

EVALUATIVE REPORT OF THE DEPARTMENT

1. Name of the Department & : Botany – 1969-1970 (PG and Research)
 Its year of establishment Microbiology – 1998-1999

2. Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D.,
 Integrated Masters; Integrated Ph.D., etc.)

| Sl. No. | Name of Programme | Subject | Year of affiliation | No. of sections | Sanctioned strength | Total Student strength (2011-12) | Remarks |
|---------|--------------------|----------------------|---------------------|-----------------|---------------------|----------------------------------|------------------|
| 1. | B.Sc. | Botany | 1969-70 | 1 | 50 | 30 | I, II & III Year |
| 2. | M.Sc. | Botany | 1980-81 | 2 | 60 | 62 | I & II year |
| 3. | M.Phil. | Botany | 1983 | -- | 50 | 10 | one Year |
| 4. | Ph.D. | Botany | 1987 | -- | 56 | 37 | -- |
| 5. | M.Sc. | Microbiology | 1998-99 | 2 | 60 | 34 | I & II year |
| 6. | M.Phil. | Microbiology | 2000 | -- | 20 | 08 | one Year |
| 7. | Ph.D. | Microbiology | 2000 | -- | 32 | 27 | -- |
| 8. | P.G. Diploma | Bio-fertilizer | 1991 | -- | 30 | 13 | one Year |
| 9. | Certificate Course | Herbal Medicine | 1991 | 1 | 30 | 23 | one Year |
| 10. | Certificate Course | Mushroom Cultivation | 1991 | 1 | 30 | -- | one Year |
| 11. | Certificate Course | Plant Biotechnology | 1991 | 1 | 30 | -- | one Year |

3. Interdisciplinary courses and departments involved

- In UG level, in **Part- IV** interdisciplinary Courses like **Skill Based Elective** are offered in all the six semesters and **Non-Major Elective** in the final year as mandatory to all the students.
- In PG level, in the final year **Extra Disciplinary Courses** are offered mandatory to all the students.

| Interdisciplinary courses | | Departments involved |
|---------------------------|----------------------|---|
| UG Level | Skill Based Elective | History, Tamil, English, Commerce, Mathematics, Physics, Chemistry, Zoology, Computer Science, Physical Education |
| | Non – Major Elective | History, Tamil, English, Commerce, Physics, Chemistry, Zoology, Computer Science, Management studies |
| PG Level | Extra Disciplinary | History, Economics, Tamil, English, Commerce, Mathematics, Physics, Chemistry, Zoology, Computer Science |

4. Annual/ Semester/Choice Based Credit System:
 Semester pattern with Choice Based Credit System - (CBCS)

5. Participation of the department in the courses offered by other departments:

- Our department participates in the courses offered by other departments by extending Skill Based Elective and Non-Major Elective at UG level and Extra Disciplinary Courses at PG level to all the students.

Skill Based Courses – UG Level

- ❖ Culture of Microorganisms
- ❖ Microbiological Techniques (Practical)
- ❖ Bioinoculants
- ❖ Compost Preparation
- ❖ Spawn Preparation
- ❖ Mushroom Cultivation

Non - Major Elective courses – UG Level

- ❖ Herbal Technology
- ❖ Mushroom Cultivation

Extra disciplinary course – PG Level

- ❖ Medical Botany and Pharmacognosy
- ❖ Mushroom Technology

6. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

AIDED SECTION

| Post | Sanctioned | Filled | Vacant |
|----------------------|------------|---------------|--------|
| Associate Professors | - | 04 (promoted) | - |
| Assistant Professors | 14 | 06 | 04 |

SELF-FINANCE SECTION

| Post | Sanctioned | Filled | Vacant |
|------------------|------------|--------|--------|
| Asst. Professors | 12 | 16* | - |

* including 4 teachers appointed temporarily against permanent vacancies.

7. Faculty profile with name, qualification, designation, specialisation (D.Sc./D.Litt./ Ph.D./ M.Phil., etc.)

| Sl. No | Name | Qualification | Designation | Specialization | No. of Years of Experience | No. of Ph.D. students guided in the last 4 years | | Remarks |
|--------|-----------------------|---------------|--------------|---|----------------------------|--|---------|-------------|
| | Aided Section: | | | | | Guided | Guiding | |
| 1. | Dr.S.Jeyachandran | Ph.D. | Assoc. Prof. | Marine Algae | 31 | 7 | -- | --- |
| 2. | Dr.A.Panneerselvam | Ph.D. | Assoc. Prof. | Mycology, Plant Pathology | 30 | 11 | 08 | --- |
| 3. | Dr.S.Kulothungan | Ph.D. | Assoc. Prof. | Plant Biotechnology | 28 | 03 | 03 | --- |
| 4. | Dr.T.Kumar | Ph.D. | Assoc. Prof. | Mycology, Plant pathology | 19 | -- | 02 | --- |
| 5. | Dr.C.Chandran | Ph.D. | Asst. Prof. | Microbiology, Plant biotechnology | 18 | -- | -- | --- |
| 6. | Dr.V.Ambikapathy | Ph.D. | Asst. Prof. | Mycology, Plant pathology | 16 | -- | 08 | --- |
| 7. | Dr.P.Pandiyan | Ph.D. | Asst. Prof. | Herbal Technology, Bioinformatics | 12 | -- | -- | --- |
| 8. | Miss.P.Vanathi | M.Phil. | Asst. Prof. | Mushroom Technology | 08 | -- | -- | Doing Ph.D. |
| 9. | Dr.S.Murugesan | Ph.D. | Asst. Prof. | Medical Botany, Pharmacognosy | 07 | -- | -- | --- |
| 10. | Dr.S.Vijayakumar | Ph.D. | Asst. Prof. | Cyanobacteria, Environmental Microbiology | 10 | 1 | 08 | --- |

| Sl. No | Name | Qualification | Designation | Specialization | No. of Years of Experience | No. of Ph.D. students guided in the last 4 years | | Remarks |
|--------------------------------|-----------------------|---------------|-------------|--|----------------------------|--|----|-------------|
| Self – Finance Section: | | | | | | | | |
| 11. | Dr.K.Karthikeyan | Ph.D. | Asst. Prof. | Plant Biotechnology, | 8 | - | 01 | --- |
| 12. | Mrs.C.Karpaga Sundari | M.Phil. | Asst. Prof. | Plant Tissue Culture | 3 | - | | Doing Ph.D. |
| 13. | Dr.S.Vasantha | Ph.D. | Asst. Prof. | Medical Botany | 8 | - | | --- |
| 14. | Miss.S.Gomathy | M.Phil. | Asst. Prof. | Plant Pathology | 6 | - | | Doing Ph.D. |
| 15. | Mrs.M.Mahadevi | M.Phil. | Asst. Prof. | Biocontrol | 5 | - | | --- |
| 16. | Mrs.A.Karpaga lakshmi | M.Phil. | Asst. Prof. | Herbal Technology | 4 | - | | Doing Ph.D. |
| 17. | Mrs.V.Manimegalai | M.Phil. | Asst. Prof. | Mycology, Pathology | 4 | - | | Doing Ph.D. |
| 18. | Miss.Merlyn stephan | M.Phil. | Asst. Prof. | Sacred groves | 3 | - | | Doing Ph.D. |
| 19. | Dr.P.Kavitha | Ph.D. | Asst. Prof. | Agricultural and Medical Microbiology | 10 | - | 04 | --- |
| 20. | Dr.K.Kanimozhi | Ph.D. | Asst. Prof. | Agricultural Microbiology | 9 | - | 04 | --- |
| 21. | Dr.G.Kanimozhi | Ph.D. | Asst. Prof. | Marine Microbiology | 8 | - | 04 | --- |
| 22. | Dr.G.Senthilkumar | Ph.D. | Asst. Prof. | Agricultural, Mycology & Plant Pathology | 7 | - | 05 | --- |
| 23. | Mr.V.Baskar | M.Phil. | Asst. Prof. | Marine Actinomycetes | 4 | - | | Doing Ph.D. |
| 24. | Miss.D.Pavai | M.Phil. | Asst. Prof. | Medical Microbiology | 3 | - | | --- |
| 25. | Mrs.D.K.Usha | M.Phil. | Asst. Prof. | Medical Microbiology | 3 | - | | --- |
| 26. | Mrs S.Jamunarani | M.Phil. | Asst. Prof. | Agriculture Microbiology | 1 | - | | --- |

8. Percentage of classes taken by temporary faculty – programme-wise information

| Sl. No. | Programmes | Morning session | Evening session |
|---------|------------------|-----------------|-----------------|
| 1. | UG –Botany | 42 | 58 |
| 2. | PG –Botany | 11 | 89 |
| 3. | PG –Microbiology | 88 | 12 |

9. Programme-wise Student Teacher Ratio

| Sl. No. | Name of the programme | Student teacher ratio |
|---------|------------------------|-----------------------|
| 1. | Allied – Botany | 9 : 1 |
| 2. | UG – Botany | 9 : 1 |
| 3. | PG – Botany | 8 : 1 |
| 4. | PG – Microbiology | 8 : 1 |
| 5. | M.Phil. – Botany | 3 : 1 |
| 6. | M.Phil. – Microbiology | 3 : 1 |

10. Number of academic support staff (technical) and administrative staff: sanctioned and filled

| Sl. No. | Staff | Sanctioned | Filled |
|---------|----------------|------------|--------|
| 1. | Lab. Assistant | 11 | 11 |
| 2. | Administration | 01 | 01 |

11. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Mention names of funding agencies and grants received project-wise.

| Sl. No | Name of the Faculty | Project Title | Name of ongoing/ Completed project | Name of funding agency | Amount sanctioned Rs. |
|--------|--|--|------------------------------------|---------------------------------|-----------------------|
| 1. | Dr.S.Kulothungan | Somatic embryogenesis & Plantlet regeneration in the suspension culture of Cow Pea | Completed 2000- 2002 | UGC – Minor | 45,000/- |
| 2. | Dr.S.Vijayakumar | Bioremediation studies on industrial effluents | Completed 2008- 2010 | UGC – Minor | 1,30,000/- |
| 3. | Dr.A.Panneerselvam | Evaluation of native soil phosphate solubilizing fungi as Biofertilizers for coastal crop field of Tamil Nadu | Completed 2010 | UGC- Minor | 1,05,000/- |
| 4. | Dr.S.Jeyachandran Principal Investigator Dr.R. Chandrasekaran Co Investigator | Survey of Marine Diatom diversity of Pudukottai, Thanjavur, Thiruvavur and Nagapattinam Districts south east coast of India | Completed 2010 - 2011 | DST New Delhi & TNSCS&T Chennai | 5,61,890/- |
| 5. | Dr.V.Ambikapathy | Biotechnological potentials of medically important bioactive compound from endophytes of east coast of India | Ongoing 2012-2013 | UGC – Minor | 95,000/- |
| 6. | Dr.A.Panneerselvam | Bio diversity and biotechnological potential of micro fungi associated with mangrove of Muthupet and maravakkadu, Tamil Nadu | Ongoing 2012-2015 | UGC- Major | 9,05,400/- |
| 7. | Dr.S.Vijayakumar | Pharmacophoric analysis and discovery of new drugs from cyanobacteria | Ongoing 2012-2015 | UGC – Major | 10,39,200 |

12. Departmental projects funded by DST-FIST; DBT, ICSSR, etc.; total grants received :

| Sl. No. | Title of the Project | Funding Agency | Grant | Year | Name of the Investigator |
|---------|--|----------------|----------|-----------|--------------------------|
| 1. | Bio active compounds from Marine planktonic Diatoms of Pudukkottai, Thanjavur, Tiruvavur and Nagapattinam Districts. | DST and TNSCST | 5,61,890 | 2009 – 10 | Dr.S.Jeya chandran |

13. Research facility / centre with

• **State recognition:-**

- ❖ Recognized Research Centre of Bharathidasan University and Collaborative Research work is carried with the Dept. of Microbiology, Bharathidasan University, Tiruchirappalli and PRIST University, Vallam, Thanjavur
- ❖ Research collaboration with Periyar University, Salem
- ❖ Staff members have served as Resource persons in State and National Scientific Forums.



- **National recognition:-**
 - ❖ **Dr. A. Panneerselvam** - Peer Reviewer for 13 books and journals
 - ❖ **Dr. A. Panneerselvam** – Specialized in Identification of Microbes and subject expert for DST Projects by research scholars in Sathya Sai University, Prasanthi Nilayam, Andhra Pradesh
- **International recognition:-**
 - ❖ **Dr.A.Panneerselvam** is conferred an honorary appointment to the Research Board of Advisors, American Biographical Institute, USA
 - ❖ **Dr.A.Panneerselvam and Dr.V.Ambikapathy** – Gene sequencing of 72 species of Bacteria, Fungi and Actinomycetes deposited in the Gen bank (NCBI), DDBJ and EMBL
 - ❖ **MoU with**
 - ✓ FISK University, Nash Ville, U.S.A
 - ✓ Malaysian Agriculture University, Kuala Lumpur
 - ✓ King’s Saud University, Saudi Arabia.
 - ✓ AMBO University, South Africa.
 - ✓ International University, Combodia.

14. Publications:

- * **Number of papers published in peer reviewed journals (national/international)**

| Sl. No. | Year of Publication | No. of papers Published | |
|---------|---------------------|-------------------------|---------------|
| | | National | International |
| 1. | 2007 – 2008 | 19 | 3 |
| 2. | 2008 – 2009 | 27 | 10 |
| 3. | 2009 – 2010 | 29 | 20 |
| 4. | 2010 – 2011 | 52 | 39 |
| 5. | 2011 – 2012 | 97 | 48 |
| | Total | 224 | 120 |

- * **Monographs** : Nil
- * **Chapter(s) in Books** : 05

| Sl. No. | Name of the faculty | Title | Publisher | Year |
|---------|---------------------|---|---|------|
| 1. | Dr.A.Panneerselvam | Biotechnological Potentials of Higher Fungi (2010) PP: 86 -106 | IK, International Publication House Pvt. Ltd. New Delhi | 2010 |
| 2. | Dr.A.Panneerselvam | Biological Control of soil borne plant pathogens (2010) pp: 244 – 254 | Sci. Tech. Publications (Indian) Pvt. Ltd. Chennai | 2010 |
| 3. | Dr.A.Panneerselvam | Role of Biocontrol Agents for Disease Management in sustainable Agriculture (2010) pp: | Sci. Tech. Publications (Indian) Pvt. Ltd. Chennai | 2010 |
| 4. | Dr.A.Panneerselvam | Fungicides for plant and Animal Diseases (2011) pp: 29 – 54; ISBN. NO. 978 – 953, 307, 309 -8 | Intech Open Access | 2011 |
| 5. | Dr.A.Panneerselvam | Aflatoxins – Biochemistry and Molecular Biology (2011) pp: 221 – 254 | Intech Open Access | 2011 |

* Editing Books : 03

| Sl. No. | Title of the book | Editors | Year of publication |
|---------|--|---|---------------------|
| 1. | Biodiversity Conservation & Management- ISBN.NO.978 – 812; 9079: 49 – 47 | Dr.G.Senthilkumar and Dr.A.Panneerselvam | 2009 |
| 2. | Fungicides for plant and Animals Diseases pp: 29–54 | Dr. D.Dhanasekaran, Dr.N.Thajuddin and Dr.A.Panneerselvam | 2011 |
| 3. | Plant Biotechnology - (ISBN- 978-81-909652-0-2) | Dr.K. Karthikeyan, Dr. C.Chandran and Dr. S.Kulothungan | 2011 |

- * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) : Gene sequencing deposited in NCBI, DDBJ, EMBL
- * Citation Index–range/average Max.- 46; : 27.5 (average)
Minimum- 9
- * SNIP, Max.- 0.699; Minimum- 0.017 : 0.464 (average)
- * SJR, Max.- 0.538; Minimum- 0.102 : 0.3312 (average)
- * Impact factor – range/average, Max.- 2.930; : 1.65 (average)
Min.- 0.065
- * h-index, Max.- 4; Minimum- 2 : 6 (average)

15. Details of patents and income generated:

BIO PESTICIDE FORMULATION – UNDER PROCESS

16. Areas of consultancy and income generated:

On non profitable basis we give consultation for mushroom cultivation, Herbal cultivation and Herbal Medicine preparation, Vermicomposting Technology, Organic farming, Biofertilizer production for needy people.

17. Faculty recharging strategies

Staff members have undergone **Orientation, Refresher Courses**, attended seminars and presented papers.

Orientation / Refresher and Training Programmes

| Sl. No. | Year | Number of staff attended | | |
|---------|-------------|--------------------------|-----------|---------------------|
| | | Orientation | Refresher | Training Programmes |
| 1. | 2007 – 2008 | 02 | - | 05 |
| 2. | 2008 – 2009 | 03 | 01 | 07 |
| 3. | 2010 – 2011 | - | 04 | 02 |
| 4. | 2011 – 2012 | - | 01 | 01 |

Papers presented in Seminars

| Sl. No. | Year | No. of Papers Presented | | |
|---------|-------------|-------------------------|----------|---------------|
| | | State | National | International |
| 1. | 2007 – 2008 | - | 27 | 02 |
| 2. | 2008 – 2009 | 02 | 32 | 05 |
| 3. | 2009 – 2010 | - | 27 | 02 |
| 4. | 2010 – 2011 | - | 30 | 05 |
| 5. | 2011 – 2012 | 01 | 19 | 03 |

18. Student projects

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

| Year | Inhousing Project (%) | Collaboration Projects (%) |
|-------------|-----------------------|----------------------------|
| 2007 – 2008 | 83 | 17 |
| 2008 – 2009 | 78 | 22 |
| 2009 – 2010 | 91 | 09 |
| 2010 – 2011 | 90 | 10 |
| 2011 – 2012 | 80 | 20 |

19. Awards / recognitions received at the national and international level by

- Faculty – Awards

- ✎ Environmentalist Award given by World Wide Fund for Nature (WWF), Tamil Nadu State Office, Dept. of Environment & TNSCST, Chennai 15th December, 2008 (**Dr.A.Panneerselvam**)
- ✎ Great minds of the 21st century published by the American Biographical Institute, 19th November, 2010. (**Dr.A.Panneerselvam**)
- ✎ Young Scientist Gold Medal Awarded by Punjab Agri. University and Indian Society of life Sciences. November, 2008. (**Mr.V.Baskar**)
- ✎ The International Einstein Award for Scientific Achievement by International Biographical Centre, Cambridge, England 23rd July 2010. (**Dr.A.Panneerselvam**)
- ✎ Leading Scientist of the World of 2011 by IBC, Cambridge, England. (**Dr.S.Vijayakumar**).
- ✎ Best Paper Award by Columbo University, Sri Lanka, Dec.2011. (**Dr.S.Vijayakumar**).
- ✎ Young Scientist Award from Johns Hopkins University, Maryland, USA. Sept. 2012 (**Dr.S.Vijayakumar**)

Doctoral / post doctoral fellows

- ✎ **S.Vijayalakshmi**, received gold medal and first prize for the best paper presentation in the national level seminar held at SNMV College, Coimbatore(2009) Title : Serum protein expression pre ART and ART treated HIV Patients using SDS-PAGE in an ART Clinic.
- ✎ Best Paper Award to **Mr.R.Vijayakumar**, Research scholar of our department for his outstanding research paper published in the Pharmaceutical and health care science society, Swind, UK.



- **Students** -
 - ❖ M.Nithya, INSPIRE
 - ❖ S.Murugesan, P.Serfoji & J.Jayabal, Ph.D. Rajiv Gandhi fellowship
 - ❖ R.Rajasekaran & A.Ganesh, Jawarhalal Nehru Fellowship
 - ❖ S.Ramu, G.Senthilkumar, T.Ushadevi, S.Kannaki & S.Gomathi – Directorate of Collegiate Education
 - ❖ V.Karuppuraj, M.Ramaguru, U.Deepa, R.Mahalakshmi, P.Thirunavukkarasu, R.Deepalakshmi & K.Vijayalakshmi - TNSCST
 - ❖ Ms.M.Santhiah passed SRF-CSIR

20. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

| S. No. | Name of the Seminar/ Conference/Workshops | Funding Agencies | Date of Seminar | Resource Person |
|--------|---|---|-----------------|---|
| 1. | Scientific awareness Programme under population of Sciences | TNSCST Chennai & NSCST New Delhi Rs.50,000/- | 25.03.2010 | 1.Prof K.Kathiresan CAS in Marine Biology Parangipettai 2.Mr.Mariyappan, CFRI, Madurai 3.Mr.R.Senthilkumar Amman Biocare, Thirukkarnurpatt, Thanjavur. |
| 2. | Training programme on Edible Mushroom Cultivation | TNSCST Chennai Rs.45000/- | 24.12.2009 | 1. Dr.A.Panneerselvam, Associate Prof. of Botany & Microbiology 2.Mr.R.Senthilkumar, Amman Biocare, Thirukkanurpatti, Thanjavur. |
| 3. | Current affairs in Biological Research | TNSCST Chennai & NSCST New Delhi Rs.15000/- | 05.10.2012 | Guest lecture 1. Prof.L.Kannan, Former Vice Chancellor, Thiruvalluar University, Vellore 2. Prof.N.Anand, Former Vice Chancellor, Vels University, Chennai 3. Prof.K.Kathiresan, CAS Marine Biology, Parangipettai |

21. Student profile course-wise:

UG Programmes (Botany)

| Year of study | Applications received | Selected | | Pass percentage | |
|---------------|-----------------------|----------|--------|-----------------|--------|
| | | Male | Female | Male | Female |
| 2007-08 | 58 | 32 | 25 | 66 | 92 |
| 2008-09 | 52 | 30 | 18 | 67 | 94 |
| 2009-10 | 57 | 30 | 23 | 57 | 83 |
| 2010-11 | 44 | 22 | 22 | 77 | 86 |
| 2011-12 | 75 | 20 | 29 | 40 | 82 |

PG Programmes (Botany)

| Year of study | Applications received | Selected | | Pass percentage | |
|---------------|-----------------------|----------|--------|-----------------|--------|
| | | Male | Female | Male | Female |
| 2007-08 | 58 | 23 | 25 | 97 | 91 |
| 2008-09 | 47 | 18 | 28 | 89 | 100 |
| 2009-10 | 37 | 14 | 21 | 100 | 100 |
| 2010-11 | 37 | 13 | 16 | 77 | 100 |
| 2011-12 | 63 | 10 | 31 | 96 | 100 |

PG Programmes (Microbiology)

| Year of study | Applications received | Selected | | Pass percentage |
|---------------|-----------------------|----------|--------|-----------------|
| | | Male | Female | |
| 2007-08 | 32 | 10 | 20 | 100 |
| 2008-09 | 20 | 05 | 23 | 100 |
| 2009-10 | 28 | 06 | 14 | 96 |
| 2010-11 | 40 | 03 | 35 | 100 |
| 2011-12 | 22 | 02 | 13 | 100 |

M.Phil. Programmes (Botany)

| Year of study | Applications received | Selected | | Pass percentage |
|---------------|-----------------------|----------|--------|-----------------|
| | | Male | Female | |
| 2007-08 | 15 | 07 | 08 | 93 |
| 2008-09 | 14 | 03 | 07 | 100 |
| 2009-10 | 15 | 07 | 05 | 77 |
| 2010-11 | 06 | 03 | 02 | 100 |
| 2011-12 | 16 | 05 | 07 | 73 |

M.Phil. Programmes (Microbiology)

| Year of study | Applications received | Selected | | Pass percentage |
|---------------|-----------------------|----------|--------|-----------------|
| | | Male | Female | |
| 2007-08 | 29 | 05 | 23 | 100 |
| 2008-09 | 25 | 04 | 19 | 96 |
| 2009-10 | 18 | 04 | 13 | 100 |
| 2010-11 | 06 | --- | 06 | 100 |
| 2011-12 | 12 | --- | 08 | 88 |

Ph.D. Programmes (Botany and Microbiology)

| Doing | | Awarded before the assessment period | | Awarded during the assessment period | |
|-------|--------|--------------------------------------|--------|--------------------------------------|--------|
| Male | Female | Male | Female | Male | Female |
| 18 | 19 | 35 | 08 | 37 | 20 |

PG Diploma Programmes

| Year of study | Admitted | | Pass percentage | |
|---------------|----------|--------|-----------------|--------|
| | Male | Female | Male | Female |
| 2007 – 2008 | 15 | 20 | 100 | 100 |
| 2008 – 2009 | 12 | 18 | 100 | 100 |
| 2009 – 2010 | 05 | 12 | 100 | 100 |
| 2010 – 2011 | 08 | 09 | 100 | 100 |
| 2011 – 2012 | 05 | 07 | 100 | 100 |

Certificate Course

| Year of study | Applications received | Selected | Pass percentage |
|---------------|-----------------------|----------|-----------------|
| 2007-08 | 13 | 13 | 100 |
| 2008-09 | 18 | 18 | 100 |
| 2009-10 | 15 | 15 | 100 |
| 2010-11 | 20 | 20 | 100 |
| 2011-12 | 23 | 23 | 100 |

22. Diversity of students

| Name of the Course (refer question no. 2) | % of students from the College | % of students from the State | % of students from other States | % of students from other countries |
|---|--------------------------------|------------------------------|---------------------------------|------------------------------------|
| B.Sc -Botany | --- | 100 | --- | --- |
| M.Sc (Botany) | 26 | 74 | --- | --- |
| M.Phil (Botany) | 58 | 42 | --- | --- |
| M.Sc.,(Microbiology) | 97 | 03 | --- | --- |
| M.Phil.,(Microbiology) | 90 | 10 | --- | --- |
| Ph.D(Botany) | 50 | 50 | --- | --- |
| Ph.D.(Microbiology) | 15 | 75 | 10 | --- |

23. How many students have cleared Civil Services, Defence Services, NET, SLET, GATE and any other competitive examinations?

| Sl. No. | Name of the Examination | No. of Students |
|---------|-------------------------|-----------------|
| 1. | NET | 02 |
| 2. | SLET | 04 |
| 3. | TNPSC-CSSE-I | 02 |
| 4. | TNUSRB | 15 |

24. Student progression

| Student progression | Percentage against enrolled |
|---------------------------------|-----------------------------|
| UG to PG | 60 |
| PG to M.Phil. | 37 |
| PG to Ph.D. | 05 |
| Ph.D. to Post-Doctoral | 03 |
| Employed | |
| • Campus selection | 14 |
| • Other than campus recruitment | 60 |
| Entrepreneurs | 05 |

25. Diversity of staff

| Percentage of faculty who are graduates | |
|---|----|
| same parent university | 72 |
| various universities within the State | 28 |
| other universities from other States | - |

26. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period:

| Sl. No. | Year of completion | No. of faculty awarded Ph.D. | Others | Total |
|---------|--------------------|------------------------------|--------|-------|
| 1. | 2007 | 02 | 07 | 09 |
| 2. | 2008 | -- | 12 | 12 |
| 3. | 2009 | 01 | 10 | 11 |
| 4. | 2010 | 02 | 07 | 09 |
| 5. | 2011 | 03 | 04 | 07 |
| 6. | 2012 | 01 | 08 | 09 |

27. Present details about infrastructural facilities

- a) Library : General Library : **3,200 books**
 Department Library : **255 books**
- b) Internet facilities for staff and students : Internet facility is available in the department for staff and students.
- c) Total number of class rooms : 07
- d) Class rooms with ICT facility : 01
- e) Students' laboratories : 04
- f) Research laboratories : 02
- g) Germplasm maintenance lab : 01
- h) Plant Tissue culture lab : 01
- i) Botanical garden : 01

28. Number of students of the department getting financial assistance from College.

| Year | Management Financial Assistance | | | Government Financial Assistance | | |
|---------|---------------------------------|----|--------|---------------------------------|----|--------|
| | UG | PG | M.Phil | UG | PG | M.Phil |
| 2007-08 | 13 | 9 | 2 | 135 | 88 | 15 |
| 2008-09 | 15 | 16 | 10 | 52 | 46 | 14 |
| 2009-10 | 28 | 15 | 2 | 131 | 42 | 18 |
| 2010-11 | 35 | 4 | 3 | 102 | 30 | 14 |
| 2011-12 | 20 | 9 | 3 | 170 | 64 | 16 |

29. Was any need assessment exercise undertaken before the development of new program(s)? If so, give the methodology.

Need assessment exercise was undertaken before the development of all the programmes including B.Sc., Industrial Microbiology.

For B.Sc. Industrial Microbiology, survey was undertaken among I UG students of Physics, Chemistry, Botany, and Zoology with biology back ground at plus two levels. For M.Sc. Microbiology the need assessment was undertaken by surveying the colleges offering M.Sc. Microbiology and the availability of experienced faculties.

The production of Biofertilizers was much below the potential demand and the reason for this is the non availability of trained manpower. To overcome this problem, the department often had discussions with eminent agricultural scientists like Dr.Rengasamy, Former Vice Chancellor of TNAU, Dr.S.Kannaiyan, Former Vice Chancellor of TNAU and other distinguished agriculture scientists. These eminent scientists as the members of Board of Studies introduced P.G. Diploma in Biofertilizers.

30. Does the department obtain feedback from

a) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize it?

- Experienced faculty members based on their experience in teaching and evaluation give their feedback while serving as members of Board of Studies.
- Faculty members from other institutions give their feedback during valuation.
- Qualities of the academic programmes are ensured by revising the syllabus periodically based on the feedback from students, Alumni and academic experts' suggestions.
- Incorporate scope to develop the skills to write the competitive examinations like GATE/CSIR/SET.

b) Students on staff, curriculum as well as teaching-learning-evaluation and what is the response of the department to the same?

- Students' feedback on staff received after every semester, is taken into consideration and remedial measures are taken immediately by the Principal through IQAC and Senior staff members.
- Students' feedback on curriculum received from outgoing students, is taken into consideration while framing and revising the syllabus.
- Students' representation is there in Board of Studies to elicit their point of view.

c) Alumni and employers on the programmes and what is the response of the department to the same?

- Feedback from Alumni and employers on the programmes, received during Alumni meets and Employers' interaction are taken into consideration while framing and revising the syllabus.
- Representation of Alumni and employers is there in Board of Studies for getting their valuable suggestions and incorporated positively.



31. List the distinguished alumni of the department (maximum 10)

| SL. No. | Name of the Alumni | Designation | Place |
|---------|----------------------|---|---|
| 1. | Dr.M. R. Natarajan | Deputy Secretary of state policy & External Affairs, office of the secretary of state | State House, Annapolis, Maryland-21401 rnatarajan@sos.state.md.us |
| 2. | Dr.K.Sivakumar | Professor of Botany | Annamalai University, Annamalai Nagar |
| 3. | Dr.R.Vijayakumar | Asst. Professor and Head | Dept.of Microbiology, Bharathidasan University constituent College, Perambalur |
| 4. | Dr.R.Rajesh | General manager | The Biosolution Company, RND Softtech, Coimbatore |
| 5. | Dr.Ganesh Kumar | Project Manager& Scientist | Biocon industries Bangalore |
| 6. | Dr.C.Muthukumar | Assistant Professor of Botany, Dept. of Botany | Dept. of Botany & Microbiology, King Saud University, Saudi Arabia |
| 7. | Dr.R.Ramalingam | Joint Director(Law) | Directorate of Elementary, School education, Nungambakkam, Chennai |
| 8. | Dr.C.Arunachalam | Asst. Professor, Dept. of Botany & Microbiology, College of science | Kingsaud university, Building Number-05, P.O.Box:2455, Riyadh-11451 dr.arun_micro@gmail.com |
| 9. | Dr.G.Natanamurugaraj | Senior Lecturer, Faculty of Industrial science & Technology | University of Malayasia, Pahang, Lebuhrayatunrazak, Darul Makumur, nadanam@gmail.com |
| 10. | Dr.A.Anderson | Asst. Professor, Dept. of Microbiology, Virology & Immunology, Faculty of health sciences | international university& Sen sok International university Hspital, 91-96 street 1986,Sangkat phnompenh Themy, khan sensok, Cambodia, ansanmicro@gmail.com |
| 11. | Dr. M.Gopinathan | Professor & Head | M.R.Govt. Arts College, Mannargudi |
| 12. | Dr. P.Madhanraj | Assistant Professor | Thanthai Hans Rover College, Perambalur |
| 13. | Dr. N. Thajuddin, | Professor of Microbiology and Post Doctoral Fellow at USA Lab. | BARD, Trichy |
| 14. | Dr. N. Nadimuthu | Assistant Professor | Avvaiyar Govt. College, Karaikkal |
| 15. | Dr. S.Usha | Assistant Professor | KNG Arts College,(w), Thanjavur. |

32. Give details of student enrichment programmes (special lectures/workshops / seminar) with external experts.

- a) Department Seminars at UG, PG and M.Phil. levels are conducted once in a semester
 b) Special Lectures with external experts are arranged periodically.

| Sl. No. | Seminar Date | Seminar Title | Invited Talk |
|---------|--------------|---|--|
| 1. | 06.03.2009 | Training programme on Herbal Technology | Thiru.V.Narayanan,Siddha Medicine Pandit and Practitioner, Thirunelveli |
| 2. | 11.12.2009 | Genetic Engineering a revolution in molecular Biology | Dr.M.Gunasekaran, Prof. of Botany, Fisk University, Nashville, Tennessee, USA. |
| 3. | 25.03.2010 | Scientific Awareness Camp for Farmers and Self Help Groups | Mr.M.Mariyappan & Mr.Senthilkumar Experts of Microbiology, Amman Biotech., Thirukanurpatti |
| 4. | 05.10.2012 | State level seminar on current affairs in biological research | Prof.L.Kannan,Former Vice Chancellor, Thiruvalluvar University, Vellore Prof.N.Anand,Former Vice Chancellor, Vels University, Chennai Prof.K.Kathiresan, CAS Marine Biology, Parangipettai |
| 5. | 11.10.2012 | Training Programme on Herbal Technology | Mr.Manivasagam, Herbalist & Siddha Practitioner, Devur Mr.Paramasivam, Traditional Siddha Practitioner, Thanjavur Mr.M.Punniyamoorthy, Traditional Siddha Pandit, Thanjavur |

33. List the teaching methods adopted by the faculty for different programmes.

| Sl. No. | Programme | Teaching Methods Adopted |
|---------|-----------|---|
| 1. | UG | Chalk and talk method adapted. Teaching with aid of Charts, Models and Specimens in Practical Classes- Visiting Industries, laboratories & also field trips |
| 2. | PG | Teaching method adopted by using the LCD and Net, Seminar, Group Discussion, Periodical visits to areas of botanical/microbiological interest at national level |
| 3. | M.Phil. | Seminar and Group Discussion, LCD and OHP preparation Skills, Motivating Teaching Skills |

34. How does the department ensure that programme objectives are constantly met and learning outcomes monitored?

- a) The department ensures that the objectives of the various programmes are met and learning outcomes are monitored by interaction with students, class seminars, participation in seminars, by evaluation tests such as objective type test, Paragraph and essay questions periodically.

35. Highlight the participation of students and faculty in extension activities.

Participation in Extension activities is mandatory for all UG students as **Part-IV** of studies. In Extension activities we offer NSS, NCC, YRC, Students EXNORA, etc.

Extension Activities

- ❖ Herbal Technology
- ❖ Mushroom Technology
- ❖ Biofertilizer Technology
- ❖ Plant Biotechnology
- ❖ Organic Farming Technology
- ❖ Vermi Composting Technology

The members of the staff who have been part and parcel of the department for more than three decades have equipped themselves in academic, research and extension activities. They are also capable of extending the resources of their research towards improving the economic status of the villages. The department is extending its services to the villagers and the public in the following aspects.

HERBAL TECHNOLOGY UNIT

Dr. T. Kumar, Dr. V. Ambikapathy, Dr. P. Pandiyan, Dr. S. Murugesan, Dr. S. Vasantha and a team of research scholars are conducting Herbal exhibition, Herbal medicinal workshop/campus self employment oriented training programmes on medicinal plants, Training to the villagers on organic herb farming, marketing and expert of medicinal plants, National level seminars are also conducted for the benefit of farmers of Tamilnadu on organic farming, organic cultivation, marketing and export of medicinal plants. About 100 important medicinal plants are being maintained in the Herbal Research Garden of the College to educate and train the farmers on medicinal plants.

EDIBLE MUSHROOM TECHNOLOGY UNIT

Dr. A. Panneerselvam, Dr. G. Senthilkumar, Dr. K.Kanimozhi, Ms. P. Vanathi are extending mushroom cultivation technology training to the rural masses of Thanjavur, Thiruvarur and Nagapattinam district. Women self help groups, student entrepreneurs and unemployed youths are the beneficiaries. This unit is also providing mushroom spawn bottles for multiplication.



BIOFERTILIZERS RESEARCH UNIT

Dr. C. Chandran, Dr. K. Kanimozhi, Dr. G. Kanimozhi, are engaged in extending biofertilizer technologies to the villagers. They are giving training to the farmers. This unit is multiplied in large scale production of bioinoculants viz. Azospirillum, Azotobacter, Rhizobium, Azolla, Cyanobacterium and AM Fungi and also supplied to the farmers for cultivation of cereals, legumes and medicinal plants

PLANT BIOTECHNOLOGY UNIT

Dr. S. Kulothungan, Dr. C. Chandran, Dr. K. Karthikeyan are engaged in extending Tissue culture Technologies to the Research scholars and PG students.

ORGANIC FARMING PRODUCTION UNIT

Dr. C. Chandran, and a team of research scholars are conducting workshop/campus self employment oriented training programmes on organic farming to the villagers, National level seminars are also conducted for the benefit of farmers of Tamilnadu on organic farming, organic cultivation and marketing.

VERMI COMPOSTING TECHNOLOGY

Dr. T. Kumar, Dr. C. Chandran, Dr. S. Murugesan, and a team of research scholars are conducting workshop/campus self employment oriented training programmes on vermi composting technology to the villagers, National level seminars are also conducted for the benefit of farmers of Tamilnadu on vermi composting technology and marketing.

Participation of faculty in Extension Activities

| Sl. No. | Name of the Faculty | Name of the Extension Activity Participated |
|---------|---------------------|---|
| i. | Dr.R. Chandrasekran | Nature club |
| ii. | Dr.A. Panneerselvam | Nature club and NSS |
| iii. | Dr.S. Kulothugan | Nature club and NSS |
| iv. | Dr. S.Murugesan | NSS |
| v. | Dr. T.Kumar | Students EXNORA Club |

36. Give details of “beyond syllabus scholarly activities” of the department.

- ✎ The department encourages students to participate in competitions of various nature conducted by different institutions by guiding them.
- ✎ The Department, funded by **DST-TNSCST**, Chennai organized **YSSP** consequently for 3 years (1999-2002).
- ✎ Train the students to obtain fellowship especially at PG and research level.
- ✎ E-Learning

37. State whether the programme/ department is accredited/ graded by other agencies. Give details :

UGC- Committee and University Committee visited our institutions once in four years

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

Strengths:

- i. The faculty members are well informed in their subjects with diversified fields of specialization.
- ii. Student joining in UG can study up to research level in our department.
- iii. As our department is under a two in one mode with Botany and Microbiology, there is wider scope and area for study and research.
- iv. B.Sc., Botany students eligible for studying M.Sc. Microbiology, Biotechnology, Bioinformatics, Gene technology, Nano technology etc.
- v. All the staff members are with research degrees and research experience.

Weaknesses:

- i. Generally students prefer job-oriented courses like Computer Science and neglect basic science subjects.
- ii. At school level Botany is taught only as a part of biology. So proper interest in studying Botany must be created at secondary level itself.
- iii. Novel programmes by national funding agencies to establish industry institutional tie up is absent.
- iv. The government policy of not approving courses in aided section discourages starting new interdisciplinary courses.
- v. Being an agrarian area, opportunities for industrial tie up are rare.

Opportunities:

- i. Most of the students can get teaching job in self finance, Govt. colleges and University.
- ii. The students can get placement in Food Processing and medical laboratories
- iii. There is scope for becoming Cane officers in sugar industries.
- iv. They can become entrepreneurs in Biofertilizers especially in Vermi composting, Preparation of organic manure etc.
- v. Job opportunities are available in herbal care product industries.



Challenges:

- i. Medium of instruction is a challenge for students' comprehension of the subject.
- ii. To invoke scientific temper among the students.
- iii. Improving communication skills for the students.

39. Future plans of the department.

- i. Identification of drought tolerant disease resistant varieties suitable for our environment and supplying the same for local farmers
- ii. Providing soil testing facility for local farmers
- iii. Identification of prevailing diseases in the crop plants of Thanjavur (Dt)
- iv. Establishment of Centre for Research and Germplasm Collection for Microbes
- v. The department has plans to get MoU's with other institutions/Universities within India and abroad.
- vi. Getting the department recognized for Special Assistance Programme (SAP) and FIST.
- vii. Ultimate aim is to become Centre for excellence in Plant Science.

Achievements of the Department:

- * Introduction of **UGC vocational course** at UG Level in 1995-98.
- * Conducted **job oriented Diploma/ Certified Course**
 - **PG Diploma in Biofertilizers**
(Introduced by the Department for the first time in India).
 - Certificate Course in
 - Herbal technology
 - Biofertilizers
 - Edible Mushroom Cultivation
 - Plant Biotechnology
- * Establishment of a **Botanical Garden (Herbal Garden)** and a **Farmer training centre.**
 - The former Vice chancellor of Bharathidasan University, Tiruchirappali suggested this as a role model for other institutions to establish Herbal Garden.



- MOEn&F has sanctioned a sum of Rs.10 lakhs to our department for this purpose.
- * Conducted **training programme** under the TRYSEM Project, DRDA on Edible Mushroom cultivation.
- * Conducted training programme for local farmers on **organic farming**.
- * Conducted training programme for farmers on **cultivation of medical plants**.
- * Conducted training programme to **sugarcane officers/cane assistants** of various sugar factories on Biofertilizers.
- * **Gene sequences** for cyanobacteria, fungi, bacteria and actinomycetes were analysed and deposited in NCBI gene Bank.
- * **Orientation programme** conducted by the staff members of our department to PG school teachers on 22.8.2004 at Mannargudi and Orathanadu.
- * Conducted **workshops** to **sugarcane officers** in collaboration with Tamil Nadu sugar federation, Chennai.
- * Department have organized one **International Seminar** and many National, Regional and State level conferences, seminars and symposia.
- * Many **UGC minor and major projects** were sanctioned to our staff members by various funding agencies like UGC, CSIR, MOEn&F, DST & TNSCST.
- * From this department, **102 scholars** were awarded with **Ph.D., degree** since 1989 to till date.

