

Annual Report 2018-19



**College of Horticulture
Anand Agricultural University
Anand**

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1. Introduction:

The formation of Horticulture Wing was approved by Government of Gujarat wide their letter No. AKV-122011-3207-K-2, dated 17th April 2012. It is affiliated to Anand Agricultural University, Anand under the B.A. College of Agriculture, AAU, Anand and started functioning as an independent college since 01st April 2017, with intake capacity of 55 undergraduate students and total 100 students have earned their degree from this college since its inception and most of them have been continuing their higher studies and also working in the various fields of horticulture in India and abroad. The following are mandates and functions of the college:

1.1 Mandate

The prime mandate of College of Horticulture is to impart education in the field of horticulture science coupled with research and extension activities. Following objectives have been decided in order to achieve these mandates.

1.2. Objectives:

- ❖ To create the facilities for imparting UG education in Horticulture discipline like fruit, vegetable, flower, plantation and medicinal crops as well as on post harvest technology.
- ❖ To conduct the research on various aspects of Horticulture.
- ❖ To develop skill in the students and gaining knowledge through experiential learning in Horticulture and through rural horticulture work experience.
- ❖ To integrate and coordinate the teaching with research and extension activities of the university.
- ❖ To provide integrated education at all level for creating skill and imparting knowledge among students.
- ❖ To organise horticultural based trainings for the benefits of farmers & rural youth.

2. Management and Administration:

2.1 Staff positions:

Sr. No.	Name of post	Sanctioned	Filled	Vacant
1.	Professor	02	01	01
2.	Associate Professor	04	02	02
3.	Assistant Professor	10	09	01
Total		16	12	04

2.2 (a) Budget Heads:

Sr. No.	Budget Head No.	Sanction grant		Expenditure		Note
		Recurring	Non-Recurring	Recurring	Non-Recurring	
1.	12987-16	37,82,000/-	7,61,000/-	37,25,879/-	6,06,838/-	Main plan budget
2.	12712-02	1312000/-	55,000/-	13,00,211/-	54,866/-	Land sacping at aau
3.	12865	50,000/-	-----	49,935/-	-----	For sport activities
4.	12967	50,000/-	-----	49,890/-	-----	For sport activities
5.	12967-02	40,000/-	-----	39,110/-	-----	For sport activities
6.	18273	20,000/-	-----	12,132/-	-----	For NSS activities
		22,500/-	-----	17,550/-	-----	For NSS activities
7.	4862	75,000/-	-----	75,000/-	-----	For game organization
8.	4862(B)	35,000/-	-----	25,430/-	-----	For game organization

2.2 (b) Purchased following instruments in the Year 2018-19:

Sr. No.	Name	Quantity	Amount Rs.
1	LCD Projector	01	68,900/-
2	Water Distillation Unit	01	70,875/-
3	Baking Oven	01	99,650/-
4	Infra red moisture balance	01	19,750/-
5	pH meter	01	20,050/-
6	Hand refractometer (Rang:0-100% salinity)	02	9975/-
7	Hand refractrometer (Rang:0-50% bricks)	02	9576/-
8	Hand refractrometer (Rang:0-85% bricks)	02	24,738/-
9	Hand refractrometer (Rang:58-92% bricks)	02	8977/-
10	Electronic Digital Venier Calipers	02	6982/-
11	Analytical balance (High precession)	01	29,725/-
12	Bench/ Table top balance (Cap.: 1 Kg)	01	12,768/-
13	Bench/ Table top balance (Cap.: 5 Kg)	01	13,566/-
14	Food Processor	02	23,625/-
15	Glass bed sterilization	01	22,315/-
16	Weighing balance	01	19,950/-
17	Microscope with camera	01	1,45,416/-
Total Rs.			6,06,838/-

3. Education

3.1. Under Graduate

3.1.1. Semester-wise no. of students in UG programme B. Sc. (Hons.) Horti. during academic year 2018-19

Sr. No.	Semester	Boys	Girls	Total
1	First/ Second	24	35	59
2	Third/ Fourth	17	21	38
3	Fifth/ Sixth	21	30	51
4	Seventh/ Eighth	27	21	48
	Total	89	107	196

3.1.2. Semesterwise courses offered for UG programme: B. Sc. (Hons.) Horti. (Vth Dean)

Semester –I		Credits
FRT 1.1	Fundamentals of Horticulture	3(2+1)
VEG 1.1	Tropical and Subtropical Vegetables	3(2+1)
NRMH 1.1	Fundamental of Soil Science	3(2+1)
PHT 1.1	Fundamentals of food science and nutrition	2(1+1)
BSC 1.1	Elementary Plant Biochemistry	2(1+1)
BSC 1.2	Principles of Genetics and Cytogenetics	3(2+1)
BSC 1.3	Introductory Microbiology	2(1+1)
SSC 1.1	Information and communication technology	2(1+1)
SSC 1.2	Economics and Marketing	3(2+1)
SSC 1.3	Physical and Health Education	1(0+1)(NC)
Total		23(14+09)+1=24
Semester –II		
FRT 2.2	Plant Propagation and Nursery Management	2(1+1)
FLA 2.1	Ornamental Horticulture	2(1+1)
NRMH 2.2	Soil Fertility and Nutrient Management	2(1+1)
NRMH 2.3	Water Management in Horticultural Crops	2(1+1)
PPT 2.1	Fundamentals of Plant Pathology	3(2+1)
NRMH 2.4	Agro-meteorology and Climate Change	2 (1+1)
BSC 2.4	Introductory Crop Physiology	2(1+1)
BSC 2.5	Principles of Plant Breeding	3(2+1)
SSC 2.4	Elementary Statistics and Computer Application	3(2+1)
SSC 2.5	Communication Skills and Personality Development	2(1+1)
SSC 2.6	National Service Scheme/National Cadet Corp	1(0+1)(NC)
Total		23(13+10)+1=24
Semester –III		
FRT 3.3	Temperate Fruit Crops	2(1+1)
VEG 3.2	Temperate Vegetable Crops	2(1+1)
VEG 3.3	Precision Farming and Protected Cultivation	3(2+1)
FLA 3.2	Commercial Floriculture	3(2+1)
NRMH 3.5	Organic Farming	2(1+1)
PPT 3.2	Fundamentals of Entomology	3(2+1)
PPT 3.3	Nematode pests of Horticultural crops and their Management	2(1+1)
BSC 3.6	Elementary Plant Biotechnology	2(1+1)
BSC 3.7	Growth and Development of Horticultural Crops	2(1+1)
Total		21(12+9)
Semester –IV		
FRT 4.4	Tropical and Subtropical Fruits	3(2+1)
FRT 4.5	Plantation Crops	3(2+1)
FRT 4.6	Breeding of Fruit and Plantation Crops	3(2+1)

VEG 4.4	Spices and Condiments	3(2+1)
FLA 4.3	Principles of Landscape Architecture	2(1+1)
PPT 4.4	Diseases of fruit, Plantation, Medicinal and Aromatic Crops	3(2+1)
PPT 4.5	Insect Pests of Fruit, Plantation, Medicinal & Aromatic Crops	3(2+1)
NRMH 4.6	Farm Power and Machinery	2(1+1)
NRMH 4.7	Soil, Water and Plant Analysis	2(1+1)
Total		24(15+09)
Semester – V		
FRT 5.7	Orchard and Estate Management	2(1+1)
FRT 5.8	Dry land Horticulture	2(1+1)
VEG 5.5	Potato and Tuber crops	2 (1+1)
VEG 5.6	Breeding of Vegetable, Tuber and Spice Crops	3 (2+1)
PHT 5.2	Postharvest Management of Horticultural Crops	3(2+1)
NRMH 5.8	Weed Management in Horticultural Crops	2 (1+1)
PPT 5.6	Diseases of Vegetables, Ornamentals and Spice Crops	3 (2+1)
PPT 5.7	Insect Pests of Vegetable, Ornamental and Spice Crops	3(2+1)
SSC 5.7	Fundamentals of Extension Education	2 (1+1)
Total		22(13+9)
Semester – VI		
VEG 6.7	Seed production of Vegetable, Tuber and Spice Crops	3(2+1)
FLA 6.4	Breeding and Seed Production of Flower and Ornamental Plants	3(2+1)
FLA 6.5	Medicinal and Aromatic Crops	3 (2+1)
PHT 6.3	Processing of Horticultural Crops	3(1+2)
NRMH 6.9	Introduction to Major Field Crops	2 (1+1)
NRMH 6.10	Introductory Agroforestry	2 (1+1)
NRMH 6.11	Environmental Studies and Disaster Management	3(2+1)
PPT 6.8	Apiculture, Sericulture and Lac culture	2(1+1)
SSC 6.8	Horti-Business Management	2(2+0)
SSC 6.9	Entrepreneurship Development and Business Management	2(1+1)
Total		25(15+10)

Semester – VII Experiential Learning Programme (ELP)

Following modules were finalized by SAU's under ELP as per Vth dean where student undergoing ELP may be allowed to register for maximum two modules:

Course No.	Title of the Course	Credit Hours
HWE 7.2	Commercial production of Horticultural planting materials	0+10
HWE 7.3	Post Harvest Handling and Value addition in Horticultural crops	0+10

Semester – VIII Rural Horticultural Work Experience Programme (RHWE)

Following RHWE courses offered for UG programme in Eighth Semester:

Course No.	Title	Credit Hours
RHWE 8.1	Visit to progressive farmer's field and NGO	0+2
RHWE 8.2	Educational tour	0+2
RHWE 8.3	University farms (JAU) and Visit to horticulture based industries of Saurashtra region	0+4

RHWE 8.4	University farms (AAU) and Visit to horticulture based industries of Middle Gujarat region	0+4
RHWE 8.5	University farms (SDAU) and Visit to horticulture based industries of North Gujarat region	0+4
RHWE 8.6	University farms (NAU) and Visit to horticulture based industries of South Gujarat region	0+4

3.1.3. Details of Experiential Learning Programme (ELP) and Rural Horticulture WorkExperience (RHWE) offered during VII & VIII semester by college:

This section is further subdivided into following parts:

3.1.3.1 Experiential Learning Programme (ELP)

I. HWE 7.2: Commercial production of Horticultural planting materials

Details of Experiential Learning Unit (Year 2018-19)

Students practically gain hands on expertise under the ELP module in the 7th semester

1	Name of Department and College	Department of Fruit science and Department of Floriculture & Land scape architecture, College of Horticulture, AAU., Anand
2	Name of the University	Anand Agricultural University
3	Title of the Experiential Learning Unit	(Experimental Base) Protective Cultivation for High-Tech Horticulture Propagation and production of propagules (HWE 7.2.1) Packing and marketing of planting material (HWE 7.2.2)
4	Year of establishment	2013-14
5	Location of the EL Unit	Horticulture Research Farm, College of Horticulture, AAU, Anand
6	Whether ICAR sponsored/State sponsored	ICAR Sponsored
7	Total cost of the EL Unit establishment	50 Lac.
8	Total profit earned/year (if running in Business mode)	45 thousand
9	Total number of students trained	47 Nos.
10	Major skill imparted	1. Commercial seedling development of papaya, lime and drumstick in under net house condition 2. Different cutting propagation methods for various ornamental plants grow under different tunnel. 3. Different grafting methods particularly layering in guava and soft wood grafting in mango and custard apple rise under poly house.
11	Product being developed under ELP	Quality planting materials of Guava, Mango,

Custard apple, Papaya, Drum strict, Lime and various ornamental plants developed through seedling, cuttings and grafting.

12 Highlight of products prepared by the students during ELP courses

As per following...



Filled bags with media



Watering the sowing seedling



Bed preparation



Germination of lemon seeds



Uprooting the plant



watering



Sowing of seedling in bag



Deep in captan solution



Seedling of papaya



Uprooting the papaya seedling



Deep the plant in fungicide solution



Planting in bag



Selection of budwood



Selection of rootstock shape



Cut rootstock stem to form "V" shape



Grafted mango plant



Tie with budding tape



Scion preparation



Air layering of jasmine

II. HWE.7.3: Post Harvest Handling and Value Addition in Horticultural crops

Details of Experiential Learning Unit(Year 2018-19)		
Students practically gain hands on expertise under the ELP module in the 7 th semester		
1	Name of Department and College	Department of Post Harvest Technology, College of Horticulture
2	Name of the University	Anand Agricultural University
3	Title of the Experiential Learning Unit	(Laboratory Experimental Base) Post Harvest Handling and Value Addition in Horticultural Crops; under the courses subtitled, 1.HWE 7.3.1 Preparation and Evaluation of Processed Products. 2.HWE 7.3.2 Packaging and Marketing of Processed Products.
4	Year of establishment	2017-18
5	Location of the EL Unit	College of Horticulture, AAU, Anand
6	Whether ICAR sponsored/State sponsored	State /University Sponsored
7	Total cost of the EL Unit establishment	Experimental Base Laboratory.
8	Total profit earned/year (if running in Business mode)	Only Laboratory Experimental Base. Not Running in Business Mode.
9	Total number of students trained	47 Nos.
10	Major skill imparted	Market survey, sources for procurement of raw materials, preparation of processed products, calculation of costs, quality analysis of raw and processed products, packaging, labelling, pricing and marketing of product.
11	Product being developed under ELP	Appetizer, Squash, Juice, Syrup, Jam, Pickle, Murabba etc., from fruits and vegetables.
12	Highlight of processed products prepared by the students during ELP courses	As per following...



Preparation of Aonla Murabba



Preparation of Dehydrated Products-Peel, Powder and Pomace





Preparation of Pomegranate Squash





Preparation of Apple Appetizer





Preparation of Aonla Syrup





Preparation of Lime Juice and RTS

4. Research carried out by College of Horticulture:

During the year 2018-19 following experiments were conducted under College of Horticulture:

The prime mandate of College of Horticulture is to impart education in the field of horticulture science coupled conducting research on various disciplines like fruit, vegetable, flower as well as on postharvest technology. During the year 2018-19 following experiments were conducted under College of Horticulture:

Horticulture:

- i. Evaluation of vegetables during different season under different shade net condition
- ii. Effect of different organic manures and PGPR consortium on growth, yield and quality of sapota (*Manilkara hexandra L.*) cv. Kallipatti
- iii. Effect of rooting media on propagation through herbaceous shoot tip cutting of African marigold (*Tagetes erecta L.*) cv. Calcutta selection under net house

- iv. Nutrient management through organics in broccoli (*Brassica oleraceavar.italica* L.)
- v. Evaluation of different chrysanthemum genotypes for yield and growth parameters
- vi. Nutrient management through organics in onion (*Allium cepa* L.) as intercrop in sapota orchard
- vii. Effect of different spacing on growth and yield of capsicum cv.Indra under poly house in middle Gujarat conditions

Crop Protection:

- viii. Bio-efficacy of botanicals against powdery mildew of fenugreek.
- ix. Bio-efficacy of agrochemical against bacterial canker(*Xanthomonasaxonopodispv. citri*) in citrus
- x. Evaluation of insecticides against aphid infesting in chrysanthemum
- xi. Validation and promotion of sustainable and adaptable IPM technology for brinjal crop

Crop Improvement:

- xii. Evaluation of sesame genotypes in summer season along with molecular characterization
- xiii. Induction of mutation in rose and lilly

Post Harvest Technology:

- xiv. Development of value added product containing wheat and chickpea *ponk*
- xv. Technology for production of Indian gooseberry (aonla) murabba
- xvi. Production technology for clarified wood apple juice
- xvii. Development of production technology for vegetable based juice from carrot and tomato
- xviii. Standardization of moringa pulping technique using brush type pulper

Social Sciences:

- xix. Modelling and forecasting of area, production and productivity of major fruit crops in Gujarat-An application of Artificial Neural Network

Research recommendations with photographs (2018-19):Effect of nitrogen and phosphorus on growth, flowering and yield of gladiolus (*Gladiolus grandiflorus* L.) cv. “American Beauty” under middle Gujarat Agro climatic condition:

Name of the scientist: Prof. D. R. Paradva, Dr. B. N. Satodiya and Dr. M. M.Masu

Recommendation for farming community

The farmers of middle Gujarat agro-climatic zone growing gladiolus cv. “American beauty” are recommended to apply 250 kg/ha Nitrogen in three equal split i.e. basal dose, 30 days and 45 days after planting of corms and 50 kg/ha Phosphorus apply as basal dose for getting higher spike length and net return.

Moreover, 10 t/ha Farm Yard Manure (FYM) as a basal dose and 100 kg/ha potash in two equal split i.e. basal dose and 45 days after the planting of corms.



Overview of experiment



Control



Treated

5. Extension Education: As per Appendices 6 & 7

6. Student welfare:

This section is divided into following parts:

6.1. NSS volunteers participated in Regular and Special activities during year 2018-19

- A. Regular Activities
- B. Special Activities

6.2. Student Activities during year 2018-19

- A. Sports Activities
- B. Other Activities

6.1 NSS volunteers participated in Regular and Special activities during year 2018-19:

Regular Activities:

Sr. No	Activity	Date	SC		ST		OBC		General		Total		Grand Total
			M	F	M	F	M	F	M	F	M	F	
1	Yoga Shibir	18-20.04.18	4	3	3	4	7	8	5	6	19	21	40
2	International Yoga Day	21.06.2018	4	3	3	4	7	8	5	6	19	21	40
3	Plantation Programme	27.07.18	4	3	3	4	8	9	11	13	27	28	55
4	Swachh Bharat Abhiyan-Celebration of Swachhta ane samajik samrasta week	First week of August, 2018	4	3	3	4	8	9	11	13	27	28	55
5	Akhand Bharat Sankalp Din	09.08.18	8	6	6	8	15	17	16	19	46	49	95
6	Independence day	15.08.18	4	3	3	4	8	9	11	13	27	28	55
7	Chalo Jeete Hai	06.10.18	4	3	3	4	7	8	5	6	19	21	40
8	Eye check-up camp	12.10.18	-	-	-	-	-	-	-	-	-	-	230
9	Adventure camp at Manali	08-17.11.18	-	-	-	-	-	2	1	-	1	2	03
10	Blood donation and Thalassemia awareness programme and test	17.11.18	4	3	3	4	7	8	5	6	19	21	40
11	World soil day	20.11.18	-	1	1	-	1	1	3	3	10	10	20
12	Youth Parliament	24.01.19	-	-	-	-	-	-	-	01	-	01	01
13	Republic day	26.01.19	4	3	3	4	8	9	11	13	27	28	55

A. Regular activities

1. Celebration of Yoga Shibir and International Yoga Day:

International Day of Yoga is celebrated annually on 21 June since 2015. Our university has also arranged the yoga shibir and there was celebration of “International Yoga Day”. All the NSS volunteers of College of Horticulture actively participated in this event.



2. Tree Plantation Programme:

Tree plantation was conducted by NSS volunteers, College of Horticulture on 27th July at Common Girls hostel and the surrounding area of girls hostels. The programme was graced and guided by Principal, Dr. H. C. Patel. The Message of the Principal was announce by Programme Officer, NSS Dr. C.H.Raval that the all girls volunteers have given continue involvement from plantation to one year growing of individual plants is very essential for establishment of the plant.



3. Swachh Bharat Abhiyan-“Celebration of Swachhta Pakhwara ”

A mega event for celebration of “Swachhta Pakhwara” at college was organized on First week of August, 2018. The programme was inaugurated by Dr.H.C.Patel, Principal, College of Horticulture and all the faculties of college were remain present during this programme. First all the faculties and volunteers tack Oath for clean India and how individual can help for cleanness. In this programme total 55 volunteers participated and they clean the college area, garden and surrounding area of the college. In this programme faculties of the college also join for cleanness of the college premises.





4. Akhand Bharat Sankalp Din:

“Akhand Bharat Sankalp Din” was celebrated by NSS unit, College of Horticulture, AAU, Anand on 9th August, 2018. On that day a guest lecture was delivered by Shri Rameshbhai Nayee on “Akhand Bharat”. He explained volunteers about dream of undivided India of the pre-Independence era. “The motive behind organising the programme is to apprise the new generation that ‘Akhand Bharat’ is dream of every Indian for peace and prosperity of Nation. In this Programme all the faculties and volunteers remain present.



5. Independence Day:

Anand Agricultural University celebrated Independence Day on August 15, 2019 at University Bhavan. All university officers, staffs, students of different faculties and family members remained present to grace this yearly celebration. All NCC cadets, NSS volunteers actively participated in this celebration.



6. Chalo Jeete Hai:

National Service Scheme, College of Horticulture, AAU, Anand arranged one programme to watch short film, “Chalo Jeete Hain,” . The documentary is inspired from an incident in Prime Minister Narendra Modi’s childhood. The inspiring short film aims at spreading the core message of selfless giving and kindness and imbibes the culture of living for others. The short film revolves around the life of a small boy, “Naru” and his effort to portray the power of goodness and the happiness it leaves us with. On the quest for the meaning of life, he tries to pursue what he can do for others in his small world. All the NSS volunteers and faculties joined to watch this documentary.

7. Eye check-up camp:

Anand Agricultural University and Shankara Eye Hospital Jointly organized Eye check-up camp at College of Horticulture, AAU, Anand on 12th October, 2018. In this camp all the colleges, polytechnics and on campus station participated. Total 230 peoples have check –up their eyes in this camp.



8. Adventure camp at Manali:

Government of India, Ministry of Youth Affairs & sports has organized Adventure Programme at ABVIM & ASP, Manali for NSS volunteers from 8.11.2018 to 17.11.2018. In this camp total 20 NSS volunteers from Gujarat was participated and among them 3 volunteers were from College of Horticulture, AAU, Anand.





9. Blood donation and Thalassemia awareness programme and test:

An awareness programme on Thalassemia and Blood donation camp was successfully organized by National service scheme, College of Horticulture and B.A. College of Agriculture, AAU, Anand in collaboration with Indian Red Cross Society, Ahmedabad on 17-11-2018. In this programme short movie on Thalassemia was displayed by Red Cross Society. About 40 volunteers gave their blood sample for Thalassemia test. Moreover 20 NSS volunteers and 02 faculty members of College of Horticulture donated their blood.



10. World soil day:

Anand Chapter of Indian society of soil science, AAU, Anand had organize Celebration of World Soil Day on 20.11.2018 at AAU, Anand. On this day poster competition was organize for all the colleges of AAU, Anand on 'Be the solution to soil pollution'. Various them has been given for all PG, UG and polytechnic students. For UG students the them for poster was "Consequences of soil pollution". In this programme 20 volunteers from College of Horticulture were participated.



11. Youth Parliament :

The Hon. Prime Minister shared the idea of youth becoming the voice of India in his Mann ki Baat address of 31st December, 2017. The basic idea behind this mock youth parliament was that *mock parliament* should be arranged in every district of India. Where the youth between 18 and 25 could sit together and brain storm about new India, find ways and chalk our plans. On the same matter one volunteer from College of Horticulture was selected as a member at Anand district level mock youth parliament organized at B.J.Vanijya Mahavidhyala, Sardar Patel University, V.V.Nagar, (Anand).



12. Republic day:

Anand Agricultural University, Anand celebrated Republic Day on January 26, 2019 at University Bhavan. All university officers, staffs, students of different faculties and family members were remain present to grace this Republic day. All NCC cadets, NSS volunteers actively participated in this celebration. Our 55 NSS volunteers also participated in this programme.



B. SPECIAL ACTIVITIES

A special camp of NSS Volunteers was organized by College of Horticulture, Anand Agricultural University, Anand at village Ajarpura , Ta. Anand, Dist. Anand during 24/03/2019 to 30/03/2019. Total 40 students participated in this NSS special camp.

On this occasion, on 24st March, 2019 in morning session inauguration of NSS camp was there in Primary school of the village. Our Principal Dr.H.C.Patel has inaugurated the camp with presence of Smt Sejalben Patel, Sarpanch of the village, Shri. Pravinbhai Patel, Trusti of the School, Shri. Bharatbhai Raval, Principal of primary school and Shri Bhaveshbhai, Member of Panchayat of the village. After that volunteer has done village socio economic survey was carried out with the Sarpanch of Ajarpura village, Smt. Sejalben Patel. During survey students were familiar with the village people, total population of the village is 4693 out of that male population is 2443 and female population is 2250 in village. They also got the information regarding the ratio of the community in the village and advance facilities available in village like Milk co-operative society, primary school, Panchayat office, Banking and Health center *etc.* They briefly got information regarding farmers land holding, live stock, cropping pattern and average income. After the survey of village our NSS volunteers interacted with school children and got information regarding their educational and living standard. In this session Mr. Bharatbhai Raval, Principal of Primary School help the NSS volunteers. By this way our NSS volunteers were familiar with school children's also.

During seven days camp at Village Ajarpura our volunteers actively joined in different activities. The whole seven days programme is briefly narrated as below.

Day	Activities
1	Inaugural function , Interacting with School Children , Swachhta Abhiyan ,Socio economic survey of village and Snake show
2	Preparation and Distribution of sparrow nest , Group discussion and presentation , Poster making Competition , Visit to Shri Rajchandra Ashram (Agas) and Sardar Patel memorial (Karamsad)
3	Awareness Rally , Display of poster at primary school , Cleaning of site for plantation , Interaction with School children on social media , Diya painting , lecture on value addition in fruit crops and RTS lemonade
4	Tree Plantation , Elocution competition on “ Save Water ”
5	Visit of Organic farm, Cold storage unit and “Get Organic ” shop
6	Plantation in primary boys school, preparation for closing ceremony programme and Group discussion
7	Programme planning & Closing ceremony

On 30th March in closing ceremony of the Special Camp with blessings by Dr.H.C.Patel Principal, College of Horticulture, Dr.M.M.Trivedi, Director of Student welfare, Dr. S.H. Akbari, Associate Professor, Shri.Pravinbhai Patel, Trustee of Primary School, Shri. Bharatbhai Raval, Principal of Primary School and Shri Bhaveshbhai, Member of Panchayat and other faculty members of College of Horticulture were present. On this occasion, Dr.H.C.Patel, Principal, College of Horticulture motivated and informed the NSS volunteers about the thrust areas of NSS, particularly for environment enrichment & conservation, social harmony and national integration. Dr. M.M. Trivedi, DSW, briefly explained the students about the importance of NSS in educational institutions and role of students in Nation building. A detailed plan of the different activities conducted during the camp was presented by NSS volunteers.

During the seven days camp Dr.C.H.Raval, Programme Officer like to thank Dr. M.M. Trivedi, Director of Student welfare, Dr.H.C.Patel, Principal, College of Horticulture and all the faculty members viz. , Dr.D.D.Parekh, Dr.R.R.Gajera, Dr.B.N.Satodiya, Prof.Dipak.R.Pardava, Dr.B.L.Dudhat, Dr.H.N.Prajapati and Prof.M.R.Parmar for joining in NSS camp during Seven days period.

I express my heart full thanks to my principal Dr.H.C.Patel and Dr.A.H.Barad for planning, execution, guidance and successfully completion of NSS Camp without their support it was not possible to complete these seven days programme.



Inaguration Function of Nss Camp at Village Ajarpura



Interaction With School Children at Ajarpura



Swachh Bharat Abhiyan at Ajarpura During Special Camp



Snake Show With School Students and Volunteers at Ajarpura Village



Preparation & Distribution of Sparrow Nest During Camp



Group Discussion and Presentation During Camp



Poster Making Competition During Camp



Visit of Shrimad Rajchandra Ashram, Agas Village, Dist. Anand



Visit of Sardar Patel Memorial and Garden at Karamsad, Dist. Anand



Awareness Rally on “Save Water & Awareness about Swine Flu”

Display of Poster at Primary School





Cleaning and Preparation for Tree Plantation Programme



Tree Plantation at Ajarpura Village During Camp



Interection With School Childrens on “Social Media”



Diya (Kodiya) Painting



Lecture on Value Addition on Fruit Crop & Praparation of Ready to Serve Lemonade



Elocution Competition on “ Save Water”



Visit to the “ Get Organic” Store, Anand



Visit of The Organic Farms at Village Ajarpura During Camp



Visit of Cold Storage Unit at Ajarpura Village



Plantation of Medicinal Plants in Primary School at Ajarpura Village

CLOSING CEREMONY



Dignitaries Present in Closing Ceremony



Prize Distribution



Memento given in Primary School at Ajarpura Village

Volunteers Taking oath "Not to Use Mobile One Day in a Week"







6.2. Student Activities 2018-19:

Students of our college have been actively participated in various events conducted by college, university, state inter-universities and all India interuniversity level during the year 2018-2019.

INTER COLLEGIATE

Sr. No	Sport/Event	Award/Achievement	Photo
1.	Extempore competition	Second Position	
2.	Debate competition	Second Position	
3.	Poster making (Fine Arts) competition	Second Position	






4.	Rangoli (Fine Arts) competition	Second Position	
5.	Volly Ball (Women)	Champion	
6.	Mime	Runners Up	
7.	Folk Dance	Runners Up	

UNIVERSITY PLAYERS: (Sports)

No	Name	Photo	Games	Place
1	Modhavadiya Riddhi K.		Volley Ball	AAU, 25/10/2018
2	Patel Khushbu M.		Volley Ball	AAU, 25/10/2018
3	Patel Purvi J.		Volley Ball	AAU, 25/10/2018
4	Parmar Hina A.		Volley Ball	AAU, 25/10/2018
5	Patel Aanal R.		Badminton	AAU, 25/10/2018
6	Patel Vraj M.		Badminton	NAU, 20/11/2018

National Players in Sports:

Participate in All India Inter Agricultural Universities Sports & Games (2018-2019) 02-05/01-2019 at PAU, Ludhiana

1.	Patel Purvi	Volley ball	
2.	Parmar Hina	Volley ball	
3.	Patel Khushbu M.	Volley ball	
4.	Modhavadiya Riddhi K.	Volley ball	
5.	Patel Aanal R.	Volley ball	

National Players in Cultural Events:

Participate in All India Inter Agricultural Universities Youth Festival (2018-2019) 03-07/02/2019 at SDAU, Dantiwada

1.	Sharma Zeel	Fine Arts	
2.	Darji Dhvani	Folk dance	
3.	Chudasama Kajal A.	Folk dance	
4.	Arvadiya Dharmesh	Mime & Drama	
5.	Patel Sonu B.	Mime & Drama	
6.	Dhuliya Darshit S.	Mime & Drama	

STUDENT PARTICIPATION IN DIFFERENT TOURNAMENTS:

The students of College of Horticulture participated in various sports meets during the year 2018-19 as per following details.

No.	Activities	Date	Organizing College of AAU	No. of participants
1	Cultural events	04/01/2019	BACA	26
2	Volley ball (Men)	16/11/2018	IABMI	12
3	Volley ball (Women)	7-8/9/2018	IABMI	11
4	Chess	06/09/2018	College of FPT& BE	5

5	Badminton (Women)	22-23/10/2018	BACA	4
6	Badminton (Men)	22-23/10/2018	BACA	5
7	Kho-Kho	28/10/2018	CEAT, Godhra	12
8	Cricket	02-06/02/2019	College of Veterinary & AH	15
8	Kabaddi	26/10/2018	College of Agriculture, Vaso	12
9	Athletics	21-22/02/2019	College of Horticulture	16
10	Literary events	03/01/2019	College of Agriculture, Vaso	5
11	Fine Arts	09/12/2018	Dairy Sci. Anand	3
12	Table tennis (Men)	06/09/2018	College of FPT & BE	4
13	Table tennis (Women)	06/09/2018	College of FPT & BE	4
Total				144

Athletics performance:

Sr. No.	Name of Participate	Name of Events	Position
1	Patel Vraj	100 m Race	Third
2	Dangar Dhaval	200 m Race	Third
3	Chaudhry Jeetubhai	400 m Race	Third
4	Chaudhry Jeetubhai	1500 m Race	First
5	Dangar Dhaval	High jump	Second
6	Dangar Dhaval	Long jump	First
7	Patel Vraj	Shot put	Third
8	Dangar Dhaval	Disc throw	Third
9	Patel Purvi Makwana Divya Solanki Jyoti Patel Kinjal	4 X 100 m Race	First
10	Patel Purvi	Shot put	Third

Overall runners up during Inter College Athletics-2019



Representation of College of Horticulture in Basic Mountaineering Course:

Sr. No.	Name	Duration	Place
1	Chaudhry Jeetubhai	01/10/2018 to 10/10/2018	Mount Abu
2	Patel Sani	01/10/2018 to 10/10/2018	Mount Abu
3	Dangar Dhaval	01/10/2018 to 10/10/2018	Mount Abu
4	Bhadarka Vishal	01/10/2018 to 10/10/2018	Mount Abu
5	Kanpariya Hardik	01/10/2018 to 10/10/2018	Mount Abu
6	Baldaniya Jayesh	01/10/2018 to 10/10/2018	Mount Abu
7	Parmar Pragnesh	01/10/2018 to 10/10/2018	Mount Abu
8	Chanchpara Bhautik	01/10/2018 to 10/10/2018	Mount Abu
9	Baldaniya Paresh	01/10/2018 to 10/10/2018	Mount Abu
10	Jalondhara Haresh	01/10/2018 to 10/10/2018	Mount Abu
11	Mer Mahipat	01/10/2018 to 10/10/2018	Mount Abu
12	Hadiya Janak	01/10/2018 to 10/10/2018	Mount Abu
13	Khant Naveen	01/10/2018 to 10/10/2018	Mount Abu

Participated in other activities

1. **XXXth Meeting of ICAR Regional Committee No.VI:** On this occasion cultural program was organized on dated 04/02/29. Eleven students of our college performed the Gujarati Garba and Ganesh Vandana



2. **Indian Society of Soil Science and AAU organized National Seminar on “Developments in Soil Science”- 2018:** On this occasion cultural program was organized on dated 27/11/2018. Eleven students of our college performed the Gujarati Garba and Ganesh Vandana and Skit.



Ganesh Vandana



Garba



Skit



Participants group

3. “Rain Water harvesting” Seminar: This seminar organized by Rotary Anand Milk city during 09/03/2019. Eleven students were participated. Aims of seminar is to save water for agricultural and domestic purpose.

List of Participants

Sr. No.	Reg. No.	Name of Students
1	3081018003	Bagadia Isha Ketanbhai
2	3081018058	Yashkumar Vipulbhai Trivedi
3	3081018032	Parekh Prachiben Virendrakumar
4	3081018051	Savaliya Dhruvkumar Chandubhai
5	3081018001	Ali Tehsinah Mustufabhai
6	3081018044	Patel Ridhdhi Devalkumar
7	3081018038	Patel Kanan Sureshbhai
8	3081018049	Ruchirkumar Dilipbhai Patel
9	3081018022	Jagad Mansi Nareshbhai
10	3081018036	Patel Harsh Shaileshkumar
11	3081018040	Patel Mansi Asvinkumar

4. Celebration of International Woman Day: AAU organized during 08/03/2019. On this day Ninety-five girl’s students were participated in various events Viz., occasion Rally, Cycling, Marathon and lecture on “Woman empower.”



International Woman Day 2018-19

SRC ACTIVITIES DURING THE YEAR 2018-19



Orientation Programme on 16/08/2018





Fresher party-Blossom 2018



Navratri -2018

Tournament Organized
INTER COLLEGE ATHLETIC 2018-19



Opening Ceremony of Athletic 2018-19



Price distribution



7. University Library: Not Applicable

Appendix-1
Civil Works Completed

- ❖ Constructed Class Rooms, Laboratories, Seminar Hall, Offices, Garden, Net house, Garage, parking of staff & students etc of College of Horticulture.

Appendix-2
Civil Works on hand: NIL

Appendix-3
Budget wise sanction grant and expenditure

Following schemes of college were sectioned under different budget heads:

Sr. No.	Budget Head No.	Sanction grant		Expenditure		Note
		Recurring	Non-Recurring	Recurring	Non-Recurring	
1.	12987-16	37,82,000/-	7,61,000/-	37,25,879/-	6,06,838/-	Main plan budget
2.	12712-02	1312000/-	55,000/-	13,00,211/-	54,866/-	Land saping at aau
3.	12865	50,000/-	-----	49,935/-	-----	For sport activities
4.	12967	50,000/-	-----	49,890/-	-----	For sport activities
5.	12967-02	40,000/-	-----	39,110/-	-----	For sport activities
6.	18273	20,000/-	-----	12,132/-	-----	For NSS activities
		22,500/-	-----	17,550/-	-----	For NSS activities
7.	4862	75,000/-	-----	75,000/-	-----	For game organization
8.	4862(B)	35,000/-	-----	25,430/-	-----	For game organization

Appendix-4
List of Research papers published

International journal

1. Gajera R.R., Nema A., Sharma H. and Joshi D.C. (2018). Processing and quality evaluation of bottle gourd (*L. siceraria*) juice, *Int. J. of Chemical Study*, 6(3): 2727-2731
2. Patel J. J., Patel D. A., Parmar H. K., Damor A.S. and Patel D. K. (2018). Diallel analysis for combining ability studies in castor (*Ricinus communis* L.). *Int. J. of Chemical Studies*, 6(3): 2950-2956.
3. Vaishali, Sharma H., Sharma A., Nema A. and Gajera R.R. (2019). Effect of shellac coating on minimally processed grapes, *Int. J. of Chemical Studies*, 7(2): 1843-1848.

National journal

1. Barad A. H. (2018). Bio-efficacy of seed treatment insecticidal molecules against cucumber leaf miner, *Liriomyza trifolii* (Burgess), *J. of Entomology and Zoology Studies*, 6(6): 251-255.
2. Chakraborty S., Patel D. A., Parmar H., Dhaduk H. L. and Sasidharan N. (2018). Genetic diversity analysis in soybean (*Glycine max* (L.) Merrill.) using SSR markers. *J. Pharmacognosy and Phytochemistry*, 7(3): 2380-2384.

3. Chaudhari U. C, Singh A, Ahlawat T. R, and Thatte. S (2018). Effect of various levels of nitrogen on quantitative and qualitative parameters of rose var, “Top Secret” under poly house condition. *J. Applied and natural Science*, 10 (1): 417-420.
4. KumariPrity, Mishra G. C. and Srivastava C. P. (2018). Predictive models for pod damage by pod fly in pigeonpea for North East Plain Zone of India, *Int. J. Agricult. Stat. Sci.* 14(2):465-468.

Number of research paper presented at Seminar/ symposia etc. for 2018-19:

International level

1. Gajera R.R (2019).Storage characteristics of whey based fruit beverage. A paper presented in International Symposium on Engineering Technologies for Precision and Climate Smart Agriculture held at Banaras Hindu University, Varanasi during 28-30, January,2019.
2. Gajera R.R (2019).Rain or Shine: Promising Technology for Clean Energy Harvesting.A paper presented in International Symposium on Engineering Technologies for Precision and Climate Smart Agriculture held at Banaras Hindu University, Varanasi during 28-30, January, 2019.

National level

1. KumariPrity (2018). Statistical models for forecasting area, production and yield of fruit crops in Gujarat. A paper presented in 72nd Annual Conference of Indian Society of Agricultural Statistics at ICAR-Central Institute of Agricultural Engineering, Bhopal, M.P.during 13-15, December, 2018.

Books / Book chapters published:

i. Books/ Booklets:

Sr. No.	Name of Book	Name of Authors	Name of Publisher
1.	VrukshoniVaigyanikKheti	Patel H. C.,SoniN. V., PatelM. J. and Panchal, B. H.	Anand Agricultural University, Anand,

ii. Book chapter:

Sr. No.	Name of Book	Book Chapter	Name of Authors	Name of Publisher
1.	Today and tomorrow	Management of postharvest diseases of vegetable and fruit crops through bioagents	PatilR. K., Prajapati H. N. and Pandya J. P.	New Delhi publisher

Popular Articles:

1. PatelH. C.,Vasara R. and Patel Dharmishta (2018). *Krushni Van (Agro forestry) Padhdhati nu Mahatva, VrukshoniVaigyanikKheti*,pp: 15-17.
2. PatelH. C.,Vasara R., and Patel Dharmishta (2018). MablakAvakApatuVruksh: Safed Chandan (Sukhad), *VrukshoniVaigyanikKheti*,pp: 56-59.
3. PatelH. C.,Satodiya B. N. and Patel Dharmishta (2018). Sag- Kheduto no KamauDikro, *VrukshoniVaigyanikKheti*,pp: 60-62.
4. Kacha H. L., PatelH. C. and ParadvaD. R. (2018). *Limdo, VrukshoniVaigyanikKheti*,pp: 78-84.

5. Soni N.V. and PatelH. C. (2018). *Biyo, VrukshoniVaigyanikKheti*,pp: 107-108.
6. Patel H. C. and Patel Dharmishta (2018). *JambuniVaigyanikKhetiPadhdhati, VrukshoniVaigyanikKheti*,pp: 117-119.
7. Soni N. V. and PatelH. C. (2018). *KhatarApatuVruksh-Karanj,VrukshoniVaigyanikKheti*,pp: 120-122.
8. Soni N. V. and PatelH. C. (2018). *Cheriya (Tavar),VrukshoniVaigyanikKheti*,pp: 171-176.
9. Soni N. V. and PatelH. C. (2018). *Vruksho- Tel Mate na Nava Stroto, VrukshoniVaigyanikKheti*,pp: 177-179.
10. Soni N.V.andPatelH. C. (2018). *Tel ApataVrukshonaVividhaUpayogo, VrukshoniVaigyanikKheti*,pp: 180-187
11. ParmarAmita,PatelH. C. and Vasara R. (2018). *BilaniKheti, VrukshoniVaigyanikKheti*,pp: 85-87.
12. Kotecha A. V. (2018). *Desi Bavad, VrukshoniVaigyanikKheti*,pp: 94-96.
13. Kotecha A. V. (2018). *Sharu,VrukshoniVaigyanikKheti*,pp: 94-96.
14. Shah, N. I., Maheriya, P.A. and Chaudhari, U.C. (2018). *SamajikVanikaran,VrukshoniVaigyanikKheti*, pp: 18-21.
15. Shah, N. I., Maheriya, P. A. and Chaudhari, U.C. (2019). *FalpakomaSajivkheti, Gujarat BagayatVikasParisad*, pp: 8-10.
16. Chaudhari, U. C. and Paradva D. R. (2019). *Deshigulabnikhetipadhdhti, Gujarat BagayatVikasParisad*, pp: 44-48.

Appendix-6

List of Seminar, Symposia, Conferences and Workshop organized: NIL

Appendix-7

List of University teachers who participated in Seminars, Symposia, Conference and training programmes organized by the other Institutions.

Sr. No.	Name of Teacher/ Scientist	Participated	Duration
1	Dr. R. R. Gajera and Dr. A.V. Kotecha	National workshop on “Enhancement of farmer’s income throughpost harvest management” held at College of FPTBE, AAU, Anand	28.08.2018 to 29.08.2018
2.	Prof. Hitiksha K. Parmar	Winter school on “Current and emerging trends for conservation and sustainable utilization of forest genetic resources” at Navsari Agricultural University, Gujarat	24.09.2018 to 14.10.2018
3.	Dr. C. H. Raval	National workshop on “Yogic farming, Organic farming and zero budget natural farming held at AAU, Anand	17.09.2018 to 18.09.2018
4.	Dr. A. H. Barad	National seminar on “Uttar GujaratanaBagayatipakomapakarnkshan by PPAG” held at SDAU, Dantiwada	29.09.2018
		Short term training (5 days) on “Fruit fly: Surveillance and Management” held at NIPHM, Hyderabad	29.10.2018 to 02.11.2018

5.	Mr. D. R. Paradva	Winter school on “Technological advances to minimize wastage of horticultural produce” at Punjab Agricultural University, Ludhiana, Punjab.	01.11.2018 to 21.11.2018
6.	Dr. C. H. Raval	National Seminar on “Developments in soil sciences” held at AAU, Anand	27.11.2018 to 30.11.2018
7.	Dr. D. D. Parekh and Dr. Amita B. Parmar	Winter school on “Processing Value Addition and Waste Utilization Of Medicinal and Aromatic Plants with Advance Techniques” at ICAR-Directorate of Medicinal and Aromatic plants Research (DMAPR), Boriavi, Anand, Gujarat	30.11.2018 to 20.12.2018
8.	Dr. Prity Kumari	72 nd Annual Conference of Indian Society of Agricultural Statistics at ICAR-Central Institute of Agricultural Engineering, Bhopal, M.P.	13.12.2018 to 15.12.2018
9.	Dr. R. R. Gajera	53 rd Annual convention of ISAE and International Symposium on Engineering Technologies for Precision and Climate Smart Agriculture held at BHU, Varanasi.	28.01.2019 to 30.01.2019
10.	Dr. C. H. Raval and Dr. H. N. Prajapati	21 Days Refresher course at HRDC, UGC, V. V. Nagar	28.01.2019 to 17.02.2019
11.	Dr. R. R. Gajera and Dr. Amita B. Parmar	State level seminar on “Gauadharitsajivkheti” organised by Gujarat Association for Agricultural Sciences, Ahmedabad	18.02.2019
12.	Dr. Prity Kumari	21 days training programme on “Modern statistical techniques in Genetics” under the aegis of Centre of Advanced Faculty Training (CAFT) at IASRI, Library Avenue, Pusa, New Delhi	01.02.2019 to 21.02.2019

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