students            | Training @ Central Forensic Sciences Laboratory (Hyderabad)  | 20th March, 2017 - 30th March, 2017 | Two weeks intensive training program on " <b>Spectroscopic and Chromatographic Techniques</b> "   |
| 4. | PG students            | An Industrial visit of to Sphaera Pharma. Pvt. Ltd., IMT Manesar, Haryana                              | 19th April, 2017                    | Insight into Research and Development in Drug Discovery   |
| 5. | UG and PG students     | Educational visit to Asola Wild Life Sanctuary (New Delhi)   | 21st February, 2017                 | Students learnt about <b>conservation education</b> and <b>nature interpretation programs.</b>  |

### 34. Changes in Teaching Guidelines. (List the teaching methods adopted by the faculty for different programmes.)

In the reported period, faculty members had undergone training in new andragogic methods that they are supposed to be trying in new academic semesters starting in July 2017. They have been adopted now.

A demo lecture series was arranged where faculty members were asked to provide model lecture with emphasis on interactive delivery, adoption of new teaching methodologies and use of technologies in teaching.

1. problem based learning

2. Power Point Presentation
3. student's seminar
4. Conventional method (whiteboard)

### **35. Changes adopted in monitoring learning outcomes**

1. Formative assessment techniques have been adopted
2. Lot of emphasis on internal assessment and non-didactic teaching.

### **36. Extension activities**

The following new courses are initiated and their curriculum, ordinance, scheme of examinations and syllabi were formulated.

- M.Sc ( Nano Science & Nano Technology) – 2 Years (4 Semesters)
- B.Sc ( Forensic Sciences) - 3 Years (6 Semesters)
- PhD (Chemistry & Forensic Sciences)

### **37. “Beyond syllabus scholarly activities” of the department**

1. Conducting FDP within Faculty of Physical Sciences.
2. Submitted one research proposal in the reported period to DST for funding and are still submitting new proposals.
3. In-house computational research facility was explored and solution for theoretical, computational work has been proposed and is being implemented.

### **38. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths:

1. faculty with good academic background
2. commitment for delivery
3. teamwork
4. research mindset
5. availability of multi-disciplinary skills

Weaknesses:

1. lack of access to reputed scientific journals for research
2. lack of adequate number of copies of text and reference books in the library

3. lack of computational facilities and lack of adequate support from ICT
4. lack of opportunities among faculty members for attending academic/administrative trainings
5. no internal grant for supporting research

Opportunities:

1. Research output improvement
2. Teaching quality improvement
3. Streamlining of departmental activities and admin processes
4. Bringing in meritocracy
5. Excellence in execution

Challenges:

1. Funding of research labs
2. 6-day-work-week not conducive to research
3. Complying with resolution of 50% weightage on practicals/additional paper would imply additional laboratory resources
4. Increasing strength of students
5. Attracting bright students

**39. Best Practices of the department**

1. Audit of lectures by HoD and senior faculty members for ensuring quality.
2. Enforcement of IQAC advocated andragogic methods.
3. Encouragement for using technology for improving quality of teaching delivery.
4. Research-oriented mindset.

**40. Future plans for the department**

1. Encouraging UG and PG students to attend summer and winter schools
2. Encouraging students to participate in Technofest projects.
3. Submission of research proposals for funding.
4. Emphasis on quality of teaching delivery.

5.