

**DEPARTMENT OF CHEMISTRY
REPORT OF FIRST TERM 2019-20**

Name of Staff:

Senior College:

1. Dr. I.Mendes, Head of Dept.
2. Dr. P.Shetty
3. Ms. R.Ferns
4. Dr. S.Murthy
5. Ms. T.Asha
6. Ms. L.Jeysus
7. Sr. R.Khandagale

Junior College:

1. Ms. B. Gonsalves
2. Ms. S.Rathod
3. Ms. B.Shaikh

A] TEACHING AND LEARNING:

I] Teaching Aids used: In order to make the study of chemistry simple and interesting, a variety of teaching aids are used by the staff. These include:

- i. **Ball and stick molecular models, solid state models, chemistry molecular model kit:** Molecular models give a 3-D view of the molecule and thus help students to visualize the molecule and understand the molecular structure better. These were used for topics like stereochemistry, hybridization, solid state chemistry, molecular symmetry, co-ordination chemistry etc.-Dr.S.Murthy, Ms.R.Ferns, Ms. L.Jeysus.
- ii. **Practical demonstrations:**
 - a) The change in colour of compounds on adding solvents of different pH- Ms.L.Jeysus for the TYBSc students.
- iii. **Use of PowerPoint presentations by staff:**
 - a) PPT on 'Optical Activity' for F.Y.B.Sc. class- Ms. L.Jeysus
 - b) Videos shown on spectroscopy in the T.Y.B.Sc. class- Sr. R.Khandagale
 - c) Video shown on 'Fate of Excited molecules' to T.Y.B.Sc. class- Ms. L.Jeysus
 - d) PPT on HPTLC for the TYBSc class-Dr.P.Shetty
 - e) PPT on GM Counter and Scintillation Counter for the TYBSc class-Dr. I.A.Mendes.
- iv. **Creative activities used for teaching chemistry:**
 - a) The SYBSc students displayed interesting articles related to Chemistry on the Chemistry Board which would be changed every week.
 - b) 'A prayer for rain' based on the ill-effects of the Bhopal gas Tragedy movie was screened for the SYBSc students-Dr. P.Shetty

- c) Students were assigned topics for PPT presentations to help them understand the topic in depth- Dr. P.Shetty
- d) POGIL was used for teaching Molecular Symmetry for TYBSc students - Ms. R Ferns.

v. Other teaching strategies

Worksheets were provided to students on topics like:

- a) Numericals for T.Y.B.Sc. students – Sr. R.Khandagale.
- b) Errors and significant figures for SYBSc- Dr.P.Shetty
- c) IUPAC nomenclature for F.Y.B.Sc. students- Ms.L.Jeysus.
- d) IUPAC nomenclature for T.Y.B.Sc. students- Ms.L.Jeysus

II] Teaching learning in the laboratory:

- i. Separation of commercially available food colours using paper chromatography for TYBSc students by Ms. L.Jeysus.
- ii. Project on extraction of natural dyes and dyeing of fabric using natural dyes for TYBSc students by Ms. L.Jeysus and Ms. R.Ferns.
- iii. Estimation of Magnesium in talcum powder for TYBSc students -Ms.T Asha.
- iv. Heat of dissolution of calcium chloride for FYBSc students-Ms. T Asha.
- v. Estimation of Ibuprofen content in commercial sample of tablets-Ms.L.Jeysus.
- vi. Estimation of acid neutralizing capacity of herbal antacids- for TYBSc students by Ms. R.Ferns.
- vii. Effect of heat on the vitamin C content of leafy vegetables- for TYBSc students by Ms. R.Ferns.
- viii. Preparation of complex Copper acetylacetonate- for TYBSc students by Ms. R.Ferns.
- ix. Analysis of fluoride content in toothpaste spectrophotometrically for TYBSc students by- Dr. P.Shetty.
- x. Preparation of iron nanoparticles from used blades for TYBSc students by- Dr. P.Shetty.
- xi. Estimation of calcium carbonate in different types of toothpastes using complexometric titration with EDTA and spectrophotometrically- Dr. I.A.Mendes.
- xii. Estimation of phosphate spectrophotometrically in different types of cola- Dr. I.A.Mendes.

III] Teaching chemistry- Beyond the classroom: In working towards the College mission of providing holistic growth to students, the chemistry department organises a variety of activities for the students. These activities aim at exposing students to frontier areas of chemistry beyond the syllabus.

i) Invited lectures:

- a) Talk on ‘Opportunities after B.Sc and M.Sc in Chemistry’ by Mr. Kailash on 5th July 2019. D1

- b) Talk on 'Role of catalysts in Green Chemistry Revolution' in collaboration with IWSA by Dr. Radha Jayaraman on 20th July 2019. D2
- c) A talk on 'Health Impact of Social Media' by Dr. Mukesh Gupta on 26th July 2019 D3

ii) Literature surveys/ research work under EXSP program-

a) Literature surveys: nil

b) Research projects:

- Guiding M.Sc students in preparation of silver nanoparticles using different fruit extracts as well as super absorbent molecules and validity of their biological activity-Dr. I.A. Mendes.
- Guided two M.Sc students in analysis of amylose from different brands of rice and analysis of polyphenols in different brands of shampoo -Dr.P.Shetty
- Guiding an EXSP student for research project "Exploring antioxidant potential of drought resistant plants in Rajasthan." - Dr.P.Shetty

iii) Chemistry Club: Sr. R.Khandagale and Ms. L.Jeysus are the co-coordinators of the club for 2019-20. Activities organized in the College:

a) The SYBSc students displayed interesting articles related to Chemistry on the Chemistry Board which would be changed every week.

b) The MSc Part II students conducted a Chem Quiz 'CHEMQUEEN' for the undergraduate students on 26th July 2019. D6

d) The MSc Part I students conducted a Chem Quiz 'Come, Play Periodically' based on the Periodic Table to commemorate the international year of the Periodic table, for the FYBSc students on 28th August 2019. D4

iv) Field trips: Visit to NCL (National Chemical Laboratory) Pune on 22nd August 2019. D5

IV] Other activities organized by the Department:

i) Creating awareness:

a) Screening of the movie 'Trust' for the FYBSc students to make them aware of the ill-effects of social media-Sr R.Khandagale.

b) Screening of the movie 'Water' for the SYBSc students- Dr. S. Murthy.

ii) Student development activities:

- Students were encouraged to enroll for the short-term IYPT online course and a total number 117 students registered for the same.
- Bonding session for TYBSc and FYBSc students (CLS Batch) by Dr. Jennie Mendes.

iii) Student follow up through contact group: Every student studying chemistry is assigned a contact teacher who follows up their academic progress/ problems through the year. At FY and SY level the practical teacher is the contact teacher whereas T.Y.B.Sc.

students are divided into groups and assigned one staff member each as the contact teacher.

iv) Staff–student fun activities:

- Eid party for TYBSc students organized by Ms. T.Asha on 14th August 2019 attended by all the staff members.
- Chem Housie for SYBSc students -Ms R Ferns

v) Others:

Encouraged SY, TY and M.Sc students to participate in the 36th Aptitude Test in Chemistry held by ACT at Ruia College on 15th September 2018.D8

B| STAFF ACTIVITIES:

I| Workshops, seminars, conferences, talks attended/organised in the college:

- i. EXSP Literature Survey presentations organized by Dr. S. Murthy on 28th June 2019-attended by Sr R.Khandagale. Ms. L.Jeysus.
- ii. Talk on ‘Opportunities after B.Sc and M.Sc in Chemistry’ by Mr. Kailash on 5th July 2019 organised by Dr. I A.Mendes attended by Dr.I.Mendes, Dr.S.Murthy, Ms.T.Asha, Ms. L.Jeysus.
- iii. Goals Sharing meeting towards the theme of the College ‘Fostering Secularism and Social Responsibility’ presented by Dr. S. Murthy on 19th July 2019 attended by Dr.I.Mendes, Dr.P.Shetty, Ms.R.Ferns Dr.S.Murthy, Ms.T.Asha, Ms. L.Jeysus, Sr. R.Khandagale.
- iv. Talk on ‘Role of catalysts in Green Revolution’ in collaboration with IWSA by Dr. Radha Jayaraman organized by Dr.S.Murthy and Dr.I.Mendes on 20th July 2019 attended by Dr.I.Mendes, Dr.P.Shetty, Ms.R.Ferns Dr.S.Murthy, Ms.T.Asha , Sr. R.Khandagale
- v. A talk on ‘Health Impact of Social Media’ by Dr. Mukesh Gupta organized by Dr. P.Shetty on 26th July 2019 attended by Dr.I.Mendes, Dr.P.Shetty, Ms.R.Ferns, Dr.S.Murthy, Ms.T.Asha, Ms. L.Jeysus, Sr. R.Khandagale.
- vi. Chemistry Quiz ‘Chemqueen’ was conducted for the undergraduate students organized by Ms. L.Jeysus and Sr. R Khandagale on 26th July 2019 attended by Dr.I.Mendes, Dr.P.Shetty, Ms.T.Asha, Ms. L.Jeysus, Sr. R.Khandagale.
- vii. Talk on ‘Periodic Table of the Universe and other stories’ by Dr. Arnab Bhattacharya organized by Ms. T Asha as a SIGMA club event on 30th July attended by Ms T Asha and Ms. R.Ferns.
- viii. Prize Distribution function on 3rd August 2019 attended by Dr. I.Mendes, Dr.P.Shetty, Ms.R.Ferns, Dr.S.Murthy, Ms.T.Asha, Ms. L.Jeysus and Sr.R.Khandagale.
- ix. SCESA coffee and cake to felicitate Dr. Sushma Deo on 9th August attended by Dr. P.Shetty.
- x. Co-ordinated and organized a visit to NCL (National Chemical Laboratory) on 22nd August 2019 -Sr. R Khandagale and Ms. L.Jeysus.
- xi. Talk on ‘Surrogacy in Indian Context Today’ on 23rd August 2019 attended by Dr. P.Shetty, Dr. S. Murthy and Ms. L.Jeysus.

- xii. Organised, conducted and attended second BOS meeting of Chemistry Department on 13th September 2019.
- xiii. Second Academic Council BOS meeting of Sophia College on 20th September 2019 attended by Dr. I.A.Mendes.
- xiv. Was part the peace march in honour of Mahatma Gandhi on 1st October 2019- Sr R.Khandagale.

II] Workshops seminars, conferences, talks,etc. attended outside the college:

III] Contribution to Department and College administration/activities:

i) Dr I Mendes:

- a) Controller of Examination, Sophia College (Autonomous)
- b) Head of Department.
- c) Member of BOS-Chemistry Sophia College (Autonomous)

ii) Dr P Shetty

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) Science stores In-charge
- c) M.Sc Part II class In-charge

iii) Ms. R Ferns

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) S.Y.B.Sc. class In-charge.
- c) NSS Program Officer.
- d) Member, Western Music Club
- e) Incharge for Sophia Student exchange Programme-2019

iv) Dr S Murthy:

- a) Co-ordinator- Chemistry Dept (Star College scheme)
- b) Member of BOS-Chemistry Sophia College (Autonomous)
- c) Co-ordinator, EXSP program
- d) Co-ordinator, Time Table Committee
- e) Member, Admission Committee
- f) M.Sc Part-I In-charge

v) Ms. T Asha:

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) Member, Sigma Club
- c) Member, Prize Committee
- d) Member, Exam Committee
- e) Member, Magazine Committee
- f) T.Y.B.Sc. Class In-charge
- g) IQAC sub- committee for workshops
- h) Member, Nature Club

vi) Ms L.Jesus

- a) Co-opted Member of BOS-Chemistry Sophia College (Autonomous)
- b) Co-ordinator –MSc Analytical Chemistry
- c) Chemistry Club In-charge

vii) Sr. R.Khandagale

- a) Co-opted Member of BOS-Chemistry Sophia College (Autonomous)
- b) Hostel Dean
- c) Chemistry Club In-charge.
- d) FYBSc class In-charge.
- e) Discipline-Kaleidoscope
- f) IYPT Co-ordinator

IV] Contribution to Quality Assurance Diploma program:

V] Contribution to NSS activities: nil

VI] Professional development:

- Refresher Course in Chemistry at Kalina Campus from 31st October to 13th November 2019-Ms. T Asha and Ms R Ferns.
- Completed a short term Certificate course by the United nations on IYPT- Dr. P.Shetty, Ms.R.Ferns, Ms.T.Asha, Ms. L.Jeysus, Sr. R.Khandagale.

VII] Staff research: Awarded RUSA grant for the project ‘Analysis of nutrient levels in microgreens and adult plant-A comparative study- Ms R Ferns.

VIII] Research publications: nil

IX] University work

i) Dr I Mendes:

- a) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous) on 19th October 2019.
- b) Paper Setting, preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem I, III and V and M.Sc Sem I of Sophia College (Autonomous)
- c) Senior Supervisor for ATKT and SEE examination.

ii) Dr P Shetty:

- a) Examiner for TYBSc sem V (Analytical Chemistry) practical Examination held at Sophia College (Autonomous) on 4th and 5th October 2018.
- b) Examiner for MSc Sem III Practical Examination held at Sophia College (Autonomous) on 10th October 2019.
- c) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 27th and 28th September 2019.
- d) Paper Setting, preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem III and Sem V of Sophia College (Autonomous).
- e) Junior Supervisor for ATKT and SEE examination.

iii) Ms R Ferns:

- a) Expert and Examiner for Sem V A.C. Practical exam held at Sophia College (Autonomous) on 18th September 2019.
- b) Expert for TYBSc Sem V (Inorganic Chemistry) Practical examination held at Sophia College (Autonomous) on 4th and 5th October 2019.
- c) Expert for MSc Sem III Practical Examination held at Sophia College (Autonomous) on 10th and 11th October 2019.
- d) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 30th September and 1st October 2019.
- e) Paper Setting, Preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem III and sem V of Sophia College (Autonomous).
- f) Junior Supervisor for ATKT and SEE examination.

iv) Dr S Murthy:

- a) Expert for TYBSc Sem V (Organic Chemistry) Practical examination held at Sophia College (Autonomous) on 4th and 5th October 2019.
- b) Expert for MSc Sem III Practical Examination at held Sophia College (Autonomous) on 10th and 11th October 2019.
- c) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 27th and 28th September 2019.
- d) Paper Setting, Preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem III and Sem V and M.Sc Sem I of Sophia College (Autonomous).
- e) Junior Supervisor for ATKT and SEE examination.

v) Ms T Asha:

- a) Expert for TYBSc Sem V (Physical Chemistry) Practical examination held at Sophia College (Autonomous) on 4th and 5th October 2019.
- b) Expert for MSc Sem III Practical Examination held at Sophia College (Autonomous) on 10th and 11th October 2019.
- c) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous) on 17th and 18th October 2019.
- d) Paper Setting, preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem I and V of Sophia College (Autonomous)
- e) Junior Supervisor for ATKT and SEE examination.

vi) Ms. L.Jeysus

- a) Expert and Examiner for Sem V A.C. Practical exam held at Sophia College (Autonomous) on 21st September 2019.
- b) Laboratory Supervisor and Expert for TYBSc Sem V (Analytical Chemistry) Practical examination held at Sophia College (Autonomous) on 4th and 5th October 2019.

- c) Laboratory Supervisor for MSc Sem III Practical Examination held at Sophia College (Autonomous) on 10th and 11th October 2019.
- d) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 30th September and 1st October 2019.
- e) Paper Setting, Preparing model Answer key, invigilation, assessment of SEE and IA papers of Sem I and sem V of Sophia College (Autonomous).
- f) Junior Supervisor for ATKIT and SEE examination.

vii) Sr. R.Khandagale:

- a) Examiner for Sem V Inorganic Chemistry Practical exam held at Sophia College (Autonomous) on 4th and 5th October 2019.
- b) Expert for MSc sem III practical examination on 10th and 11th October 2019.
- c) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous) on 17th and 18th October 2019.
- d) Paper Setting, Preparing model Answer key, assessment of SEE and IA papers of Sem I, III and sem V of Sophia College (Autonomous).
- e) Junior Supervisor for ATKIT and SEE examination

IX] Consultancy/Subject related work outside the college

i) Dr I.A. Mendes

- a) Conducted an External Audit of Jhunjhunwala College, Ghatkopar on 19th July 2019.
- b) Member of LIC for PhD recognition for faculties of Science and Commerce of SP Dyansadhana College, Thane on 30th July 2019
- c) Appointed as Governing Body/ Vice Chancellors Nominee, Subject expert of screening and evaluation committee for CAS held at:
 - Kirti College on 4th October 2019
 - Wilson College on 18th October 2019
 - Bhavans Somani College on 20th November 2019
- d) External examiner for M.Sc Sem I practical exam (Physical Chemistry) held at Jai Hind College on 17th October 2019.
- e) Conducted M.Sc Sem I Paper I lectures at Ruia College.
- f) Moderator for Sem I FYBSc at Jai Hind College (Autonomous) on 21st November 2019.**

ii) Ms T Asha

- a) External examiner for TYBSc practical exam (Physical Chemistry) held at Khalsa College on 25th and 26th September 2019.
- b) External examiner for TYBSc practical exam (Inorganic Chemistry) held at Jai Hind College on 30th September and 1st October 2019.
- c) Double Blind correction for Sem V TYBSc Paper II for Jai Hind College.

iii) Ms R Ferns:

- a) Moderator for Sem II FYBSc Paper I and II at Royal College in May 2019.
- b) Reevaluation for Sem II FYBSc Paper I and II at Royal College in September 2019.

iv) Dr. S. Murthy:

- a) External examiner for M.Sc Sem I practical exam (Organic Chemistry) held at Jai Hind College on 18th October 2019.

XI Others:

- Dusshera Puja for better working of instruments in the laboratory organised by Dr.I.A.Mendes for teaching and non-teaching staff attended by Dr.I.Mendes, Dr.P.Shetty, Ms.R.Ferns, Dr.S.Murthy, Ms.T.Asha, Ms. L.Jeysus, Sr. R.Khandagale on 7th October 2019 .
- Worked as PRO for the Legislative Assembly election on 21st October 2019- Dr.I.Mendes, Ms.R.Ferns, Dr.S.Murthy, Ms.T.Asha.
- Conducted Interviews for the M.Sc Part I Admissions-Dr. I.A.Mendes, Dr.P.Shetty, and Ms. L.Jeysus.
- Hosted students from Nagaland University, visiting Sophia College Campus as part of the Science exchange programme in the Chemistry Laboartory on 9th September 2019.



Dr. I.A. Mendes
Associate Professor
Head, Department of Chemistry
Sophia College (Autonomous)
30/11/2019

**DEPARTMENT OF CHEMISTRY
REPORT OF SECOND TERM 2019-20**

Name of Staff:

Senior College:

1. Dr. I.A.Mendes, Head of Dept.
2. Dr. P.Shetty
3. Ms. R.Ferns
4. Dr. S.Murthy
5. Ms. T.Asha
6. Ms. L.Jeysus
7. Sr. R.Khandagale

Junior College:

1. Ms. B. Gonsalves
2. Ms. S.Rathod
3. Ms. B.Shaikh

A] TEACHING AND LEARNING:

I] Teaching Aids used: In order to make the study of chemistry simple and interesting, a variety of teaching aids are used by the staff. These include:

i. **Ball and stick molecular models, solid state models, chemistry molecular model kit:** Molecular models give a 3-D view of the molecule and thus help students to visualize the molecule and understand the molecular structure better. These were used for topics like stereochemistry, crystal field theory, polymers, etc.-Dr.S.Murthy, Ms.R.Ferns, Ms. L.Jeysus.

ii. **Practical demonstrations: Nil**

iii. **Use of PowerPoint presentations by staff:**

- a) PPT on 'stability of cyclohexanes' for F.Y.B.Sc. class- Ms. L.Jeysus
- b) PPT on bio-medical uses of polymers for the TYBSc class- Ms. L.Jeysus.
- c) PPT on Remediation processes used in dye industry for the TYBSc class- Ms. L.Jeysus.
- d) Videos and PPT presentations were used to teach various topics in FY,SY and TYBSc classes-Sr. R.Khandagale

iv. **Creative activities used for teaching chemistry:**

- a) Peer teaching for the SYBSc class for all topics of organic chemistry by Dr. S. Murthy
- b) Played a game 'Heads Up' with the SYBSc practical batch based on the periodic table by Ms. L.Jeysus.
- c) Chem-Sudoku was organized for SYBSc practical batch to familiarise the students with the elements of the first transition series by Ms. R Ferns.

v. **Other teaching strategies**

Worksheets were provided to students on topics like:

- a) Crossword on metallurgy was administered in the S.Y.B.Sc class by Dr. P.Shetty
- b) Crossword on thermal methods , worksheet on thermal methods, university problems on polarography was given to the T.Y.B.Sc students by Dr. P.Shetty
- c) Worksheet on carbohydrates for T.Y.B.Sc. students by Ms.L.Jeysus
- d) Worksheet on chemistry of aliphatic hydrocarbons by Ms.L.Jeysus

II] Teaching learning in the laboratory:

- i. Estimation of aspirin content colorimetrically of commercially available tablets for SYBSc students by Dr. P.Shetty, Ms.R.Ferns, Dr. S Murthy and Ms. L.Jeysus.
- ii. Setting up electrochemical cells for SYBSc students by Ms.R.Ferns, Dr. S Murthy and Ms. L.Jeysus.
- iii. Estimation of aspirin content colorimetrically of commercially available tablets for TYBSc students by Ms. L.Jeysus.
- iv. Estimation of paracetamol content by redox titration of commercially available tablets for TYBSc students by Ms. L.Jeysus.
- v. Estimation of metroindazole content by non-aq titration of commercially available tablets for TYBSc students by Ms. L.Jeysus.
- vi. Dyeing of fabric using acid dyes, mordant dyes, direct dyes, azoic dyes for TYBSc students by Ms. L.Jeysus.
- vii. Analysis of glucose in jam by spectrophotometry and iron in the given sample by colorimetry using green reagent for T.Y.B.Sc students (tea extract) by Dr.P.Shetty.
- viii. TYBSc students wrote the monograph of certain drugs and demonstrated tests for their identification by Ms R.Ferns.
- ix. Estimation of glucose in Honey for TYBSc (3 units) by Ms T.Asha
- x. Detection of nitrogen in fruit and vegetable samples to determine presence of pesticides FYBSc practical by Ms. T.Asha, Sr.R.Khandagale.

III] Teaching chemistry- Beyond the classroom: In working towards the college mission of providing holistic growth to students, the chemistry department organises a variety of activities for the students. These activities aim at exposing students to frontier areas of chemistry beyond the syllabus.

i) Invited lectures:

- a) A talk ‘Today's readers are tomorrow’s leaders’ by Dr. Anand Shethi on 20th December 2019.

ii) Literature surveys/ research work under EXSP program-

a) Literature surveys: nil

b) Research projects:

Guided T.Y.B.Sc students for a research project entitled “Comparative antioxidant potential of two draught resistant medicinal plants of Rajasthan- *Prosopis cineraria* and *Capparis decidua*”.-Dr P.Shetty
 ‘Synthesis of tribromoaniline –a green novel approach’ Dr. Sirisha Murthy

iii) Chemistry Club: Sr. R.Khandagale and Ms. L.Jeysus are the co-coordinators of the club for 2019-20. Activities organized in the College:

- a) Organised and conducted a one day inter-collegiate event Chemscope 2020, comprising of six events: Atomic Roulette, Chemtoon, Photo-on, Naph-tol, Chem-O-Quest, Rasayan Shodh.
 - b) Encouraged students to participate in various events organized by other colleges:
- i) St. Xaviers College

- ii) Maharashtra College
- iii) R.D. National College

The students also won many prizes.

iv) Field trips:

- a) Visit to Reliance polymers PARC Baroda for TYBSc and M.Sc. students on 23rd January 2020.
- b) Industrial visit to Silvassa for FY and SYBSc students on 19th and 20th February 2020 organized by Ms TANaz Asha

IV] Other activities organized by the Department:

i) Creating awareness:

- a) Screening of the movie 'Trust' for the FYBSc students to make them aware of the ill-effects of social media discussed with FYBSc class. -Sr R.Khandagale.

ii) Student development activities:

- Encouraged students to volunteer and organize Chemscope 2020 Ms. L.Jeysus and Sr. R.Khandagale.
- Encouraged students to participate in ACT-Concept test held on 31st January 2020-Dr. I.A.Mendes.
- The S.Y.B.Sc practical batch students were trained to demonstrate separation methods to the students of F.Y.J.C class on 17th December 2019. The experiments demonstrated were TLC, Paper chromatography, filtration using filter paper, Vacuum filtration, simple distillation, column chromatography and HPTLC-Dr.P.Shetty
- The S.Y and T.Y.B.Sc students were trained to demonstrate chromatography and traffic signal experiments to Nursery children during Sophia Nursery Annual Exhibition on 13th February 2019- Dr.P.Shetty
- PPT presentations on various topics were assigned to the CLS practical batch students to develop presentation skills-Dr. I.A.Mendes

iii) Student follow-up through contact group: Every student studying chemistry is assigned a contact teacher who follows up their academic progress/ problems through the year. At FY and SY level the practical teacher is the contact teacher whereas T.Y.B.Sc. students are divided into groups and assigned one staff member each as the contact teacher.

iv) Staff –student fun activities:

- Christmas party for TYBSc students on 23rd December 2019 attended by all the staff members.
- Organised singing of Chemistry Carols along with the SYBSc students on Christmas wishing-Dr.I.A.Mendes.
- Farewell Party for the TYBSc students on 27th February 2020 organized by Sr. R Khandagale and Ms. L.Jeysus

v) Others:

- T.Y.B.Sc students presented a poster at Avishkar-zonal level research competition held on 14th December 2020
 - “Comparative antioxidant potential of two draught resistant medicinal plants of Rajasthan- *Prosopis cineraria* and *Capparis decidua* (Mentor Dr.P.Shetty)
 - Presenting a poster at Avishkar 2019 on ‘*Synthesis of tribromoaniline –a green novel approach*’ (Mentor Dr. Sirisha Murthy)
- Poster presentation on ‘Spices and medicinal plants: A study of antioxidant potential and total phenolic content’ at a National Conference on ‘Recent Advances in Chemical and Allied Sciences’ at Birla college on 18th January 2020. The poster was awarded the first prize guided by Ms.R.Ferns.
- M.Sc and T.Y.B.Sc students presented a poster in an intra-collegiate research meet “Quest” held on 28/2/20. The title of the posters were as follows:
 - ‘*Synthesis of silver nanoparticles using fruit extracts*’ (Mentor: Dr. Ignat Mendes)
 - ‘*Estimation of polyphenolic content in Herbal shampoos*’ (Mentor: Dr. Prabha Shetty)
 - ‘*Analysis of different brands of rice for amylose content and anti-microbial activity*’ (Mentor Dr.Prabha Shetty)
 - ‘*Spices and medicinal plants: A study of antioxidant potential and total phenolic content*’ (Mentor: Ms. Rochelle Ferns)
 - ‘*Quantification of curcumin from turmeric samples*’ (Mentor: Dr. Sirisha Murthy)
 - ‘*Comparative study of metformin drug API with other brands of metformin tablets*’ (Mentor: Dr. Sirisha Murthy)
 - ‘*Estimation of formaldehyde and SLS content in Shampoos spectrophotometrically*’ (Mentor: Ms. Tanaz Asha)
 - ‘*Estimation of sodium benzoate in commercial fruit juices by uv-vis spectrophotometry and titrimetric analysis*’ (Mentor: Ms. Tanaz Asha)
 - ‘*Comparative antioxidant potential of two drought resistant plants of Rajasthan: P.Ginerania & C.Decidua*’ (Mentor: Dr. Prabha Shetty)
 - ‘*Synthesis of tribromoaniline –a green novel approach*’ (Mentor Dr. Sirisha Murthy)

Publications

- M.Sc students were guided for research projects as a part of paper 4 practical component. The papers were published in the first issue of SCRIBE- an in house research journal of Sophia College. The journal was released on the Science day 28th February 2020. The titles of the published papers are as follows:
 - Estimation of the total polyphenolic content in different brands of herbal shampoos guided by Dr.P.Shetty.
 - Estimation of amylose in different varieties of rice samples guided by Dr.P.Shetty.
 - Green synthesis of silver nanoparticles using different fruit juices-A review guided by Dr.I.A.Mendes.

B| STAFF ACTIVITIES:

II Workshops, seminars, conferences, talks attended/organised in the college:

- i. Attended “Music and mind-mental health and conversation” on 19th November 2019-Dr.P.Shetty
- ii. Attended Annual Sports Day on 6th December 2019- Dr. I.A.Mendes, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale.
- iii. Attended College Day function on 12th December 2019- Dr. I.A.Mendes, Dr. P.Shetty Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale.
- iv. Attended felicitation of students of the batch 2018-19 and the students that were successful in completing IYPT online course- Dr. I.A.Mendes, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale, organized by Dr. I.A.Mendes, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale.
- v. Attended a motivational talk ‘Today’s readers are tomorrows leaders’ by Dr Anand Shethi- Dr. I.A.Mendes, Dr. PShetty, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale, organized by Dr. I.A.Mendes, Ms. L.Jeysus and Sr. R Khandagale.
- vi. Attended a Christmas Party with the TYBSc students-Dr. I.A.Mendes, Dr. PShetty, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale.
- vii. Attended the Degree Conferring Ceremony of Batch 2018-19 Dr. I.A.Mendes, Dr. P. Shetty, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale.
- viii. Organising committee for Chemscope 2020-Dr. I.A.Mendes, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale.
- ix. Organised, conducted and attended BOS meeting of Chemistry Department on 15th February 2020-Dr. I.A.Mendes, Dr. P.Shetty, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy, Ms. L.Jeysus and Sr. R Khandagale.
- x. Attended a talk on the Making of Bombay on 15th February 2020-Ms.T.Asha and Ms.L.Jeysus.
- xi. Attended the EXAP and EXSP Prize Distribution ceremony- Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale; organizing committee Dr. S. Murthy
- xii. Attended the Academic Audit on 25th February 2020- Dr. I.A.Mendes, Dr.P.Shetty, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale presented by Dr.I.A.Mendes.
- xiii. Attended a workshop on POSH and POCSO on 28th February 2020- Ms. L.Jeysus and Sr. R Khandagale.
- xiv. Organised and attended a two day workshop on Percolating Newer Teaching Trends to the classroom Dr. I.A.Mendes, Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale.
- xv. Attended a talk on ‘Cybercrime awareness by Sachin Dehdiya on 19th November 2019-Ms.T Asha, Ms.R.Ferns.
- xvi. Attended a workshop on ‘Frontiers in Science’ organized by Sophia College and Jadhavpur University on 14/12/19-Ms. R.Ferns, Dr.S.Murthy.
- xvii. Attended EXSP research component presentations on 3rd February 2020 Ms.R.Ferns organised by Dr. S. Murthy
- xviii. Presented the activities of star college (2017 to 19) for the department to the advisory committee- Dr. S. Murthy attended by Ms.T Asha, Ms. R.Ferns, Dr. S.Murthy Ms. L.Jeysus and Sr. R Khandagale.

II] Workshops seminars, conferences, talks,etc. attended outside the college:

- i) Paper presentation on 'Teaching Molecular Symmetry: From being a sage on the stage to a guide by the side' at the International conference 'DISHA: Evolving trends in higher education' at St Xaviers College on 12th and 13th March-Ms. R.Ferns.
- ii) Paper presented (in absentia) 'Girl Power-Little wonders creating huge impact: Swachh, Swasth and Sashakt Bharat' –at the National conference on 'NSS-Its role in social awakening and National development' at The SIA College of Higher Education, Dombivali on 8th Feb 2020- Ms. R.Ferns.

III] Contribution to Department and College administration/activities:

i) Dr I.A. Mendes:

- a) Controller of Examination, Sophia College (Autonomous)
- b) Head of Department.
- c) Member of BOS-Chemistry Sophia College (Autonomous)

ii) Dr P Shetty

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) Science stores In-charge
- c) M.Sc Part II class In-charge
- d) Member of Academic Audit committee
- e) Member of RUSA Research Project committee
- f) Collating Committee- Degree Conferring Ceremony.

iii) Ms. R Ferns

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) S.Y.B.Sc. class In-charge.
- c) NSS Program Officer.
- d) Member, Western Music Club
- e) Incharge for Sophia Student exchange Programme-2019-20 from 9th to 16th Feb 2020.
- f) Registration Committee- Degree Conferring Ceremony.

iv) Dr S Murthy:

- a) Co-ordinator- Chemistry Dept (Star College scheme)
- b) Member of BOS-Chemistry Sophia College (Autonomous)
- c) Co-ordinator, EXSP program
- d) Co-ordinator, Time Table Committee
- e) Member, Admission Committee
- f) M.Sc Part-I In-charge
- g) Registration Committee- Degree Conferring Ceremony.

v) Ms. T Asha:

- a) Member of BOS-Chemistry Sophia College (Autonomous)
- b) Member, Sigma Club
- c) Member, Prize Committee
- d) Member, Exam Committee

- e) Member, Magazine Committee
- f) T.Y.B.Sc. Class In-charge
- g) IQAC sub- committee for workshops
- h) Member, Nature Club
- i) Degree conferring ceremony-Hospitality(Refreshment) committee.

vi) Ms L.Jeysus

- a) Co-opted Member of BOS-Chemistry Sophia College (Autonomous)
- b) Co-ordinator –MSc Analytical Chemistry
- c) Chemistry Club In-charge
- d) Editorial Committee- SCRIBE magazine
- e) Registration Committee- Degree Conferring Ceremony.

vii) Sr. R.Khandagale

- a) Co-opted Member of BOS-Chemistry Sophia College (Autonomous)
- b) Hostel Dean
- c) Chemistry Club In-charge.
- d) FYBSc class In-charge.
- e) Stage and arrangement committee for Degree conferring ceremony

IV] Contribution to Quality Assurance Diploma program:

V] Contribution to NSS activities: nil

VII] Professional development:

- A two day RUSA sponsored workshop on ‘Percolating Newer Teaching Trends to the classroom: An exposure to contemporary teaching pedagogies and effective paper setting strategies ’ organized by Department of chemistry Sophia College in collaboration with Jai Hind College and St Xaviers College on 6th and 7th March 2020
 - Convener:
Dr. I.Mendes,
 - Organising Committee:
Ms.R.Ferns
Dr.S.Murthy
Ms.T.Asha
Ms. L.Jeysus
Sr.R.Khandagale

VIII] Staff research:

- Awarded a Major research project grant under RUSA for a project on “Isolation of angiogenesis modulating phyto-constituents using zebra fish model”-Dr. P.Shetty
- RUSA project entitled ‘ Analysis of nutrient levels in microgreens and adult plants: A comparative study and Analysis of some plants used in Sowa Rigpa ’ Ms R Ferns.

VIII] Research publications:

- Comparative antioxidant potential of two drought resistant medicinal plants of Rajasthan- *Prosopis cineraria* and *Capparis decidua* has been sent for publication in an International journal VEGETOS and is under review.
- Paper publication: 'Teaching Molecular Symmetry: From being a sage on the stage to a guide by the side' Xplore, vol.11, issue 1, March 2020, ISSN 2249-1878

IX] University work

i) Dr I.A. Mendes:

- a) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous)
- b) Paper Setting of SEE and IA papers of Sem II, IV and VI of Sophia College (Autonomous)
- c) Paper Setting, preparing model Answer key, assessment of M.Sc Sem I of Sophia College (Autonomous)
- d) Senior Supervisor for ATKT examination.
- e) Laboratory Supervisor TYBSc Sem VI Practical examination at Sophia College (Autonomous) on 3rd and 4th March 2020.

ii) Dr P Shetty:

- a) Paper Setting of SEE and IA papers of Sem IV and Sem VI of Sophia College (Autonomous).
- b) Junior Supervisor for ATKT examination.

iii) Ms R Ferns:

- a) Expert and Examiner for Sem VI A.C. Practical exam at Sophia College (Autonomous) on 26th February 2020.
- b) Expert for TYBSc Sem VI (Inorganic Chemistry) Practical examination at Sophia College (Autonomous) on 3rd and 4th March 2020.
- c) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 11th and 12th March 2020.
- d) Paper Setting of SEE and IA papers of Sem IV and Sem VI of Sophia College (Autonomous).

i) Dr S Murthy:

- a) Expert for TYBSc Sem VI (Organic Chemistry) Practical examination at Sophia College (Autonomous) on 3rd and 4th March 2020
- b) Examiner for SYBSc Practical Examination held at Sophia College (Autonomous) on 13th and 14th March 2020.
- c) Paper Setting of SEE and IA papers of Sem IV and Sem VI of Sophia College (Autonomous).
- d) Paper Setting, Preparing model Answer key, invigilation, assessment of SEE M.Sc Sem I of Sophia College (Autonomous).

v) Ms T Asha:

- a) Examiner for TYBSc Sem VI (Physical Chemistry) Practical examination at Sophia College (Autonomous) on 3rd and 4th March 2020.
- b) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous).
- c) Paper Setting of SEE and IA papers of Sem II and VI of Sophia College (Autonomous)

vi) Ms. L.Jeysus

- a) Supervision for ATKT examination.
- b) Paper Setting of SEE and IA papers of Sem II and VI of Sophia College (Autonomous).
- c) Expert and examiner for SYBSc Practical Examination on 11th 12th 13th and 14th March 2020
- d) Examiner for TYBSc Practical examination on 3rd and 4th March 2020.
- e) Expert, examiner for TYBSc Applied Component Examination on 29th February 2020.

vii) Sr. R.Khandagale:

- a) Expert for Sem VI Physical Chemistry practical exam at Sophia College (Autonomous) on 3rd and 4th March 2020
- b) Expert for MSc sem II practical examination on 10th and 11th October 2019.
- c) Examiner for FYBSc Practical Examination held at Sophia College (Autonomous).
- d) Paper Setting of Sem I, III and sem V of Sophia College (Autonomous).
- e) Junior Supervisor for ATKT examination

IX] Consultancy/Subject related work outside the college

i) Dr I.A. Mendes

- Appointed as governing body/ Vice chancellors nominee-subject expert of screening and evaluation Committee for admission of the PhD degree program in the subject of Chemistry/CAS held at
 - Wilson College-25th January 2020
 - Maharsi Dayanand College- 17th February 2020
 - Kirti College-28th February 2020
- Moderator for Semester I theory exam at Jai Hind College on 21 November 2019

ii) Ms. T.Asha

Moderation for Semester I theory exam

- St Xaviers College 21st November 2019.
- Khalsa College 4th December 2019.

X] Others:

- Delivered a talk on 'Careers after standard 10th and 12th' to the students of Holy Cross High School, Lower Parel as ex-aluminous member on 30th January 2020-Dr. I.A.Mendes.
 - Judged Microvaganza-an intercollegiate Poster and Rangoli competition organized by the Department of Microbiology on 10th January 2020-Dr.P.Shetty.
 - Conducted meeting with Mr.Ravishankar, Head of the Publicity Division DAE and Ms. Rochelle Ferns, Head NSS Sophia College for initiating environmental and social outreach activities in the adopted village Haloli by Sophia College on 22nd January 2020-Dr.I.A.Mendes.
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Dr. I.A. Mendes
Associate Professor
Head, Department of Chemistry
Sophia College (Autonomous)
30/04/2020