Department of Biotechnology

Star College Scheme

(Proforma of Progress report for upgradation to Star College status/ continuation of support at existing level/ discontinuation of support to colleges supported under Star College Scheme)

1. Name of the College: St.Xavier's College (Autonomous), Palayamkottai-627002, Tamil Nadu.

2. Name of Department supported: Chemistry

   Name of Coordinator: Dr. V. Jeyabal

   Designation : Associate Professor and Head

   Address : Department of Chemistry, St Xavier's College (Autonomous), Palayamkottai

   Phone: 9486557070

3. Number of regular faculty with Ph.D : 5
4. List of course run by different participating department: B.Sc, M.Sc (Self financing)
5. Cut off percentage for admission in different courses in participating departments:

   B.Sc :

   M.Sc :

   Position in university :

   Percentage of result in 2009-2010 academic session: 71.79% (UG)

6. List of projects undertaken by students, industrial visits by students, summer training in last one year:

   Industrial visit : One

   Date: 28 .2. 2015

   Palce: Zirconium complex, Department of Atomic energy, Tuticorin

   Students participated : I B.Sc chemistry (47 students)

   Faculty : Three

   Training Programmes for students : Two

   Date: 29.1.2015

   Participants: I B.Sc Botany (35 students)

   Resource Person: Mr. S. Stanly John Xavier and Dr. C. Christopher,

   Department of Chemistry, St Xavier's college, Palayamkottai

Topic: Workshop on cyclic voltametric techniques (Redox behaviour of citric acid studied using cyclic voltammetric analysis)

Date: 13.3.2015

Participants: I B.Sc Chemistry (47 students)

Resource Person: Dr. P. Shanmugam, Senior Scientist, CLRI, Chennai

Topic: Chromatographic techniques

7. Training received by faculty from participating departments: Two

Date: 13.12.2014

Participants: Eight staff members

Resource Person: Dr. Mandal, VIT, Chennai

Topic: UV-Vis spectrophotometer and Potentiometer

Date: 06.12.2014

Participants: Eleven

Resource Person: Dr. Vijay Solomon, University of South Carolina, U.S.A.

Topic: Cheminformatics

8. List of exhibition / seminars / training courses conducted by the college:

9. Name, designation, host institution of guest faculty invited:

10. Date of Advisory committee meeting : 28th March, 2015 :

11. List of New Practicals / demonstrations introduced in different departments in last one year:

S.No	Semester	Code Number	Experiments
1	I	15UCHP11	1. Estimation of oxalic acid (from tomato) using standard oxalic acid solution and potassium permanganate link solution.
2	II	15UCHP21	2. Estimation of citric acid in lemon using standardized sodium hydroxide solution.
3	III	15UCHP31	3. Qualitative examination of chlorine and fluorine in biological sample (Demonstration only)
4	IV	15UCHP41	4. Qualitative examination of Iron, calcium and Magnesium in biological sample (Demonstration only)
5	V	15UCHP56	5. Redox behaviour of biomolecules by cyclic voltammetry method
6	V	15UCHP57	6. Adsorption studies of biomediated metal nano particles 7. Adsorption and cyclic votammetric studies of bio coordination compounds.
7	VI	15UCHP65	8. Verification of Beer – Lambert's law using KMnO4 solution. Determination of molar absorptivity (ε) at wave length of maximum

			absorption (λ_{max}) (for demonstration only) 9. Kinetics of inversion of sucrose by polarimetry

12. Details of new equipment purchased in each department from DBT grant (Items, no. cost, date of order placed, purchase / installed)

13. Details of books & journals subscribed from DBT grant

S.No.	Title	Author	Qty
1.	Basic Inorganic Chemistry	Cotton	2
2.	Advanced Inorganic Chemistry	Cotton	2
3.	Fundamental of Molecular Spectroscopy	Banwell	2
4.	Organic Chemistry	Solomons	1
5.	Experimental organic Chemistry	Ratnani	1
6.	Solutions Manual to accompany organic Chemistry	Clayden	1
7.	Organic Chemistry	Smith	1
8.	Chemistry of Main Group Elements	Goel	1
9.	Advanced Physical Chemistry	Prasath	1
10.	Chemistry of Aromatic Compounds	Goel	1
11.	Biophysical Chemistry	Gupta	1
12.	Fundamentals of Analytical Chemistry	Skoog & West	1
13.	Research Methods for Science	marder	1
14.	Quantum Chemistry	Prasath	2
15.	Inorganic and Solid State Chemistry	Rodgers	1
16.	Biochemical Calculations	Segel	1
17.	Fundamentals of Organic Chemistry	McMurry	1
18.	Molecular Symmetry and Group Theory	Carter	2
19.	Physical Chemistry	Vemulapalli	1
20.	A Text Book of Organic Chemistry	Tewari	1
21.	Computers and their Applications to Chemistry	Kumari	1
22.	Organic Synthesis	Warren	1
23.	Chemistry of Natural Products	Gupta	1
24.	Analytical Chemistry	Christian	1
25.	Chemical Applications of Group Theory	Cotton	1
26.	Inorganic Chemistry	Sivasankar	1
27.	Organic Chemistry	Pine	1
28.	Physical Chemistry	Levine	1
29.	Introduction to Organic Chemistry	McMurry	1

14. Qualitative improvements due to DBT support (please highlight 5 salient lines):
    i. The Department could effectively motivate the students by organizing training programmes given by experts from various other institutions.
    ii. Staff could also be trained in recent developments in biotechnology.

iii. Students could be taken on industrial visits which gave them an eye opening in the application of their theoretical knowledge that is given in the class.
iv. Department could purchase sufficient books.
v. Department will be able to purchase special scientific instruments.

15. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines)
    1. Space crunch
    2. Proposed instrument could not be purchased with the sanctioned amount

Other details: Students achievement, Staff achievement (resource person, publications, reorganization, project received)

Sl.No	Date	Particulars	Total Amount
1	06-12-2014	Staff Training Programme given by Mr. Vijay Solomon	2,590.00
2.	28-02-2015	Industrial Visit – Zirconium Complex, Pazayakayal	10,500.00
3	13-03-2015	Students Training Programme given by Dr.Shunmugam	10,045.00
4	03-03-2015	Books and Journals	19,989.00
5	19-02-2015	Chemicals	30,048.00
6		Glasswares	40,000.00