

**PROFORMA FOR SUBMISSION OF PROGRESS
REPORTS BY COLLEGES SUPPORTED
UNDER STAR COLLEGE SCHEME**

1. Name of the College : PSGR.Krishnammal College For Women
2. Name of Departments supported : Maths,Physics,Chemistry,Botany and Zoology.
Name of Coordinator, designation,
Address, phone & fax nos.,email : Dr.N.Ezhili, Assistant Professor and Head,
Department of Zoology,
Ph.No. 0422 - 2572222, 4295959
Fax.No. 2591255.

3. List of courses (B.Sc./M.Sc./PGDiploma, certificate, etc) run by different participating departments

Department	Courses Offered					
	UG	PG	M.Phil	Ph.D	Certificate /Diploma/ Advanced Diploma Course	Job oriented course
Physics	B.Sc. Physics	M.Sc Physics	Physics	Physics	Embedded System Design	PCB Fabrication Techniques.
Chemistry	B.Sc Chemistry	M.Sc Chemistry	Chemistry	Chemistry	Textile Chemistry	Textile Chemistry
Botany	B.Sc Plant Biology and Plant Biotechnology	M.Sc Botany	Botany	Botany	Commercial Horticulture	Commercial Tissue Culture
Zoology	B.Sc Advacned Zoology and Biotechnology	-	-	-	Pathology and Clinical Laboratory Science	Vermiculture & Mushroom Culture
Mathematics	B.Sc Mathematics	Mathematics	Mathematics	Mathematics	-	A Tool for Research – SPSS

4. Admission in different courses in participating departments in 2011-12 & 2012-13 academic sessions:

S.No.	Year	Cut off % for admission	No. of students admitted	% of result	Position in university	No. of drop out students
Physics						
1	2011-12	70	60	99.4	Affiliated to Bharathiar University	2
2	2012-13	70	60	100		6
Chemistry						
1	2011-12	70	60	87	Affiliated to Bharathiar University	7
2	2012-13	70	60	90		2
Botany						
1	2011-2012	60	60	90	Affiliated to Bharathiar University	15
2	2012-2013	60	60	92		04
Zoology						
1	2011-2012	60	60	81	Affiliated to Bharathiar University	10
2	2012-2013	60	60	76		05
Mathematics						
1	2011-2012	60	60	95	Affiliated to Bharathiar University	3
2	2012-2013	60	60	94		7

5. Activities carried out during the year (department wise):

DEPARTMENT OF PHYSICS

A) Student activities:

- i. Summer school - 58 students from III BSc. Physics attended a training program on "MATLAB" conducted by Department of Mathematics, PSG College of Technology, Coimbatore.
- ii. Industrial visit:

S.No	Class	Place of Visit	Date	No.of Beneficiaries	Justification
1.	III B.Sc. Physics	Liquid Propulsion System Centre, ISRO,LPSC, Mahendragiri, Nagercoil	8.02.2013	48	Visit to ISRO kindled interest in the study of space science

2.	III B.Sc. Physics	Water Purification Plant-Cochin	10.2.2013	48	The visit to the water purification centre enabled the students to gain practical knowledge of the aspects of physics in purification process.
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iii. List of project taken by students (purchase of chemicals, field visit, hiring charges etc):

- Ultrasonic and Viscometric studies of Amino acid
- Synthesis and characterization of NdMnO_3 by combustion method

iv. Excursions

1. 8-2-13-Liquid Propulsion System Centre, ISRO, Liquid Propulsion System Centre (LPSC), Mahendragiri, Nagercoil-attended by 48 students and 4 staff members
2. 10-2-2013-Water Purification Plant-Cochin- attended by 48 students and 4 staff members

B) Teachers activity:

i. Seminar attended

- Mrs. J. Balavijayalakshmi presented a paper on Preparation of cobalt-copper ferrite ($\text{Co}_{0.8}\text{Cu}_{0.2}\text{Fe}_2\text{O}_4$) nanopowder via coprecipitation method and investigation of its magnetic properties in the International Symposium on Macro and Supramolecular Architectures and Materials (MAM -12):Nanosystems and Applications organized by Centre for NanoScience and Technology, K.S.Rangasamy College of Technology, Tiruchengode, Namakkal from 21st to 25th November 2012.

- **Workshop Organised:**

Lecture workshop on “Experimental Physics” organized by Department of Physics from 4th March to 7th March, 2013. Dr.Nalini Balakrishnan, Assistant Professor, Department of Physics, Avinashilingam Deemed University, Coimbatore delivered the lectures.

ii. Training course attended

- Mrs. J. Balavijayalakshmi attended a five days Refresher course on Instrumental methods of analysis conducted by CECRI , Karaikudi from 29.10.12 to 2.11.12.
- Mrs. M. Lavanya attended a five days Refresher course on Instrumental methods of analysis conducted by CECRI , Karaikudi from 29.10.12 to 2.11.12.

- Mrs. N. Priyadharsini attended a five days Refresher course on Instrumental methods of analysis conducted by CECRI , Karaikudi from 29.10.12 to 2.11.12.
- Mrs. N. Priyadharsini participated in the ECS workshop on Electrochemical analytical techniques conducted at Pondicherry University from 7.1.13 to 11.1.13.
- G. Praveena, S. Subanya, A. Ishwarya, E. Vasumathi, S. Yuvarani, S.Gokila and N. Maheswari, attended the two days training program on “MATLAB” conducted by Department of Mathematics, PSG College of Technology, Coimbatore on 18th & 19th March 2013.

iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)

A Visiting Faculty lecture series on “Thermodynamics and Statistical Mechanics” was conducted under the star college scheme from 8th to 11th October 2012. Dr. K.P.N.Murthy, Professor, School of Physics, University of Hyderabad delivered the lectures.

6. Advisory committee meeting: - ANNEXURE I

a) Constitution of advisory committee

b) Advisory committee meeting conducted after implementation of scheme: If yes please give the dates and enclose the minutes

7. List of New Practicals/demonstrations introduced for UG students of each batch (Ist, IInd and IIIrd year) in different departments supported under Star College Scheme in last one year:

III Year

Practicals:

1. Op Amp Astable Multivibrator
2. Study of characteristics of photodiode(solar cell)
3. Determination of efficiency of solar cells

Demonstrations:

1. Determination of resistivity for different materials by four probe method
2. Determination of Curie temperature of ferrites.

8. Number of students taking project vs. total number of students. Please give list of projects department-wise during the support period

Number of students involved in projects in the year 2012-13 - 58 Vs 58 students

List of projects for the year 2012-13

- Ultrasonic and Viscometric studies of Amino acid
- Synthesis and characterization of NdMnO_3 by combustion method

9. Interdepartmental activities conducted:

Faculty and Students of B.Sc. Chemistry, Botany and Zoology attended the Lecture workshop on “Experimental Physics” organized by Department of Physics from 4th March to 7th March, 2013. Dr.Nalini Balakrishnan, Assistant Professor, Department of Physics, Avinashilingam Deemed University, Coimbatore delivered the lectures.

10. Qualitative improvements due to DBT support (please highlight 5 salient lines)

- (i) The industrial visit to ISRO kindled interest in the study of space science. The visit to the water purification centre enabled the students to gain practical knowledge of the aspects of physics in purification process.
- (ii) The project work on amino acids and synthesis of NdMnO_3 by combustion method motivated the students to take up research.
- (iii) The Refresher course on Instrumental methods of analysis attended by the faculty has given them hands on experience in handling advanced equipments.
- (iv) The visiting Faculty lecture on “Thermodynamics and Statistical Mechanics” has enriched the knowledge of the faculty and students in this subject.
- (v) The participation of faculty in the ECS workshop and the International Symposium on Macro and Supramolecular Architectures and Materials enabled them to interact with experts in the respective fields.

11. Strengths and weaknesses of each department (3 each)

Strength

1. Well equipped laboratory
2. Qualified and experienced faculty
3. Team spirit among the faculty

Weakness : - Nil -

12. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines) : - Nil-

13. DBT grant utilization:

A) non-recurring (Equipment) :-

S.No.	Equipment Name (Model No.)	Quantity	Cost in Rs	Date of order placed	Date of Purchase/ install
1	Digital Multimeter- Advanced APLAB VC 97	2	2680	21-11-12	25-11-12
2	Dial type decade resistance box- 5 dial (1-10000)	5	12500	21-11-12	19-12-12
3	Condenser box 2 dial (10x 0.1,10 x 0.01) MFD	3	5610	21-11-12	7-12-12
4	Dual power supply set up with Zif sockets ,patch cards, clock pulse set up for Op amp	4	28000	21-11-12	19-12-12
5	Vernier Microscope	2	18600	21-11-12	7-12-12
6	Transformer set up with bread board for dual power supply	4	10000	21-11-12	19-12-12
7	Power supply –step variable type (2,4,6,8,10,12&12V)	6	15300	21-11-12	7-12-12
8	Sodium vapor lamp with electronic transformer and capacitor (full set)	1	3000	21-11-12	10-12-12
9	IC regulated power supply with continuous variation (0- 15 V)	1	3610	21-11-12	7-12-12
10	Microprocessor with interfacing	2	24962	22-3-13	28-3-13
11	Determination of curie temperature for ferro electric apparatus	1	25600	21-11-12	8-12-12
12	CRO for the above apparatus	1	23000	21-11-12	7-12-12
13	Four probe set up laboratory model	1	31700	21-11-12	19-12-12
14	Digital Multimeter- Advanced APLAB VC 97	4	16000	3-7-13	12-7-13

S.No.	Equipment Name (Model No.)	Quantity	Cost in Rs	Date of order placed	Date of Purchase/ install
15	Dial type decade resistance box- 5 dial (1-10000)	6	15000	3-7-13	12-7-13
16	Dual power supply set up with Zif sockets ,patch cards, clock pulse set up for Op amp	6	42000	3-7-13	12-7-13
17	Vernier Microscope	2	16400	3-7-13	10-7-13
18	Transformer set up with bread board for dual power supply	5	12500	3-7-13	12-7-13
19	Power supply –step variable type (2,4,6,8,10,12&12V)	10	25500	3-7-13	12-7-13
20	DC regulated power supply with continuous variation (0-15V)	2	7200	3-7-13	12-7-13
21	Microprocessor with interfacing	8	52000	3-7-13	12-7-13
22	Determination of Curie temperature for ferro electric apparatus	1	31000	3-7-13	10-7-13
23	CRO for the above apparatus	1	24200	3-7-13	12-7-13
24	Four probe set up laboratory model	1	29800	3-7-13	12-7-13

TOTAL AMOUNT = Rs. 4,76,162

VAT @ 5% = Rs. 23,808

NET AMOUNT = Rs. 4,99,970

B) Recurring (details of consumable. Material etc.):

1. Visiting Faculty Lecture Series - Rs 41,933

Dr. K.P.N. Murthy, Professor, School of Physics, University of Hyderabad

2. Workshop Organised: Rs.15,000

Lecture workshop on “Experimental Physics” organized by Department of Physics from 4th March to 7th March, 2013. Dr.Nalini Balakrishnan, Assistant Professor, Department of Physics, Avinashilingam Deemed University, Coimbatore delivered the lectures.

3. Student Project - Rs 3,419

- a. Ultrasonic and Viscometric studies of Amino acid
- b. Synthesis and characterization of NdMnO₃ by combustion method

4. Faculty training programme - Rs 60,000

- a. Mrs. J. Balavijayalakshmi, Mrs. M. Lavanya , Mrs. N. Priyadharsini - Refresher course on Instrumental methods of analysis.
- b. Mrs. S. Subanya, Dr. G. Praveena, Ms. A. Ishwarya, Ms. E. Vasumathi, Ms. S. Yuvarani, Ms. N. Maheswari and Ms. S. Gokila - two days training program on “MATLAB” .
- c. Mrs. N. Priyadharsini - ECS workshop on Electrochemical analytical techniques .
- d. Mrs. J. Balavijayalakshmi presented a paper in the International Symposium.

5. Industrial visit – Rs.34,930

- a. Liquid Propulsion System Centre, ISRO, LPSC, Mahendragiri, Nagercoil
- b. Water Purification Plant-Cochin

6. Students’ training programme - Rs. 45,000

Training program on “MATLAB

Total - Rs 2,00,282

5. Activities carried out during the year (department wise):

DEPARTMENT OF CHEMISTRY

A) Student Activities:

i. Summer School -

S.No.	Class	Internship Organized	Date	No. of Beneficiaries	Justification
1.	II BSc Chemistry	Industrial Training Programme at TMV Aromatics, Cochin.	21.11.12 to 24.11.12	12 students	The students had an opportunity to see the working of distillation and solvent extraction procedure. They were also given hands-on training in GC, HPLC, UV visible spectrometers, extrusion moulding and calendaring. The internship training has helped the students to gain knowledge about the various chemical processes and technology in the manufacture of perfumes and essential oils. The training motivated the students to become chemists and entrepreneurs.

ii. Industrial Visit

S.No.	Class	Place of Visit	Date	No. of Beneficiaries	Justification
1.	III BSc Chemistry	Coimbatore Marine College	10.10.2012	53 students	The visit to CMC enabled the students to gain knowledge regarding ship, life boats and operation in the sea and on the deck.
2.	III BSc Chemistry	K.M.Plastics, Kovilpalayam	10.10.2012	53 students	The presence of students at KM plastics was of practical utility as

S.No.	Class	Place of Visit	Date	No. of Beneficiaries	Justification
					they viewed the operations involved in blow moulding, compression moulding, injection moulding, polymer cover, PET bottles etc., regarding which they had learned under polymer chemistry in their BSc programme.
3.	III BSc Chemistry	Sakthi Dairy, Pollachi	10.10.2012	53 students	The visit to Sakthi dairy was informative with knowledge regarding the pasteurization, fermentation of milk, manufacture of butter and ghee, during the learning process.

iii. List of Projects taken by III BSc Chemistry students (Purchase of Chemicals, Spectral/ Water Samples Analysis)

1. Synthesis UV and IR studies of isoxazoline and iron III isoxazoline complex (5 students)
2. Metal complexes of Schiff bases: Synthesis and characterization (5 students)
3. Bivalent transition metal complexes of tridentate Schiff base ligand: Synthesis and Characterization (5 students)
4. Photocatalytic degradation of acid orange and green dye using TiO₂ with silver nano particles (4 students)
5. Photocatalytic degradation of acid red and acid brown dye using TiO₂ with silver nano particles (6 students)
6. Photocatalytic degradation of acid dark brown and magenta dye using TiO₂ with silver nano particles (6 students)
7. Analysis and treatment of distillery waste water samples using potential materials – An overview (6 students)

8. Synthesis, characterization and Biological studies on Ni(II) Schiff base complexes (6 students)
9. Corrosion inhibition on mild steel in acid media by benzimidazoles and mercaptobenzimidazoles (6 students)
10. Study on physiochemical characterization of various distillery liquid effluents on adsorption of biowaste. (5 students)

iv. Excursions

1.	I, II & III BSc Chemistry	ITC Limited, PSPD Unit, Kovai	12.01.2013	165 students	Students acquired valuable informations about manufacture of various quality of paper boards/cartons, the raw materials involved in the manufacturing process and operation of instruments.
2.	I, II & III BSc Chemistry	Scott Garments, Tirupur	12.01.2013	165 students	At Scott Garments, the students experienced the practical application of their theoretical knowledge (Add on Course – Textile Chemistry). The various steps involved in Garments production viz., pretreatment, dyeing, post treatment, singeing, scouring were elaborately explained and the machineries were operated in the concerned sections for the students. The effective functioning of the ETP furnished the required information about textile effluents treatment.

B. Teacher's Activities

i Workshop/Seminar conducted/attended :

Workshop attended

1. **Dr.K.Parameswari and Dr. N.Muthulakshmi Andal** participated in a workshop on “Research Methodology” held at Pondicherry University on 09.8.2012 & 10.8.2012.
2. Five day work shop cum training programme on “Glass Blowing” at Ashok Glassworks & Neons, Ganapathy,Coimbatore attended by **Dr.D.Nalini, Dr. N.Muthulakshmi Andal, Mrs.V.Hemapriya, Mrs. K. Kalaiselvi, Ms G. Sathya Priyadarshini, Ms R. Kayalvizhi, Mrs Sowmya Ramkumar** from 06.11.2012 to 10.11.2012

Seminar attended –

1. **Dr.K.Parameswari** attended and presented a paper entitled ‘Studies on the corrosion inhibition characteristics of pyrazole derivatives’ at the ‘Tenth International Symposium on Advances in Electrochemical Science and Technology, ISAEST-10’, Organised by SAEST and CECRI, Karaikudi at Hotel Green Park, Chennai from 28.1.13 to 30.1.13.
2. **Dr.Subramanian Chitra** attended and presented a paper entitled ‘Evaluation of the inhibitive characteristics of 1,4-dihydropyridine derivatives for the corrosion of mild steel in 1M H₂SO₄’ at the ‘Tenth International Symposium on Advances in Electrochemical Science and Technology, ISAEST-10’, Organised by SAEST and CECRI, Karaikudi at Hotel Green Park, Chennai from 28.1.13 to 30.1.13.
3. **Dr.D.Nalini** attended and presented a paper entitled ‘Studies on the corrosion inhibition characteristics of pyrazole derivatives’ at the ‘Tenth International Symposium on Advances in Electrochemical Science and Technology,ISAEST-10’, Organised by SAEST and CECRI, Karaikudi at Hotel Green Park, Chennai, from 28.1.13 to 30.1.13.
4. **Ms.E.Kayalvizhy** attended and presented paper on “**Synthesis and Characterization of Poly (N-cyclohexylacrylamide - co - Acrylamide / Sodium acrylate) Gold Nanocomposite Hydrogels**” in International Conference on Natural Polymers, Biopolymer, etc Macro Nano Scales – ICNP 2012 held on 26-28th October 2012 at Mahatma Gandhi University, Kerala.

5. **Ms.E.Kayalvizhy** attended and presented paper on “Synthesis and Characterization of Poly (N-tert-amylacrylamide -co -Acrylamide /2-acrylamido-2-methylpropanesulfonic acid sodium salt) Gold Nanocomposite Hydrogels” in 6th International Symposium on Macro - and Supramolecular Architectures and Materials (MAM-12) held on 21-25 November 2012 jointly organizing by K.S.Rangasamy College of Technology, India & WCU, Gwangju Institute of Science and Technology, South Korea.
6. **Dr N.Muthulakshmi Andal** attended and presented a original research paper entitled, “Removal of Ni(II) from aqueous solution employing seed shell powder of *Azhardichta indica*” at the International Conference on “Conservation Strategies For Bioresources” organized by Departments of Botany and Zoology of PSGR Krishnammal College for Women, sponsored by UGC, DBT, CSIR and DRDO, on 5th and 6th February 13, 2013.
7. **Dr N.Muthulakshmi Andal** attended and presented a original research article entitled, “Adsorption of Cobalt ions from aqueous solutions employing treated fruits shells of *Terminalia catappa* at National Conference on “Recent Advances in Surface Science” organized by Department of Chemistry, Gandhigram Rural Institute (Deemed University) sponsored by UGC, CSIR and DBT, on 14th and 15th February 2013.
8. **Mrs.V.Hemapriya** attended and presented a paper entitled ‘Evaluation of 2-amino-4-phenyl-6-(4'-chlorophenyl)-1,3-oxazine as corrosion inhibitor for mild steel in acid environment’ at the ‘Tenth International Symposium on Advances in Electrochemical Science and Technology, ISAEST-10’, organised by SAEST and CECRI, Karaikudi at Hotel Green Park, Chennai, from 28.1.13 to 30.1.13.
9. **Mrs. K. Kalaiselvi** attended and presented a paper entitled “ Effect of substitution at 3,5 position of 2,6-Diphenylpiperidin-4one in acidic medium” at the ‘Tenth International Symposium on Advances in Electrochemical Science and Technology, ISAEST-10’, Organised by SAEST and CECRI, Karaikudi at Hotel Green Park, Chennai, from 28.1.13 to 30.1.13.
10. **Mrs. K. Kalaiselvi** attended and presented a paper entitled “ Synergistic influence of 2,6-Diphenylpiperidin-4one and Ni²⁺ ion on corrosion inhibition of mild steel in acidic medium” was presented at National Conference on “Recent Advances in Surface Science” organized by Department of Chemistry, Gandhigram Rural Institute (Deemed University) sponsored by UGC, CSIR and DBT, on 14th and 15th February 2013.

11. **Ms G Sathya Priyadarshini** presented an original research paper entitled “Biological Studies on the synthesised Ni(II) and Co(II) Quinoline Schiff Base Complexes” at the International Conference on Biological & Inorganic Chemistry ICBIC 2013 organized by the Department of Chemistry, Periyar University, Salem from 20-02-13 to 22-02-2013.
12. **Ms R Kayalvizhi** presented an original research paper entitled “Synthesis and characterization of some Chalcones” at the International Conference on Biological & Inorganic Chemistry ICBIC 2013 organized by the Department of Chemistry, Periyar University, Salem from 20-02-13 to 22-02-2013.
13. **Mrs Sowmya Ramkumar** presented an original research paper entitled “Studies on Polyaniline in 4-Hydroxy Benzene Sulphonic acid” at the International Conference on Biological & Inorganic Chemistry ICBIC 2013 organized by the Department of Chemistry, Periyar University, Salem from 20-02-13 to 22-02-2013.

ii. Training Attended -

Dr.K.Parameswari & Dr.S.Chitra along with 12 students of II B.Sc chemistry attended Four days (21.11. 2012-24.11.2012) Industrial Training Programme at TMV Aromatics, Cochin from 21.11. 2012 to 24.11.2012.

iii. Guest Lectures –

1. Dr. Krishna P.Kaliappan, Associate Dean R&D, Professor of Chemistry, IIT, Bombay delivered a special lecture on “Evolution and Revolution in Organic Synthesis”[7.02.2013]
2. Dr.L.Ashok Kumar, Associate Professor, Department of EEE, PSG College of Technology, delivered a guest lecture on “Medium Scale Projects for Women Entrepreneurs” [18.03.2013]

6. Advisory committee meeting: ANNEXURE I

- a) Constitution of advisory committee
 - b) Advisory committee meeting conducted after implementation of scheme: If yes please give the dates and enclose the minutes
7. **List of New Practicals/demonstrations introduced for UG students of each batch (Ist, IInd and IIIrd year) in different departments supported under Star College Scheme in last one year:**

**II BSc Chemistry
Chemistry Practical – II**

Spectrophotometry:

Determination of Ni as Nickel(II) dimethylglyoxime
Determination of Fe as Iron(III) thiocyanate
Determination of Mg by Eriochrome Black-T method
Determination of Melting point / Boiling point

**III BSc Chemistry
Chemistry Practical – III**

Gravimetric Determination of the following using sintered glass crucible:

Ni as Ni-DMG
Ba as BaCrO₄
Ca as CaC₂O₄.H₂O
Potentiometric titration: acid-base

Water Quality Parameter Analysis

Alkalinity, Hardness, Chloride, Dissolved Oxygen, Estimation of TDS, TSS, TS and pH of the given water samples

8. Number of students taking project vs. total number of students. Please give list of projects department-wise during the support period.

53 Vs 53

- Synthesis UV and IR studies of isoxazoline and iron III isoxazoline complex
- Metal complexes of Schiff bases: Synthesis and characterization
- Bivalent transition metal complexes of tridentate Schiff base ligand: Synthesis and Characterization
- Photocatalytic degradation of acid orange and green dye using TiO₂ with silver nano particles
- Photocatalytic degradation of acid red and acid brown dye using TiO₂ with silver nano particles
- Photocatalytic degradation of acid dark brown and magenta dye using TiO₂ with silver nano particles
- Analysis and treatment of distillery waste water samples using potential materials – An Overview
- Synthesis, characterization and Biological studies on Ni(II) Schiff base complexes (6 students)
- Corrosion inhibition on mild steel in acid media by benzimidazoles and mercaptobenzimidazoles
- Study on physicochemical characterization of various distillery liquid effluents on adsorption of biowaste

9. Interdepartmental activities conducted:

- Chemistry and Botany students attended the lecture delivered by **Dr. Krishna P. Kaliappan**, Associate Dean R&D, Professor of Chemistry, IIT, Bombay on the topic, **“Evolution and Revolution in Organic Synthesis”**
- All Science Department students (Chemistry, Maths, Physics, Botany and Zoology) attended the lecture on, **“Medium Scale Projects for Women Entrepreneurs”** delivered by **Dr.L.Ashok Kumar**, Associate Professor, Department of EEE, PSG College of Technology, Coimbatore

10. Qualitative improvements due to DBT support

1. The industrial visit enabled the students to practical knowledge on polymer fabrication techniques, dairy operations, manufacture of paper boards and various textile fabrics.

2. Industrial training at TMV Aromatics and Ashok glass Works enabled the students to gain entrepreneurial skills in the field of perfume and soap manufacture and also glass blowing.

3. Interaction with eminent personalities through guest lectures helped the students to update their knowledge in the subject.

4. All students have gained opportunity towards individual hands-on training.

5. Group projects motivated the students to take up research.

11. Strengths and weaknesses

Strength –

1. Students strength
2. Qualified faculty
3. Well equipped lab for practicals and projects

Weakness - NIL

12. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines) –NIL

13. DBT grant utilization: A) Non-recurring (Equipment): Rs.5, 00,000/-

S.No	Equipment Name (Model no.)	Quantity	Cost	Date of order placed	Purchase/ install
1.	Potentiometer(Equiptronic Make ,Model EQ601)	10	Rs.44,814/-	21.11.12	05.12.12
2.	Rotating Shaker(KEMI Make)	1	Rs.20,166/-	21.11.12	10.12.12
3.	Conductivity meter(Equiptronic Make ,Model EQ660A)	10	Rs.66,203/-	21.11.12	10.12.12
4.	Oil free vaccum pump (Super fit OFD 45D)	1	Rs.10,694/-	21.11.12	10.12.12
5.	Electrical Water bath(Sigma Make)	1	Rs.5,040/-	21.11.12	05.12.12
6.	Hot plate with magnetic stirrer(Sigma Make)	1	Rs.15,481/-	21.11.12	18.12.12
7.	Electronic Analytical Balance	4	Rs. 1,84,800/-	02.07.13	04.07.13
8.	Electrical Water Bath (Sigma Make)	1	Rs.6,930/-	02.07.13	04.07.13
9.	Magnetic Stirrer with hot plate (Sigma Make)	1	Rs.22,407/-	02.07.13	10.07.13
10.	C 6 D Compact type lab centrifuge (Kemi Make)	4	Rs.42,712/-	02.07.13	10.07.13
11.	Vacuum Pump (Superfit OFD 45 D)	1	Rs.10,694/-	02.07.13	10.07.13
12.	Digital Potentiometer with magnetic stirrer, Calomel and Platinum electrodes (Infra instruments – IR 511C)	9	Rs.41,769/-	02.07.13	09.07.13
13.	Digital Conductivity meter (Infra instruments – IR 503 Bench Model)	5	Rs.27,011/-	02.07.13	09.07.13

B) Recurring (details of consumable, material etc.) - **Rs.2, 00,000/-**

Visiting Faculty – Rs.15, 000/-

1. Dr. Krishna P.Kaliappan, Associate Dean R&D, Professor of Chemistry, IIT, Bombay delivered a special lecture on “Evolution and Revolution in Organic Synthesis”[7.02.2013].
2. Dr.L.Ashok Kumar, Associate Professor, Department of EEE, PSG College of Technology, delivered a guest lecture on “Medium Scale Projects for Women Entrepreneurs”[18.03.2013]

Workshop Organized – Rs.30, 000/-

Five day work shop cum training programme on “Glass Blowing” at Ashok Glassworks & Neons, Ganapathy, Coimbatore.

Faculty Training – Rs. 60,000/-

1. Faculty attended Workshop - Dr.K.Parameswari and Dr. N.Muthulakshmi Andal participated in a workshop on “Research Methodology” held at Pondicherry University on 09.8.12 & 10.8.12.
2. Faculty attended Seminars/Conferences - Dr.K.Parameswari, Dr.S.Chitra, Dr.D.Nalini, Ms.E.Kayalvizhy, Dr.N.Muthulakshmi Andal, MrsV.Hemapriya, Mrs.K.Kalaiselvi, Ms.G.Sathya Priyadharshini, Ms.R.Kayalvizhi and Mrs. Sowmya Ramkumar

Industrial Training – Rs. 15,000/-

Dr.K.Parameswari & Dr.S.Chitra along with 12 students of II B.Sc chemistry attended Four days (21.11. 2012-24.11.2012) Industrial Training Programme at TMV Aromatics, Cochin.

Students’ Group Project - Rs.30, 000/- (10 groups with each 5 students)

Purchase of Chemicals, Spectral/ Water Samples Analysis

List of Projects for the 2012 – 2013

- Synthesis UV and IR studies of isoxazoline and iron III isoxazoline complex
- Metal complexes of Schiff bases: Synthesis and characterization
- Bivalent transition metal complexes of tridentate Schiff base ligand: Synthesis and Characterization
- Photocatalytic degradation of acid orange and green dye using TiO₂ with silver nano particles
- Photocatalytic degradation of acid red and acid brown dye using TiO₂ with silver nano particles

- Photocatalytic degradation of acid dark brown and majenta dye using TiO₂ with silver nano particles
- Analysis and treatment of distillery waste water samples using potential materials – An Overview
- Synthesis, characterization and Biological studies on Ni(II) Schiff base complexes (6 students)
- Corrosion inhibition on mild steel in acid media by benzimidazoles and mercaptobenzimidazoles
- Study on physiochemical characterization of various distillery liquid effluents on adsorption of biowaste

Industrial Visit – Rs.50, 000/-

1. Visited Coimbatore Marine College, Kinathukadavu, K.M.Plastics, Kovilpalayam and Sakthi Dairy, Pollachi on 10.10.2012.
2. Visited ITC paper boards, PSPD Unit, Coimbatore and Scotts Garments, Tirupur on 12.01.2013.

5. Activities carried out during the year (department wise): Department of Botany

A) Student activities:

i. Summer school:

S.No	Class	Internship done	No.of Beneficiaries	Justification
1.	II B.Sc. PBBT	Botanical Garden, Ooty. Date: March 20-22, 2013.	2	Tissue culture of horticultural crops
2.	II B.Sc. PBBT	Herbo Flora Biotech, Kovaipudur, Coimbatore Date: November 19-23, 2012.	10	Plant Tissue Culture and extraction of phytochemicals

ii. Industrial visit for III B.Sc students

S. No.	Class	Place of Visit	Date	No. of Beneficiaries	Justification
1.	III B.Sc. PBBT	Wheat breeding station, IARI, Wellington, The Nilgiris	28/02/2013	38	Students learnt the techniques of both conventional and modern hybridization in wheat, varieties of wheat released by IARI.
2.	III B.Sc. PBBT	Tropical gene pool garden, Nadugani, Gudalur, The Nilgiris	01/03/2013	38	The students learnt the <i>exsitu</i> and <i>insitu</i> methods of conservation of plants and animals.

iii. List of project taken by students (purchase of chemicals, field visit, hiring charges etc):

List of projects:

S. No.	Title of the project	No. of students
1	Tissue culture studies on <i>Saccharum</i> sp	7
2	Micropropagation of Banana (<i>Musa</i> sp)	8
3	Effect of biofertilisers on the growth of green leafy vegetables	7
4	Suitability of ten local bast fiber plants and its applications	8
5	Production of multi-millet biscuits and its nutritional importance	8

iv. Excursions

S.No	Class	Place of Visit	Date	No. of Beneficiaries	Justification
1.	III B.Sc. PBBT	Wheat breeding station, IARI, Wellington, The Nilgiris	28/02/2013	38	Students learnt the techniques of both conventional and modern hybridization in wheat, varieties of wheat released by IARI.
2.	III B.Sc. PBBT	Tropical gene pool garden, Nadugani, Gudalur, The Nilgiris	01/03/2013	38	The students learnt the <i>exsitu</i> and <i>insitu</i> methods of conservation of plants and animals.

B) Teachers activity:

i. Workshop/Seminar conducted/attended

- a. Dr. K. Gajalakshmi participated and presented a paper entitled “Evaluation of the physico-chemical parameters and cytotoxic effect of freshwater in Kalingarayan canal in Erode district” during the Regional Science Congress on Science for shaping future of India at KonguNadu Arts and Science College jointly organized by ISCA, Coimbatore on December 15-16,2012
- b. Dr. W.Suganya participated and presented a paper entitled 1. “The impact of crude xylanase from *Phanaerochaete chrysosporium* on bleaching of kraft pulp. 2. Phytochemical studies and antibacterial effects of *Cassia auriculata* and *Cassia tora*” during the Regional Science Congress on Science for shaping future of India at KonguNadu Arts and Science College jointly organized by ISCA, Coimbatore on December 15-16,2012
- c. Dr. K. Gajalakshmi got trained on the statistical software package (SPSS) organized by the department of Social work, CSI Bishop Appasamy College, Coimbatore on March 20-22, 2013.
- d. Dr. K. S. Tamil Selvi got trained on the statistical software package (SPSS) organized by the department of Social work, CSI Bishop Appasamy College, Coimbatore on March 20-22, 2013.
- e. Dr. W. Suganya attended a one day International Workshop on ‘Amazing Career Opportunities in Food Sciences’ on 4th January 2013 conducted at Indian Institute of Crop Processing Technology, Thanjavur, India

- f. Dr. W. Suganya participated and presented a poster paper on ‘production of multi millet cookies in the 3rd International Conference on Food Technology 2013: Food Processing Technologies – Challenges and Solutions for sustainable food security on 5th January 2013 conducted at Indian Institute of Crop Processing Technology, Thanjavur, India
- g. Dr.V. Sashi attended a symposium on Science for shaping the future of India organized by Indian Science Congress Association, Pondicherry chapter, on March 15 and 16th 2013 and presented a poster entitled “A new Approach- Algae as a biofuel”
- h. Dr. M. Kanchana attended a symposium on Science for shaping the future of India organized by Indian Science Congress Association, Pondicherry chapter, on March 15 and 16th 2013 and presented a poster entitled “ Engineering Sugarcane Cultivar Coc 671 with Dm-Amp-1 Gene for Red Rot (*Colletotrichum falcatum*)Resistance

- **Workshop Organised**

- a. Students were given a workshop and hands on training on industrial products of biological origin and the formulation of herbal products by Dr. Stephen John David, Managing Director, Herbo Flora Biotech Ltd, Coimbatore. Date: 05-03-2013
- b. Dr. Vasandha, Asst. Professor of Botany, Coimbatore gave training to the students on various horticultural techniques. Date: 12-03-2013.

ii. Training course attended:

- a. Dr. K. Gajalakshmi and Dr. K.S. Tamil Selvi got trained on the statistical software package (SPSS).
- b. Dr. W. Suganya attended a training course on food processing.

iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)Rs.20,000/-

- a. Dr. Gopalan, Scientist(retd.), Botanical Survey of India, Currently the Head of the department of Botany, Karpagam University, Coimbatore, highlighted on the plant identification, classification and herbarium techniques. Date: 18-03-2013 and 19-03-2013
- b. Dr. K. T. Parthiban, Associate Professor, Department of Tree Breeding, Forest College and Research Institute, Mettupalayam, elaborated on the role of forests in environment amelioration. Date:14-03-2013
- c. Dr. Chitra Thangavel, Scientist, Aravind Medical Research Foundation, Madurai, highlighted on Proteomics.23-03-2013

6. **Advisory committee meeting: ANNEXURE I**

a) Constitution of advisory committee

b) Advisory committee meeting conducted after implementation of scheme: If yes please give the dates and enclose the minutes

7. **List of New Practicals/demonstrations introduced for UG students of each batch (I, II and III year) in different departments supported under Star College Scheme in last one year:**

III B.Sc PBBT

Practicals

- a. Estimation of halides in water samples by potentiometry.
- b. Estimation of Co^{2+} and Ni^{2+} by colorimetry/spectrophotometry.
- c. Estimation of sulphates by turbidometry.
- d. Detection of heavy metals in various samples.
- e. 5.Sampling techniques: wastewater analysis for physico-chemical characteristics such as pH, conductivity, TDS, DO, BOD, COD, CO_2 , alkalinity, nutrients, chlorides,hardness, settlability of solids.
- f. Microbial degradation of textile dyes/pesticides/hydrocarbons and oils
- g. Assay of enzymes involved in biotransformation.
- h. Bioremediation
- i. Pollutant removal using microorganisms from industrial effluent.
- j. Effect of heavy metals on microbial growth and microbial leaching of metals
1. Effect of pesticides on soil microorganism

Demonstration:

Preparation of MS medium, Sterilization of explant and inoculation, culture maintenance

Transgenic plants -Photographs/charts.

Demonstration of preparation of synthetic seeds.

Plasmid DNA isolation, Restriction and digestion using agarose gel electrophoresis

8. Number of students taking project vs. total number of students. Please give list of projects department-wise during the support period. (Rs.50,000/-)

38 vs 38

List of Projects for the year 2012-13

- i. Tissue culture studies on *Saccharum* sp
- ii. Micropropagation of Banana (*Musa* sp)
- iii. Effect of biofertilisers on the growth of green leafy vegetables
- iv. Suitability of ten local bast fiber plants and its applications
- v. Production of multi-millet biscuits and its nutritional importance

9. Interdepartmental activities conducted:

- a. Lecture on Proteomics by Dr. Chitra Thangavel, Scientist, Aravind Medical Research Foundation, Madurai, highlighted on Proteomics.23-03-2013 - Staff and III B.Sc students of AZBT attended
- b. Biotechnology experiments like Plasmid DNA isolation, Restriction digestion using agarose gel electrophoresis and tissue culture techniques were given to III B.Sc. AZBT students.
- c. Enzyme assay, Bioremediation, Pollutant removal using microorganisms and related microbial techniques were given to III B.Sc. Chemistry students.

10. Qualitative improvements due to DBT support (please highlight 5 salient lines)

1. Students were able to visit various industries which are actively involved in research.
2. Students were able to do the practical individually which were conducted in groups so far.
3. Innovative projects and internship training were carried out by the students.
4. Expertise from different fields was invited to give special lectures at micro and macro level.
5. The staff members were able to attend more number of seminars and workshops.

11. Strengths and weaknesses of each department (3 each)

Strength:

All the faculty members are doctorates and are actively involved in research, having two major projects under progress and completed three projects. The department is well equipped with instruments useful for advanced areas of research including molecular biology.

Weakness: nil

12. **Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines)**

Nil

13. **DBT grant utilization:**

A) Non-recurring (Equipment): (Rs.5,00,000/-)

S. No.	Equipment Name (Model no.)	Quantity	Cost	Date of order placed	Purchase / install
1	pH meter	5	31,920	12/12/2012	28/12/2012
2	Colorimeter and Spectrophotometer	5 3	30,424 1,57,500	12/12/2012 24/06/2013	28/12/2012 05/07/2013
3	Potentiometer	6 4	50,872 37,800	12/12/2012 24/06/2013	28/12/2012 27/06/2013
4	Biosafety Cabinets	2	1,87,131	12/12/2012	22/01/2013
5	General purpose Electrode pH electrode cuvette	1 1 1	4,620	18/02/2013	18/02/2013
Total			5,00,267		

B) Recurring (details of consumable, material etc.)

1. Visiting Faculty ₹ 20,000/-

2. Dr. Gopalan, Scientist(retd.), Botanical Survey of India, Currently the Head of the department of Botany, Karpagam University, Coimbatore.
3. Dr. K. T. Parthiban, Associate Professor, Department of Tree Breeding, Forest College and Research Institute, Mettupalayam.
4. Dr. Chitra Thangavel, Scientist, Aravind Medical Research Foundation, Madurai.

5. Workshop ₹ 20,000/-

- Dr. Stephen John David, Managing Director, Herbo Flora Biotech ltd, Coimbatore.
- Dr. Vasandha, Asst. Professor of Botany, Coimbatore.

6. Faculty Training ₹ 30,000/-

- Dr. K. Gajalakshmi and Dr. K.S. Tamil Selvi got trained on the statistical software package (SPSS).
- Dr. W. Suganya attended a training course on food processing
- Dr. M. Kanchana and Dr.V. Sashi attended a seminar organized by Indian Science Congress at Pondicherry.

7. Internship ₹ 40,000/-

Chemicals were purchased for the practicals of Environment management and plant biotechnology.

Training at Botanical Garden, Ooty, on tissue culture techniques and Herbo Flora Biotech Ltd.

8. Students' Group Project ₹ 50,000/-

Students utilized the instruments available at other institutes and purchased chemicals for their projects.

9. Industrial Visit ₹ 40,000/-

Students were taken on an industrial visit to Wheat breeding station, IARI, Wellington, The Nilgiris, where they learnt the techniques of both conventional and modern hybridization in wheat, varieties of wheat released by IARI.

They also visited the Tropical gene pool garden, Nadugani, Gudalur, The Nilgiris. The students learnt the *exsitu* and *insitu* methods of conservation of plants and animals.

DEPARTMENT OF ZOOLOGY

5. Activities carried out during the year (department wise):ZOOLOGY

A) Student activities:

i. Summer school:

1. Training in First Aid to pet animals in Pet clinic –peelamedu-Coimbatore. – May 20th to June 5th, 2012

2. Training in Maintenance of pet animals in Pet clinic –peelamedu-Coimbatore - May 20th to June 5th, 2012

ii. Industrial visit

S. No	Class	Place of Visit	Date	No.of Beneficiaries	Justification
1.	III B.Sc. Zoology	TamilNadu Veterinary University, Namakkal	24.08.2012	29	Acquired the knowledge about the diseases of birds and other animals
2	III B.Sc. Zoology	Sheep Breeding Research Station, Ooty.	3 rd & 4 th February 2013.	29	Acquired knowledge of sheep breeding.
3..	I ,II &III B.Sc. Zoology	Research Department of Biotechnology, NGM college, Pollachi	06-03-2013	20	Attended the the Hands on Training in Biotechnology

iii. List of project taken by students (purchase of chemicals, field visit, hiring charges etc):

1. Phytocapping of Solid Wastes at Krishnammal College Campus.6 students of III B.Sc Zoology

2. A Recollection Work of Few Representative Types of Kingdom in Animalia. 6 students of III B.Sc Zoology.

3. Development of Mosquito Repellent with Natural Extracts. 6 students of III B.Sc Zoology.
Bioconversion of fish waste to liquid fertilizer. 6 students of III B.Sc Zoology. Rs 5000.
4. Evaluation of Toxic and Insecticidal Properties of Plant Products for the Control of Cow Pea Beetle, *Callosobruchus maculatus* (Fabricius) (Insecta : Coleoptera : Bruchidae).5 students of III B.Sc Zoology.

iv. Excursions

1. Institutional visit for 29 students of III B.Sc AZBT students to Sheep Breeding Research Station, Ooty on 3rd & 4th February 2013.and got the knowledge of sheep breeding.
2. Industrial visit for 29 students of III BSc AZBT students to Tamil Nadu Veterinary University, Nammakal on 24th August, 2012 and Acquired the knowledge about the diseases of birds and other animals.

B) Teachers activity:

Workshop/Seminar conducted/attended

i Workshop Organised

1. Workshop conducted by Mr.P.Vincent, Secretary, District Herbal and Tea Growers Association to B.Sc Advanced Zoology and Biotechnology students on the topic – Production of plant bags and organic manure from litter waste and solid waste for home gardens on 28-01-2013.
2. Workshop conducted by Dr.V.Ramasubramanian, Assistant Professor, Department of Zoology, Bharathiar University to II and III B.Sc Advanced Zoology and Biotechnology students on the topic –Ornamental Fish culture on 18-02-2013.

ii. Seminar attended

1. Dr. P.B. Harathi presented a paper on Disease mapping for cancer – Risk assessment, policy programming and decision making in the International Conference on “Updates in Research Ethics & Research Methodology – 2013” – Sri Ramachandra University, Chennai held on 4th and 5th March 2013.

2. Dr. P.B. Harathi presented a paper on Thematic mapping : Identification of breast cancer risk areas in western regions of Tamil Nadu in The International Conference on “Updates in Research Ethics & Research Methodology – 2013” – Sri Ramachandra University, Chennai held on 4th and 5th March 2013.

iii. Training course attended

1. Dr.Harathi.P.B and Dr.Radha.R attended a two day faculty programme on Statistical Analysis and Interpretation using SPSS and AMOS at Karunya School of Business Leadership and Management, Karunya University on September 21-22, 2012.
2. Mrs.Susheela.P attended a training programme in Biochemical Analysis Techniques at Silkworm Physiology Section of Central Sericultural Research and Training Institute (CSTRI),Mysore from 04-03-2013 to 08-03-2013.
3. Dr.R.Rama and Dr.R.Radha attended a workshop on “ In house workshop and Hands on Training in Biotechnology” conducted by the Research Department of Biotechnology, NGM college, Pollachi in celebration of the National Science Day on 06-03-2013.

iv. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)

1. Special Lecture given by Dr.M.Manu Muruges, B.V.Sc., Veterinary Surgeon, A-Z Pet Polyclinic & Scan Centre, Peelamedu to III B.Sc Advanced Zoology and Biotechnology students on the topic – Parasitology from December 17-26, 2012.
2. Special Lecture given by Dr.V.Ramasubramanian,Assistant Professor,Department of Zoology, Bharathiar University to B.Sc Advanced Zoology and Biotechnology students on the topic –Fish Fertilizer and its significance on 24-01-2013.
3. Special Lecture given by Mr.P.Vincent,Secretary,District Herbal and Tea Growers Association to B.Sc Advanced Zoology and Biotechnology students on the topic –Solid Waste Mangement on 24-01-2013.
4. Special Lecture given by Dr.A.Shanmugham,Professor,Faculty of Marine Sciences, Centre for Advanced Study in Marine Biology,Parangipettai,Chidambaram to B.Sc Advanced Zoology and Biotechnology students on the topic –Marine Planktons on.06-02-2013.

5. Special Lecture given by Dr.V.Ramasubramanian,Assistant Professor,Department of Zoology, Bharathiar University to II and III B.Sc Advanced Zoology and Biotechnology students on the topic –Ornamental Fish culture on 18-02-2013 .
 6. Lecture given by Dr. N. Munuswamy, Professor, Department of Zoology, School of Life Sciences, University of Madras (Guindy Campus),Chennai on the topic “Cryopreservation” on 15-03-2013.
6. **Advisory committee meeting: ANNEXURE I**
- a) Constitution of advisory committee
 - b) Advisory committee meeting conducted after implementation of scheme: If yes please give the dates and enclose the minutes
7. List of New Practicals/demonstrations introduced for UG students of each batch (Ist, IInd and IIIrd year) in different departments supported under Star College Scheme in last one year:

I Year

Field observations combined with photography and/or videography

- 1) Study of live water specimens in nearby water bodies
- 2) Study of insect fauna.

Culture Methods

- 1) Culture of unicellular organisms (Amoeba, Paramecium, and Euglena)
- 2) Culture of multicellular organisms (Earthworm)

III Year

1. Isolation and estimation of DNA & RNA.
2. Blotting techniques- observation and photographs.
3. Techniques of sterilization dry and wet.
4. Preparation of nutrient agar& broth media.
5. Distribution of microbes in soil, air and water.

8. Number of students taking project vs. total number of students. Please give list of projects department-wise during the support period.

29 Vs 29

1. Phytocapping of Solid Wastes at Krishnammal College Campus.
2. A Recollection Work of Few Representative Types of Kingdom in Animalia.
3. Development of Mosquito Repellent with Natural Extracts.
4. Bioconversion of fish waste to liquid fertilizer
5. Evaluation of Toxic and Insecticidal Properties of Plant Products for the Control of Cow Pea Beetle, *Callosobruchus maculatus* (Fabricius) (Insecta : Coleoptera : Bruchidae)

9. Interdepartmental activities conducted:

- Lecture on Fish Fertilizer and its significance organized for the all the science departments by Dr.V.Ramasubramanian, Assistant Professor, Department of Zoology, Bharathiar University, Coimbatore.
- Workshop is organized for Zoology, Botany and Chemistry students on the topic Solid Waste Management by Mr.P.Vincent,Secretary, Herbal and Tea Growers Association, Coimbatore.
- Dr.A.Shanmugham, Professor, Faculty of Marine Sciences, Centre for Advanced Study in Marine Biology, Paringipettai,Chidambaram gave Special lecture organized on the topic Marine Planktons for Zoology and Botany students.
- Ornamental Fish culture workshop is organized for the students of Science departments by Dr.V.Ramasubramanian, Assistant Professor, Department of Zoology, Bharathiar University, Coimbatore.
- Special lecture by Dr. N. Munuswamy, Professor, Department of Zoology, School of Life Sciences, University of Madras (Guindy Campus),Chennai, on Cryopreservation to the students of Chemistry, Zoology and Botany.
- An Interphase meeting organized for all the science departments on the topic – How to apply projects for various funding agencies. Resource person - Dr. N. Munuswamy, Professor, Department of Zoology, School of Life Sciences, University of Madras (Guindy Campus),Chennai

10. Qualitative improvements due to DBT support (please highlight 5 salient lines)

1. Students were able to do the practical individually which were conducted in groups so far.
2. Innovative projects and internship training were carried out by the students.
3. Expertise from different fields was invited to give special lectures at micro and macro level.
4. Fund extended by DBT motivated the staff members to attend more number of seminars and workshops.
5. Setting up a basic instrumentation laboratory for the Undergraduate students in the zoology laboratory.

11. Strengths and weaknesses of each department (3 each)

Strength:

- All the five faculty members are indulged in research
- Two Major projects and two minor projects ongoing
- Two patent and copyrights are registered

Weakness:

- Recognition for post graduation and research programme are under process.

12. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines)

NIL

13. DBT grant utilization:

A) Non-recurring (Equipment):- Rs.5,00,000/-

S. No.	Equipment Name (Model no.)	Quantity	Cost	Date of order placed	Purchase/ install
1	Electronic Analytical Balance "Shimadzu"AY-2.	1	44,814/-	18.12.2012	19.1.2013
2	Electronic Top Loading Balance BL 220H	1	21898/-	18.12.2012	19.1.2013

S. No.	Equipment Name (Model no.)	Quantity	Cost	Date of order placed	Purchase/ install
3	Agarose gel electrophoresis unit with power "Genei" make	1	31929/-	18.12.2012	19.1.2013
4	Page electrophoresis unit with power "Genei" make	1	29893	18.12.2012	19.1.2013
5	"Sigma:"Incubator(Bacterial Culture) Digital with fan WSize :60*60*60cm	1	31995	8.12.2012	06.5.2013
6	"Equiptronics" Digital PH Meter EQ 611	1	6,518/-	8.12.2012	17.5.2013
7	"Remi" RQT 127 AD Homogeniser,, Digital speed Indicator & transformer speed regulator	1	12921/-	8.12.2012	29.4.2013
8.	Junior Medical Microscope ALMICRO Make	1	25200/-	30.03.2013	30.03.2013
9.	Variable Volume Micro Pipette	1	4800/-	30.03.2013	30.03.2013
8	Micro processor based PH Meter	5	69,735/-	28.06.2013	10.07.2013
9.	Vertical dual midi gel system "GENI" make with digital power pack	1	40,950/-	28.06.2013	10.07.2013
10	Mini subsystem with small power pack	1	15,750/-	28.06.2013	10.07.2013
11.	Visible Spectrophotometer – with one pair 10mm glass cuvette and two position cuvette holder "ELICO" make	3	1,48,365/-	28.06.2013	10.07.2013
12.	Hot Air Oven "SCIENTEK" make	1	25,200/-	28.06.2013	10.07.2013

Total Rs. 5,09,968/-

B) Recurring (details of consumable, material etc.) – Rs. 2,00,000/-

Visiting Faculty- Rs.15,000/-

1. Dr. Manu-Vertinarian-Petclinic-Pellamedu-Coimbatore- Parasitology,
2. Prof N Munuswamy-Professor-Dept of Zoology –Madras University-Chennai- Cryobiology,
3. Dr.Manonayagi–Assistant Professor-Dept of Zoology-Emerald Heights College-Ooty- Biotechnology,
4. Mr. Sundarraj-Divisional manager–Tan Tea-Devala-Gudalur-Tea processing,
5. Dr. Shanmugam–Professor-Dept of Advanced Research and Marine Biology-Parangipettai- Chidhambaram- Marine Planktons

Workshop – 30,000/-

- a)1 Day Workshop on Biotechnology
- b)1 Day workshop on Ornamental Fish Culture - Dr.V.Ramasubramanian, Assistant Professor,Department of Zoology, Bharathiar University
- c)1 Day Workshop on Production of plat bags and organic manure- Mr.P.Vincent, Secretary, District Herbal and Tea Growers Association

Faculty Training - 60,000/-

1. Training in Sericulture – Mrs. P. Susheela
2. Training to handle various instruments in the field of Biotechnology – Dr. R Rama & Dr. R Radha
3. Training to handle SPSS software –Karunya University(2 days) - Dr. P.B. Harathi & Dr. R Radha
4. Attending Conferences/Seminars - Dr. P.B. Harathi
3. Training in Medical Laboratory Technology – Dr. N. Ezhili, Dr. P.B. Harathi, Mrs. P. Susheela, Dr. R Rama & Dr. R Radha

Internship- 15,000/-

1. Training in First Aid to pet animals in Pet clinic – Peelamedu-Coimbatore
2. Training in Maintenance of pet animals in Pet clinic – Peelamedu-Coimbatore

Students' Group Project – 30,000/-

Purchase of Chemicals, Field visit and Hiring Charges.

Title of the completed projects for the year 2012-13

1. Phytocapping of Solid Wastes at Krishnammal College Campus.
2. A Recollection Work of Few Representative Types of Kingdom in Animalia.
3. Development of Mosquito Repellent with Natural Extracts.
4. Bioconversion of fish waste to liquid fertilizer
5. Evaluation of Toxic and Insecticidal Properties of Plant Products for the Control of Cow Pea Beetle, *Callosobruchus maculatus* (Fabricius) (Insecta : Coleoptera : Bruchidae)

Industrial Visit – 50,000/-

1. Visit to Sheep Breeding Station Ooty
2. Visit to TAN Tea, Devala, Wyanad

5. Activities carried out during the year (department wise): Department of Mathematics

A) Student activities:

i. Summer school

S.No	Class	Internship done	No.of Beneficiaries	Justification
1.	II B.Sc. Maths	Training in MTTTS Programme. (21.5.2012-16.6.2012) Training in Riton Soft. (14.5.2012-31.5.2012) Training in photoshop. (1.3.2012-31.5.2012) Training in Adoro Multimedia. (20.5.2012-10.6.2012)	60	Hands on training in these areas will expose the students for self employment

ii. Industrial visi :

- a. SPSS –Visit of SPSS lab and hands on training for 59 III-B.Sc Mathematics.
- b. MAT LAB Visit of Lab and hands on training for 59 III-B.Sc Mathematics.

iii. List of Projects taken by students

- a. 5 team projects.
- b. Each team consists of 5 III B.Sc. students and a guide(staff)
- c. Project Title:
 - 1.The study of Connectivity and Applications of MENGER’S THEOREM.
 - 2.A Study of different types of MATRICES and their applications in GRAPH THEORY.
 - 3.Shortest Path Spanning Tree on Internet Routing.
 - 4.Graph Partitions and Euler Ian Graphs.
 - 5.A Study on COLOURING OF GRAPH.

iv. Excursions:

50 Students of III B.Sc., Mathematics were accompanied by Dr.B.Tamilselvi, Associate professor and S.Deepa, Assistant Professor for an Educational tour to KERALA.

This excursion includes the Industrial Visit when students and staff visited FLUID CONTROL RESEARCH INSTITUTE, PALAKKAD to study about Fluid flow measurements.

They visited MALAMPUZHA GARDENS, PALAKKAD to understand the construction of suspension bridge located there.

Later the members refreshed themselves in ATHIRAPILLY WATER FALLS on the way to COCHIN .They enjoyed the serene beauty and understood the need and the measures to be taken to preserve the Ecological system.

Our team went for one more advanced training on “SPSS Software” software when they visited Kerala Forest Research Institute (KFRI) at Peechi, Thrissur. Number of Beneficiaries: 50 Students and 2 Staffs.

B) Teachers activity

i. Workshop, Seminar conducted/ attended:

- S.Chitra, Head and Associate Professor, Dr.B.Tamilselvi, Associate Professor, Dr.K.Sumathi, Associate Professor and S.Deepa, Assistant Professor attended a training program on “SPSS” as two batches conducted by Department of Statistics, PSG College of Arts and Science, Coimbatore from 4-2-2013 to 7-2-2013.
- S.Chitra, Head and Associate Professor attended a workshop on “Mat lab” conducted by PSG College of Technology, Coimbatore on 23- 2-2013 & 24-2- 2013.
- Dr.B.Tamilselvi, Associate Professor and S.Deepa, Assistant Professor attended a workshop conducted on “MAT LAB” conducted by PSG College of Technology, Coimbatore on 2-3-2013 & 3-3-2013.
- Two faculty members have attended the National Level Workshop on Differential Equations using “MAT LAB” on 23-1-2013 to 25-1-2013.

ii. Hands on Training conducted :

- Hands on Training by Dr. **Vernold Vivin**, M.SC., MPhil, PHD, Assistant Professor, Department of Mathematics, ANNA UNIVERSITY, TIRUNELVELI to the students on the topic – ‘**Introduction to LATEX**’ held on 6.3.2013 & 7.3.2013.
- Hands on Training by **Ms.Karpagavalli**, MCA, MPhil, GRG School of Applied Computer Technology to the III B.Sc students on the topic – ‘**Introduction to C Language**’ held on 5.3.2013.

iii Guest lectures:

- Special lecture given by **R.Prem Sudha**, MCA, MPhil, GRG School of Applied Computer Technology to the students on the topic – ‘**MS-Office**’ held on 8.3.2013. This lecture was very informative for the students.
- Special lecture given by **V.Radha**, MCA, MPhil, GRG School of Applied Computer Technology to the students on the topic – ‘**MS-Office**’ held on 8.3.2013. This lecture was very informative for the students.

6. Advisory committee meeting: ANNEXURE I

a) Constitution of advisory committee

b) Advisory committee meeting conducted after implementation of scheme: If yes please give the dates and enclose the minutes.

7. List of New Practical's/demonstrations introduced for UG students of each batch (Ist, IInd and IIIrd year) in different departments supported under Star College Scheme in last one year:

III Year

SPSS Training Program

MAT LAB Training program

8. Number of students taking project 25 vs 59 total number of students. List of student projects - department of Mathematics.

List of projects for the year 2012 – 13

A study on COLOURING OF GRAPH.

Shortest path SPANNING TREE ON INTERNET ROUTING.

A Study of different types of MATRICES AND THEIR APPLICATIONS IN GRAPH THEORY.

The study of CONNECTIVITY AND APPLICATIONS OF MENGER'S THEOREM.

GRAPH PARTITIONS AND EULERIAN GRAPHS.

9. Interdepartmental activities conducted: Nil

10. Qualitative improvements due to DBT support (please highlight 5 salient lines)

Research is going on in fields like Social Sciences, Medicine, etc... Those people need data analysis correlation coefficient or finding mathematics equations and getting values. In this aspect the need of mathematicians and statisticians became essential after attending the training in SPSS and MAT LAB the students are able to help the researches. In due course this may lead them to have their own consultancy office.

11. Strengths and weaknesses of each department (3 each)

Strengths:

The faculty with good knowledge help the students

The faculty often undergo training and update themselves.

Weakness:

NIL

12. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines):

NIL

13.DBT grant utilization :

A)Non-recurring (Equipment)

S.No	Equipment Name(Model No)	Quantity	Cost	Date of order placed	Purchase/install
1	“Numeric” Online7.5KvaUPS System with (3 phase-1phase)1 hour Back up,Exide 6EL Tubular Batteries (66AH*10Nos)	1	1,74,920	20-11-2012	23.1.2013
2	“HCL” Infinite Pro BL Desktop Intel Core i3(2 nd Gen)@3.30Ghz 3 Mb L2 cache,1333/1666 FSB Intel H61Org(Hcl)Mbd/4GB DDR3-PC3 Ram / 500 GB Hdd/DBD writer Int Agp,Sound,USB,Nic ports,HCL KBD & Mouse / 18.5 LED MONITOR/3 Yrs Warranty,Network – 24 port s/w cat 6 cable with accrs	9	2,92,856	20.11.2012	23.1.2013
3	Vishnu corporation : Vasavi 19mm Deluxe – 3/4”-1.5mm-pipe vasavi 3/4’BEND,PVC 3/4’Flexible Hose,E-FAB Tape roll,25x8 steel screw,Modi 1” casing caping,No 10 wooden piug,Legrand 63A DP MCB 603274,Legrand 63A 4P MCB 603325	1	3,414	20.11.2012	23.1.2013
4	WORLDTEL TELECOMS Cat 6 Network Cable()	150m	6,300	20.11.2012	23.1.2013

5	Raja Electricals – 2.5 sqmm pvc wire finolex, 1.5 sqmm pvc wire finolex,, 8 module box mk surface , 8 module palte mk, 6A 1 way switch mk, 6A socket mk, 8 way DD mcb box, 4o A 2 pole mcb, Dummy switch , 1” wood screw box, 3/4” pvc Elbow, 8 module surface box, 8 module palte mk, 6A 1 way switch mk , 6A socket mk .	1	14,174	20.11.2012	23.1.2013
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Total Rs.4,91,664

B) Recurring (details of consumable, material etc.)

Visiting Faculty – 20,000/-

- **Dr.Vernold Vivin**, M.SC., MPhil, PHD, Assistant Professor, Department of Mathematics, ANNA UNIVERSITY, TIRUNELVELI
- **Mr.Kaliraj**, M.SC., MPhil, RVS College, Coimbatore.
- **Ms.Karpagavalli**, MCA, MPhil, GRG School of Applied Computer Technology
- **R.Prem Sudha**, MCA, MPhil, GRG School of Applied Computer Technology
- **V.Radha**, MCA, MPhil, GRG School of Applied Computer Technology
- **Ms.Sathyakumari**, MCA, MPhil, GRG School of Applied Computer Technology

Workshop – 45,000/-

- a) 1 Day Workshop on ‘LATEX’
- b) 1 Day workshop on ‘Introduction C Language’
- c) 1 Day Workshop on ‘MS-Office’

Faculty Training – 60,000/-

S.Chitra, Head and Associate Professor, Dr.B.Tamilselvi, Associate Professor, Dr.K.Sumathi, Associate Professor and S.Deepa, Assistant Professor attended a training program on “SPSS”

S.Chitra, Head and Associate Professor attended a workshop on “Mat lab”

Dr.B.Tamilselvi, Associate Professor and S.Deepa, Assistant Professor attended a workshop on “MAT LAB”.

Two staff members have attended the National Level Workshop on Differential Equations using “MAT LAB” on 23-1-2013 to 25-1-2013.

Students' Group Project – 25,000/-

- The study of Connectivity and Applications of MENGER'S THEOREM.
- A Study of different types of MATRICES and their applications in GRAPH THEORY.
- Shortest Path Spanning Tree on Internet Routing.
- Graph Partitions and Euler Ian Graphs.
- A Study on COLOURING OF GRAPH.

Industrial Visit – 50,000/-

- Educational tour to KERALA.
- Visit to FLUID CONTROL RESEARCH INSTITUTE, PALAKKAD.
- Visit to MALAMPUZHA GARDENS, PALAKKAD.
- Visit to ATHIRAPILLY WATER FALLS, COCHIN .
- Our team went for one more advanced training on “SPSS Software” software when they visited Kerala Forest Research Institute (KFRI) at Peechi, Thrissur.

Signature of the Co-ordinator

Signature of the Principal