

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	
						Guided	Guiding		
	Aided Section:								
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.Vasanth	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.

