SRM COLLEGE OF AGRICULTURAL SCIENCES

Faculty of Agricultural Sciences

SRM Institute of Science and Technology

(*Deemed to be* University *u/s 3 of UGC Act, 1956*)

SELF STUDY REPORT - 2023

(Programme - B.Sc. (Hons.) Horticulture)

Baburayanpettai, Elapakkam Post,
Maduranthagam Taluk, Chengalpattu District - 603 201
Tamil Nadu, India.

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CONTENT

6.4. Self-Study Report for B.Sc. (Hons.) Horticulture Degree Programme

6.4.1. Brief History of the Degree Programme

SRM Institute of Science and Technology (SRMIST) established the SRM College of Agricultural Sciences (SRMCAS) under the Faculty of Agricultural Sciences in 2018 at Main campus, Kattankulathur by starting **B.Sc. (Hons.) Horticulture Degree Programme.** SRM College of Agricultural Sciences started functioning at Baburayanpettai, Madhuranthakam Taluk of Chengalpattu District. SRMCAS aims to provide quality horticultural education with a prime purpose to address the challenging tasks emerging in the field of horticulture through worthwhile coaching, field-oriented extension, and need-based research. Hence, a four year **B.Sc. (Hons.) Horticulture Degree Programme** was started at SRMCAS in August, 2018 based on the recommendations of the Board of Management of SRMIST during its meeting held on 20th June, 2018 (***Annexure I***).

Academic Programme

- As per the recommendations of Fifth Deans' Committee, ICAR, New Delhi on the uniform nomenclature of UG degree in Horticulture, the B.Sc. (Hons.) Horticulture Degree Program was started from the year 2018.
- The curriculum of the programme includes Theory, Practical, Field Visits, Students READY (Experiential Learning Programmes, Rural Horticultural Work Experience (RHWE), In-plant Trainings and Educational Tours) and hands-on experience in the laboratories, demonstration units and fields at rural/urban settings.

The faculty transacts curriculum as promulgated by ICAR, New Delhi. The curricula and timetable pertaining to B.Sc. (Hons.) Horticulture Degree Programme is provided in ***Annexure II.***

Objectives

- To provide critical thinking and detailed knowledge about Horticulture in India and about various income generating enterprises and acquaint with impact of globalization and diversity in modern Horticulture setting.
- To provide globally competitive quality human resource and generating cutting edge technologies to address the challenges in Horticulture sector.

Accomplishments

During the year 2022, first batch consisting 30 students have successfully completed the B.Sc. (Hons.) Horticulture Degree Programme with 100 percent pass. Among the passed out students, ten students have secured CGPA above 9.00 / 10.00 and the rest of the students have secured CGPA of more than 8.00 / 10.00.

- Six graduates appeared for competitive examinations like ICAR, UPSC and TNPSC.
- Among all the passed out students, 15 students are pursuing higher education at National and International Institutions.
- Three graduates got placed in private sector and two graduates became entrepreneurs.
- One student has secured highest CGPA of 9.65 / 10.00 and awarded with a Gold Medal, by SRMIST during Annual Convocation.

6.4.2. Faculty Strength

In SRMCAS, utmost importance and efforts were made to ensure quality education through recruiting qualified faculty with notable credentials and profile. The college has adequately recruited competent faculty as per the ICAR requirement to cater to the students' strength for B.Sc. (Hons.) Horticulture programme.

The Academic Head of the Programme is Dr. M. Jawaharlal, Dean (SRMCAS), from 06.05.2022 onwards. He was served in Tamil Nadu Agricultural University for 36 years. He was honored with the position of Dean (Horticulture) in two colleges and Director of Extension Education, TNAU. To his merit, he has awarded with Best Teacher Award, Best Researcher Award (Twice) from TNAU. He has also been bestowed with several National level Awards. He has guided 37 M.Sc. Students, 22 Ph.D. Scholars and One Post-Doctoral Fellow in Horticulture Science. He was the CPI for NAIP project and he operated several externally funded projects for the worth of Rs. 10.67 crore. He has published 198 research articles in peer-reviewed reputed journals and authored 25 books. He visited eight countries and underwent PDT at NCSU, USA.

As per the ICAR Model Act, 2023, SRMCAS having a strength of 35 faculty members which include 27 core and 8 allied disciplines specialization suiting to undertake B.Sc. (Hons.) Horticulture programme. The present facuty strength is more than prescribed by the ICAR (27 core and 8 allied discipline faculty members). The faculty are well qualified to transact the curriculum as per the norms prescribed by ICAR.

The abstract of faculty strength available for B.Sc. (Hons.) Horticulture programme is detailed below:

Disciplines	Faculty Recommended			Faculty Available			
	Professor	Assoc. Professor	Asst. Professor	Professor	Associate Professor*	Asst. Professor	Total
Core Disciplines	0	8	19	0	2	25	27
Allied Disciplines	As per requirement			1	-	7	8
Total	0	8	19	1	2	32	35

* Out of 8 required Associate Professors, the Programme is having only 2 Associate Professors and remaining are adjusted with Professor and Asst. Professor cadre. The deficit in Associate Professor cadre is due to non-availability of eligible candidate in spite of advertising the post for recruitment. However, efforts are being taken by Appointment, Promotion and Tenure Committee (APT Committee) of SRMIST for promotion of the faculty.

Discipline wise Faculty available at SRMCAS

Details on Core Faculty for B.Sc. (Hons.) Horticulture Degree programme

S. No	Department	Minimum required by ICAR	Available	Professor	Associate Professor	Asst. Professor
1.	Fruit Science	4	4	-	-	**Core faculty** 1. **Dr. B. Gopu - HOD** (Horticulture) 2. Dr. A. Akino (Horticulture) 3. Dr. V. Deepika (Horticulture) 4. Dr. H. M. Vijaya (Horticulture)
2.	Vegetable Science	4	4	-	-	**Core faculty** 1. **Dr. A. Ravanachandar - HOD** (Horticulture) 2. Dr. D. Rameshkumar (Horticulture) 3. Dr. D. Kannan (Horticulture) 4. Dr. N. Vinothini (Seed Science and Technology)
3.	Floriculture and Landscape Architecture	3	4	-	-	**Core faculty** 1. **Dr. S. Anandhi – HOD** (Horticulture) 2. Dr. S. Shakila (Horticulture) 3. Dr. G. Rajiv (Horticulture) 4. Ms. C. Kanimozhi (Horticulture)
4.	Post-Harvest Technology	3	1+2*=3	-	-	**Core faculty** 1. **Dr. K. Prakash - HOD** (Horticulture) **Allied faculty** 2. Dr. P. Sheela (Food Science and Nutrition) 3. Ms. S. Chandraprabha (Food Science and Nutrition)
5	Plant Protection	3	3	-	-	**Core faculty** 1. **Dr. S. Rageshwari - HOD** Plant Pathology) 2. Dr. M. Muthukumar (Agricultural Entomology) 3. Dr. N. Ashokkumar (Nematology)
6.	Basic Sciences	3	4+2*=6	-	**Dr.S.Geetha - HOD** (Biochemistry)	**Core faculty** 1. Dr. J. Vanitha (Genetics and Plant Breeding) 2. Dr. P. Chandrasekaran (Crop Physiology) 3. Dr. K. Sathees Kumar (Agricultural Statistics) **Allied faculty** 1. Dr. T. Ragunathan (Mathematics) 2. Mr. J. Arunkumar (Computer Science)
7.	Natural Resources Management	4	4+3*=7	**Dr. Kothai Seshathri - HOD** (Microbiology)	-	**Core faculty** 1. Dr. S. N. Chikkaraju (Soil Science) 2. Dr. S. Sivakumar (Agricultural Engineering) 3. Mr. K. Dinesh (Agroforestry) 4. Dr. M. Sanjeeva Gandhi (Environmental Science) **Allied faculty** 5. Dr. K. Anbukkarasi (Agricultural Microbiology) 6. Dr. C. Dharani (Agrometeorology)
8.	Social Sciences	3	3+1*=4	-	Dr. N. Rangasamy (Agricultural Economics)	**Core faculty** 1. Dr.N. Periasami - HOD (Agricultural Economics) 2. Dr. M.R. Naveen Kumar (Agricultural Extension) **Allied faculty** 3. Dr. P. Sasikumar (English)
	Total	**27**	**27 + 8* = 35**	**1**	**2**	**32**

Note: *Allied faculty

6.4.3. Technical and Supporting Staff (including Administrative)

Required technical, supporting and administrative staff are available as per ICAR requirements to assist in conducting practical classes, field experiments and maintenance of stock register. Clinical staff including Doctor and Nurse are serving to take care of students and employees of the Institute. One Farm Manager is exclusively appointed to maintain the College farm and carryout day to day farm activities. Labourers are engaged in day to day activities of farm and field works. Other technical staff carry out the maintenance works like up keeping library, electrical and plumbing works in College, hostel and farm, movement of vehicles, *etc*. Security guards in College and hostel premises are involved in surveillance during day and night time on shift basis.

The details of staff as prescribed by the ICAR Fifth Dean's Committee is furnished below:

S. No	Name	Designation	Date of Joining	Qualification	Department/Office
1.	A. Chandramenan	Administrative Officer	28/06/2023	B.Com.,	Dean's office
2.	S. Jayalakshmi	Superintendent	03/01/2008	M.A., Public Admin., H.D.C.A., ITI (Stenography- English)	Dean's office
3.	V. Arumugam	Account Manager	05.10.2020	B.Com., MBA	Dean's office
4.	M. Anand	Assistant Engineer (Civil)	13/03/2023	B.E., (Civil)	Dean's office
5.	Dr. G. Prathista	Assistant Medical Officer	08/08/2022	MBBS	Students welfare
6.	S. Ramanan	Library Assistant	02/02/2022	M.Tech. CSE	Library Staff
7.	P. Deivarani	Library Assistant	02/02/2022	B.A.,	Library Staff
8.	M. Parthiban	Lab Assistant	02/02/2022	B.Sc., (Plant Biology and Biotechnology)	Department of Vegetable Science
9.	M. Kamalakannan	Lab Assistant	02/02/2022	B.Sc., (Horticulture)	Department of Floriculture and Landscape Architecture
10.	M. Prakash	Lab Assistant	21/02/2022	B.Sc., (Agriculture)	Department of Fruit Science
11.	R. Dineshkumar	Lab Assistant	12/08/2022	B.Sc., (Biochemistry)	Department of Basic Sciences
12.	A.M.Sharmila	Lab Assistant	12/08/2022	B.Sc., B.Ed., (Chemistry)	Department of Natural Recourse Management
13.	M. Trisha	Lab Assistant	07/02/2022	B.Sc. (Biotechnology)	Department of Post Harvest Technology
14.	A. Nandhini A	Lab Assistant	02.09.2022	B.Sc., (Chemistry)	Department of Plant protection
15.	M. Muralidharan	Lab Assistant	04/02/2022	B.E. (Computer Science Engineering)	Department of Social Science
16.	S. Premkumar	Field assistant	08/02/2022	Dip. in Hotel Management	Department of Post Harvest Technology
17.	B. Gokul	Field assistant	14/02/2023	Diploma in Horticulture	Department of Floriculture and Landscape Architecture
18.	S. Logu	Field assistant	07/02/2022	Diploma in Automobile Engineering	Department of Basic Sciences
19.	R. Sarathkumar	Field assistant	09/02/2022	Diploma in Civil Engineering	Department of Social Science
20.	L. Anbarasu	Field assistant	07.11.2023	Diploma in Horticulture	Department of Fruit Science
21.	K. Abinesan	Field assistant	31.10.2023	Diploma in Agriculture	Department of Vegetable Science

S. No	Name	Designation	Date of Joining	Qualification	Department/Office
22.	S. Hemachandiran	Field assistant	03.11.2023	Diploma in Agriculture	Department of Natural Recourse Management
23.	N. Manikandan	Field assistant	02.11.2023	Diploma in Agriculture	Department of Plant protection
24.	M. Ramya	Shelf assistant	08.03.2021	12th	Library staff
25.	N. A. Suresh	Shelf Assistant	15.01.2023	B.A., (English)	Library Staff
26.	V. Manikandaprabu	Assistant-cum-Computer Operator	15/07/2011	Diploma in MMV., M.A.,Tamil.,	Department of Post Harvest Technology
27.	S. Lavanya	Assistant-cum-Computer Operator	09/02/2022	B.com.,	Department of Vegetable Science
28.	S. Surya	Assistant-cum-Computer Operator	04/02/2022	B.E., (Civil)	Department of Natural Recourse Management
29.	V. Sanjay Kumar	Assistant	01.11.2023	B.Sc (Computer Science)	Department of Floriculture and Landscape Architecture
30.	S. Swathika	Assistant	10.11.2023	M.Sc., B.Ed.,	Department of Plant Protection
31.	K. Shalini	Assistant	27.10.2023	M.Com.	Department of Fruit Science
32.	G. Karthick (Chef)	Cook	18.01.2023	B.Sc. (Hotel Management)	Department of Hostel
33.	M. Ulaganathan	Cook	01.03.2022	10th fail	Department of Hostel
34.	M. Yuvaraj	Cook	01.03.2022	10th fail	Department of Hostel
35.	E. Balamurugan	Cook	16.04.2022	9th fail	Department of Hostel
36.	S. Prabakaran	Care taker	14.02.2022	B.A., (English)	Department of Hostel
37.	V. Hemalatha	Care taker	06.02.2023	M.Sc., (Computer Science)	Department of Hostel
38.	A. Charumathi	Care taker	09.02.2023	B.E., (Civil)	Department of Hostel
39.	R. Venkatesan	Plumber	29.08.2022	10th	Department of Hostel
40.	H. Mohan	Electrician	09.06.2010	ITI	Department of Hostel
41.	P. Veeraragavan	Bus helper	16.02.2022	10th fail	College staff
42.	M. Ramraj	Bus helper	01.03.2023	8th	College staff
43.	V. Sumanraj	Sports helper	18.04.2022	10th fail	Students' welfare
44.	A. Ramamoorthy	Sports helper	01.10.2022	Nil	Students' welfare
45.	M. Ramana	Gardener	01.11.2018	Nil	Farm staff
46.	P. Poongavanam	Gardener	01.11.2018	Nil	Farm staff
47.	T. Mala	Gardener	01.11.2018	8th	Farm staff
48.	S. Ramkumar	Gardener	01.03.2022	Nil	Farm staff
49.	K. Raja	Gardener	01.03.2022	Nil	Farm staff
50.	P. Abirami	Gardener	01.03.2022	10th	Farm staff
51.	A. Jayapriya	Janitor	25.08.2022	Nil	Department of Maintenance
52.	S. Amutha	Janitor	08.03.2021	Nil	Department of Maintenance
53.	P. Thiyagarajan	Office Attender	08.02.2022	Dip. In Mechanical Eng.	Dean's office
54.	A. Sugumar	Office Attender	08.08.2022	Dip. In Mechanical Eng.	Dean's office
55.	M.Krishnamoorthy	Office Attender	16.02.2022	Dip. In Mechanical Eng.	Dean's office

S. No	Name	Designation	Date of Joining	Qualification	Department/Office
56.	P. Kuppusamy	Office Attender	28.03.2022	10th fail	Dean's office
57.	D. Elavarasan	Office Attender	22.02.2023	10th fail	Dean's office
58.	U. Bakyalakshmi	Office Attender	13.03.2020	10th fail	Dean's office
59.	K. Mala	Nurse	12/07/2021	B.Sc., Nursing	Students' welfare
60.	J. Sangeetha	Nurse	22/09/2023	B.Sc., Nursing	Students' welfare

Note:

1. 14 staff (06 driver + 02 tractor driver and 06 watchman) were recruited through the private agency approved by SRMIST in contractual basis.
2. Appointment orders for 02 staff (one Lab technician and one Junior Engineer (Electrical)) was issued and the selected candidates are yet to join.

6.4.4. Classroom and Laboratories

a. Classroom

- Number of Smart Classrooms: 11
- Number of Field classrooms: 3

Classroom Facilities

- Eleven smart classrooms with a dimension of 40x30 ft (1200 sq. ft.) are available to accommodate 60 students per class and equipped with interactive smart board and provided with an audio facility (mic and speaker) for effective curricula delivery.
- Four field laboratory are available for conducting practical classes.
- Proper ventilation and lighting facilities are available to make a conducive environment for the students.
- All classrooms are well furnished with adequate number of desks and chairs along with smart board, chalkboard and white board.
- A-V lab with recording room and studio are available at the institute for online classes.

b. Laboratories

At this college, we provide students with real time hands-on experience of the procedures and protocols that are being taught in the theory classes. SRMCAS has well equipped laboratories for each and every discipline.

An abstract of the lab and field based learning resources are as follows:

S.No.	Infrastructure	Nos.
1.	Laboratories	17
2.	Meteorological observatory	1 (B Class)
3.	Field laboratory	4

1. Laboratories

This college has eighteen well equipped laboratories that enable the students to carry out their practical experiments as per the curricula. All the laboratories are fully furnished with necessary instruments, glassware and chemicals as per the minimum requirements prescribed by the ICAR.

The brief description of various laboratories are enlightened below.

S.No.	Laboratory	Size (ft)	Description
1.	Fruit Science	31.25 × 61.5	Students are trained to analyse various physico-chemical properties of fruits.
2.	Vegetable Science	31.25 × 61.5	Students gain experience to identify vegetable crops, study of floral biology and physiological disorders.
3.	Floriculture and Landscape Architecture	31.25 × 61.5	Students are trained to identify various ornamental crops, medicinal and aromatic crops. Hands-on training on value added floral products. Training is given on using software like Auto-CAD, SketchUp and Lumion for making garden designing.
4.	Post-harvest Technology	31.25 × 61.5	Students are trained to impart knowledge on value addition and post-harvest handling of fruit and vegetables.
5.	Fruits and Vegetable Processing and Preservation (Pilot plant)	31.25 × 61.5	Hands-on training is provided on processing and preservation of horticultural produce like, preparation of jelly, jam, squash, candy, pickles, *etc*.
6.	Agricultural Entomology	31.25 × 61.5	Students are trained towards the identification of agriculturally important insects by studying their morphological characters. More than 5000 insect specimens are displayed. Further, they are trained to mass culture natural enemies and entomopathogenic microorganisms.
7.	Plant Pathology	31.25 × 61.5	The laboratory is furnished with necessary facilities to detect, diagnose and identify plant pathogens and diseases in the plants. The laboratory contains, 500 well preserved plant-disease herbarium specimens, permanent microscopic slides, life cycle charts and symptom photographs to teach the students. The students are exposed about chemicals and biocontrol agents for plant disease management.
8.	Genetics and Plant Breeding	31.25 × 61.5	Students undergo intensive hands-on training for the dissection of floral parts, identification of mitosis, meiosis stages, pollen fertility, sterility and stomatal analysis.
9.	Crop Physiology + Seed Science and Technology	31.25 × 61.5	**Crop Physiology** The students are trained to assess plant physiological parameters such as, plant water status, photosynthetic pigments, stomatal index, hormonal bioassays and enzyme analyses. **Seed Science and Technology** This laboratory trains the students in seed sampling and extraction procedures, seed dormancy and seed germination techniques, and seed treatment methods.

S.No.	Laboratory	Size (ft)	Description
10.	Agricultural Biotechnology	31.25 × 61.5	The laboratory is mainly focused towards callus culture, shoot tip culture, meristem culture, and micropropagation of banana and ornamental crops in their practical class.
11.	Biochemistry	31.25 × 61.5	This lab is equipped with the essential instruments to explore major separation techniques like Paper chromatography, TLC, and electrophoresis aid in the isolation of biomolecules from different biological sources. Students are trained in the quantification of proteins, carbohydrates, lipids, fatty acids, and enzyme assays.
12.	Soil Science and Agricultural Chemistry	31.25 × 61.5	The laboratory is well equipped with sophisticated equipment for soil and water testing. Routine analyses performed in the laboratory includes, analyzing physiochemical properties, organic carbon, major and micro nutrients estimation. The laboratory also focuses on giving hands-on training about soil profile study, soil survey, soil & water sample collection, GPS mapping and fertilizer recommendations.
13.	Microbiology + Environmental Sciences	31.25 × 61.5	**Microbiology** The laboratory imparts knowledge on plant growth promoting microorganisms. Hands-on experience in isolation, screening, identification of beneficial microorganisms and production of biofertilizers, Mycorrizha and Azolla are imparted. **Environmental Sciences** Students acquire analytical skills to determine various physico-chemical and biological properties of water and wastewater.
14.	Agricultural Economics + Computer Science	31.25 × 61.5	The students are familiarised to use statistical package like SPSS in the computer laboratory for analysing the primary and secondary data in their academic projects and practical classes.
15.	Audio-visual lab	31.25 × 61.5	The AV lab consists of video production unit, audio recording and mixing consoles and high-end software for video and audio editing.
16.	Language laboratory	31.25 × 61.5	Language laboratory enhances the English knowledge of the students and trains them for communication and pronunciation with the language software "Orell Talk".
17.	Central Instrumentation Laboratory	31.25 × 61.5	Central instrumentation laboratory is housed with high-end equipment namely, thermal cycler, gel electrophoresis unit, gel documentation unit, and cooling centrifuge. These equipment aid in all kind of molecular biology experiments for UG, PG and faculty research.

Agro-meteorology Observatory

One B-class Agro-meteorology observatory with necessary instruments is established in an area of 31 m × 15 m with proper fencing. The GPS coordinates of the observatory is 12°38'5"N latitude 79°73'31"E longitude with an Altitude of 20 m AMSL. In the academic building, the daily weather parameters are displayed in a LED panel. The students are trained to record the weather data, consolidate and analyse for weather forecasting including short, medium and long range forecasting, preparation of crop weather calendar, and rainfall probability analysis.

3. Field laboratory:

S.No.	Laboratory	Size (ft)
i.	Genetics and Plant Breeding	30 × 30
ii.	Soil Science and Agricultural Chemistry	30 × 30
iii.	Horticulture	30 × 30
iv.	Plant Protection	20 × 30

i. Genetics and Plant Breeding

The field laboratory is equipped with basic facilities such as dissection microscopes, needles, forceps and scissors for flower dissection along with pictorial representation of floral structures, stages of cell divisions and various breeding methodologies.

ii. Soil Science and Agricultural Chemistry

The laboratory is equipped with soil sampling equipment and other tools. Students are trained to collect soil and water samples for quality analysis that need to be performed in the laboratory.

iii. Horticulture

The Horticulture laboratory is equipped to give hands-on training to the students to operate tools and implements for various horticultural operations. Different dried and live specimens and plant specimens with disorders are displayed for identification. Charts are placed to demonstrate various special Horticulture techniques like, propagation, training and pruning *etc*.

iv. Plant Protection

The field laboratory is equipped with compound microscopes, stereo-zoom microscope, preserved disease specimens, herbarium, insect rearing cages, and display boxes with various crop pests. Further, pictorial charts with disease symptoms and biology of insect pests of Horticultural crops. Various appliances such as, battery operated power sprayer, bucket sprayer, foot sprayer, knapsack sprayer, rocker sprayer, ULV sprayer, pneumatic hand sprayer, pneumatic knapsack sprayer and mist blower are available.

All the laboratories are provided with necessary equipment, glassware and chemicals as per the requirement of ICAR. The lab wise details are attached in ***Annexure III***.

6.4.5. Conduct of Practical and Hands-on training

The number of students per batch varies every year based on the allotment of students during admission. The average number of students in theory and practical classes are given below; which ensures better delivery of information and active participation of students.

Name of the Degree Programme	Number of students / batch	
	Theory class	Practical class
B.Sc. (Hons.) Horticulture	60	30

Practicals and hands-on training is given to students based on the curriculum prescribed in ICAR Fifth Dean's Committee.

Field Based

Students are exposed to practicals and hands-on training in various aspects including, field preparation, sowing, transplanting, weeding, soil sampling methods, soil fertility map preparation, design and layout of micro irrigation and fertigation, nursery production, propagation techniques, recording of weather parameters, landscaping, and gardening, restraining of cattle, feed formulation, different vaccination methods for poultry. Training is given to identify different crop species, tree species and their floral biology, nutrient deficiency symptoms, physiological disorders, disease infection and pest infestations of horticultural crops, *etc.*

Lab Based

In respective laboratories, students acquire training in analysis of soil and water samples, quantification of biomolecules, plant metabolites, isolation, screening and identification of beneficial microorganisms, production of biofertilizers, preparation of value-added products, analysis of milk and milk products, analysis and interpretation of data through statistical package like SPSS. Training in video production, audio recording and mixing of consoles is also provided to the students.

Experiential Learning Programme (ELP)

SRMCAS offers 12 ELP courses and the students are provided with hands-on experience in isolation, characterization, and mass multiplication of bio-control agents, biofertilizers and beneficial insects. Further, the students are trained in mushroom cultivation, honeybee and silkworm rearing, poultry production, processing of fruits and vegetables, seed production, cultivation of high-value horticulture crops, landscaping and agricultural waste management.

At present 12 modules of ELP programme are offered for B.Sc. (Hons.) Horticulture Degree Programmes for the year 2023-24. The details of the courses are given below:

S.No	Title of the Module	S.No	Title of the Module
1.	STR19801 Bioinoculant Production Technology	7.	STR19808 Commercial Horticulture
2.	STR19802 Production Technology of Bio-control Agents	8.	STR19809 Floriculture and Landscape Architecture
3.	STR19803 Mushroom Cultivation Technology	9.	STR19810 Protected Cultivation of High Value Horticulture crops
4.	STR19804 Commercial Beekeeping	10.	STR19811 Agriculture Waste Management
5.	STR19805 Commercial Sericulture	11.	STR19813 Processing of Fruits and Vegetables for value addition
6.	STR19807 Commercial Seed Production	12.	STR19814 Poultry Production Technology

To conduct the practical hands-on training sufficient land has been ear marked by SRMCAS as per the ICAR Model Act, 2023 for B.Sc. (Hons.) Horticulture Degree Programme. The land utilization pattern is as follows:

Details	Land required (ha)	Land available (ha)	
ELP units-vermicomposting, Nursery Polyhouse/ Green house/any other for skill development or Entrepreneurial mode	0.50	0.50	
Horticulture (orchard)	6.00	8.00	
Farm house/threshing floor/processing centre	1.00	1.00	
Horticultural Crop Museum	1.00	1.00	
Botanical Garden (Germplasm centre/ Mother plant)	1.00	1.00	
Nursery	2 Nos.	2 Nos.	0.5
Polyhouse	6 Nos.	4 Nos. (1 -Polyhouses and 3 - Mist chambers)	
Shade house	6 Nos.	3 Nos.	
Glass house	2 Nos.	-	
Potting shade	2 Nos.	2 Nos.	
Scion bank	1 No.	1 No.	
Root stock block	1 No.	1 No.	
Total	**10.00**	**12.00**	

6.4.6. Supervision of Students in PG/Ph.D. Programmes

Not Applicable. At present SSR is submitted for UG programme only.

6.4.7. Feedback of Stakeholders (Students, Parents, Farmers and Industries)

SRMCAS is having a robust feedback mechanism by collecting suggestions from its stakeholders namely students, parents, farmers and Industries for further improvement. Constructive feedback along with criticism on the draw backs are also expressed by the stakeholders.

The feedback over the years has helped the institution to improve infrastructure facilities, reorient academic activities and amenities for students' welfare.

A. Students' Feedback

The mechanism adopted to collect feedback from the students include,

- Online *e*-varsity portal.
- Feedback about the performance of teaching faculty has been collected on the following parameters
    - o Subject knowledge
    - o Sincerity
    - o Communication & presentation skills
    - o Lecture preparation
    - o Coverage of syllabus
    - o Control of the class

- o Quality of quiz/surprise tests/cycle tests
- o Fairness in evaluation
- o Helpfulness in clarifying doubts clarification of doubts
- o Approachability
- o Knowledge gained at the end of the semester
- o Overall rating of the teacher

Students' feedback about faculty (Online)

Students feedback about faculty were collected at the end of every semester through *e*-varsity, an online portal of SRMIST. As an example, the overall rating has been analysed for the V Semester 2020 batch of B.Sc. (Hons.) Horticulture and summarized below:

S.No	Course code & Title	Rating (in percentage)					
		Excellent	Very Good	Good	Average	Poor	Overall Rating
1.	HOR19501 Orchard and Estate Management (1+1)	53.06	24.49	22.45	0	0	8.48
2.	HOR19502 Temperate Vegetable Crops (1+1)	51.02	24.49	22.45	0	2.04	8.48
3.	HOR19503 Breeding of Vegetable, Tuber and Spice Crops (2+1)	40.91	27.27	31.82	0	0	8.12
4.	HOR19504 Principles of Landscape Architecture (1+1)	44.9	30.61	22.45	2.04	0	8.55
5.	HOR19505 Medicinal and Aromatic Crops (2+1)	50.94	28.3	18.87	0	1.89	8.44
6.	HOR19506 Fundamentals of Food Technology (1+1)	50.94	20.75	26.42	1.89	0	8.45
7.	CRH19503 Insect Pests of Fruit, Plantation, Medicinal and Aromatic Crops (2+1)	44.44	27.78	24.07	3.7	0	8.46
8.	CRH19504 Diseases of Vegetable, Ornamental and Spice Crops (2+1)	59.28	20.37	20.37	0	0	8.68
9.	AGE19502 Water Management in Horticultural Crops (1+1)	44.23	23.08	32.69	0	0	8.09
10.	SUP19503 Farm Power and Machinery (1+1)	53.19	25.53	19.15	2.13	0	8.52
11.	AGS19502 Horti-Business Management (2+0)	48.15	27.78	20.37	3.70	0	8.54
	Average rating	**49.19**	**25.50**	**23.74**	**1.22**	**0.36**	**8.44**

B. Parents Feedback

Feedback mechanism is also available to obtain valuable suggestions from the parents. Based on the suggestions, efforts were taken to make improvement in the functioning of the College.

Suggestions and action taken on the feedback of parents about college

Parents have suggested the institution to conduct parents-teachers meeting atleast once in an academic year to know the progress and performance of their respective wards directly from the staff members.	Parents are informed regularly about their ward's performance. Once in a while, parents are invited with the students for specific issues.
It was suggested to improve still more playground facilities and provide recreational facilities for the hostel students.	Outdoor and indoor playground facilities are created with latest sports equipment. One male and female Physical Director are regularly training the students in various sports and games.

C. Farmers' Feedback

Farmers' feedback was collected as they are the primary stakeholder of any Agriculture institution. Open ended method was used to receive feedback from the farmers and based on this, suitable steps have been taken to address their problems.

Based on the feedback of the farmers the following programmes were organized by the College.

- This college have organized a buyer-seller meet. Two major buyers were invited and discussed with farmers to procure their produce directly from the farm gate.
- Scientists of this college in coordination with State Department of Agriculture and Horticulture gave 33 trainings and field demonstrations in different villages.
- Five camps have been conducted in the villages around the college namely, Morapakkam, Alampakkam, Minnal Sithamoor, Elapakkam and Ananthamangalam. Treatment of livestock including, deworming, pregnancy diagnosis, infertility treatment and general consultancy were provided.
- Two varieties from leading private companies have been grown in this college field. A field day was conducted by involving 80 farmers of this district, to visualize the performance of the varieties in the field itself. The farmers requested quality seeds of these varieties and the company assured to supply seeds of these high yielding varieties to farmers.
- MoU has been signed with ACSEN Hy Veg Pvt. Ltd. Coimbatore, to study the performance of Hybrids / Varieties and based on the performance, seed of the best performer will be produced and distributed to the farmers of this region.
- Trainings were conducted to the stake holders about oyster and milky mushrooms cultivation in the villages namely, Baburayanpettai, Orathy, Athivakkam, and Minnalsithamoor of Chengalpattu District.
- One week-One training to the farmers, self-help groups and youth is organized as inhouse and outdoor programmes.

D. Industry Feedback

Students under Rural Horticultural Work Experience (RHWE) program were attached to the following industries from 02.03.2023 to 11.03.2023 and feedback were received.

- Black Tulips, Kenya
- Golden Tulip Floritech, Hosur
- Athena Farms, Hosur

- Murari Agrotech, Hosur
- YMCA, Marthandam
- TANFLORA, Hosur

Major inputs received from the industries are as follows:

1. Students gained knowledge on supply chain management in cut flower production.
2. Students were trained on Agri-business, production economics, material, marketing and financial management.
3. Students attained experience on various management functions and have enough potential to become Entrepreneurs.

Feedback in the form of testimonials from the stakeholders have been attached in ***Annexure IV*.**

6.4.8. Student Intake and Attrition in the Programme for the last five years

The details on student attrition in respect of B.Sc. (Hons.) Horticulture programme is furnished below:

No. of Students admitted					Attrition (%)					
2018-19	2019-20	2020-21	2021-22	2022-23	2018-19	2019-20	2020-21	2021-22	2022-23	Average
32	67	53	42	56	6.25	2.99	0	2.38	0	2.32

The average attrition percentage for B.Sc. (Hons.) Horticulture programme is 2.32 for the last five years.

6.4.9. ICT Application in Curricula Delivery

ICAR has advocated an increased emphasis on using Information and Communication Technology (ICT) for the UG programme. Accordingly, various options are available to the teachers and students to utilize multiple ICT facilities at this college for effective teaching and learning. The details of the facilities are given below:

- Smart classrooms with an interactive board - 11 Nos.
- Lecture halls enabled with *Wi-Fi* facility.
- Audio-Visual Lab with 35 seating capacity
- The digital library has 42 computers to access *e*-journals and *e*-books.
- The faculty are well versed in the use of Smart boards to deliver lectures effectively with videos and other online resources by utilizing the internet facility.

i. Smart Classrooms

- The smart classrooms are available with a size of 1200 sq.ft. to accommodate 60 students in a classroom.
- Each classroom is equipped with an interactive smart board and provided with audio facility (mike and speaker) for effective curricula delivery.
- The smart classrooms are effectively utilised to deliver the curricula by creating learning interest to the students.
- The smart classrooms also create interest among students in the self-learning.
- All the faculty are competent enough to use the smart Classroom for effective curricula delivery.

ii. *Wi-Fi* facility for Curricula Delivery

Towards contemporary learning and access to recent learning materials, internet connection is necessary. In this view, *Wi-Fi* connectivity (255 Mbps) is made available for the entire academic block and hostels.

iii. Audio-Visual Lab

The Audio-Visual lab is available at 900 sq.ft. with 35 seating to facilitate excellent teaching and learning atmosphere for students and faculty. It helps the students to prepare themselves as an expert in the transfer of technology to the farming community, especially in digital means. This lab is fully equipped with the following facilities for interactive learning with state-of-the-art technologies.

a. AC hall with acoustic surrounding
b. Camera (DSLR) with zoom lens
c. Video camera with tripod and lighting accessories
d. Computer (Workstation) with video editing software
e. Audio recording-mixing consoles.
f. Digital voice recorder
g. Video conferencing facility
h. Audio and video production unit

Language Laboratory

In this College, "Orell Talk" software is used to teach English language skill with 31 computer nodes and 31 headphones for receiving linguistic instruction for student to develop their soft skills. The lab is also equipped with LAN system with audio visual facilities. Two exclusive faculty in English are available for imparting language skills for the students. This laboratory is useful for improving students' command over English language, personal communication, and public speaking skill.

CERTIFICATE

I, **Dr. M. Jawaharlal, the Dean of SRM College of Agricultural Sciences, SRMIST,** hereby certify that the information contained in Section 6.4.1. to 6.4.9. are furnished as per the records available in the College and the Degree awarding University.

SRM College of Agricultural Sciences * SRMIST * 20 JUL 2023

20/07/2023

Signature of Dean of the College with Date and Seal

DEAN
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