

**UNIVERSITY OF HORTICULTURAL SCIENCES,
BAGALKOT, KARNATAKA**



**SELF STUDY REPORT FOR THE
B.Sc. DEGREE PROGRAMME
COH, BAGALKOT, 2014-15 to 2018-19**

SUBMITTED TO
**Indian Council of Agricultural Research,
KrishiBhavan, New Delhi.**

SUBMITTED BY
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PREFACE

The growth of Indian agriculture sector has had its moments of glory. The green revolution has been major success story of free India to achieve surplus today, nonetheless frequently plagued by famines and chronic food shortage. From food grain production around 55 million tons at the time of independence, now boast the production of 284.83 million tons of food grains (2017-18). Indian agriculture has witnessed wide variations in growth performance after independence in India. The record horticulture production (306.8 million tonnes estimated) during 2017-18 will mark the sixth straight year of horticulture production outstripping that of food grains. Further, the percentage share of horticulture in agriculture GDP is 33 per cent which is quite impressive. The horticulture sector plays vital role in nutritional security, economic sustainability and employment generation. It was realized only in mid-80s about the importance of horticulture and thus the Government of India recognized Horticulture as a prominent sector. Horticulture appears to be a viable means of diversification for making agriculture more profitable through efficient land use, optimum utilization of natural resources while creating skilled employment for the rural masses. Horticulture has invariably enhanced the economic status of farming community besides, without disturbing invaluable natural resources. In general the growth of horticulture sector has created ripples which consequently resulted in a wide spectrum of processing industries. In this context, quality seed and planting material supply, surge for hi-tech horticulture, better prospects for contract farming as well as cooperative farming, participatory approach in production and marketing have attained magnanimous stature. The higher growth rate in horticulture sector suggests a structural change in Indian agriculture where farmers are increasingly growing perishable commercial crops due to a growing market and a quicker cash flow as these crops require less time from sowing to marketing. Thus, there is a growing awareness about the advantages of the horticultural crop production and this is bound to go up with the improvement in socio-economic status of the people.

In the recent past R & D programmes in horticulture received an impressive support from the government. As a result, the research infrastructure has increased many-fold with the setting up of a number of new institutes, national research

centres for several crops, important both from domestic as well as export point of view. The establishment of educational institutions in the field of horticulture play a pivotal role in developing human infrastructure, which would cater to the needs of the emerging horticulture industry.

To develop the quality human infrastructure in the field of horticulture in general and to cater to the needs of the farmers of Northern Karnataka in particular, the College of Horticulture was established at Bagalkot on 07.07.2008 under the University of Agricultural Sciences, Dharwad. With the establishment of the University of Horticultural Sciences at Bagalkot the college of Horticulture came under the administrative control of the said university from 2009-10. The college offers undergraduate, postgraduate and Ph.D. courses. The college has the admission capacity of about 120 students annually for undergraduate, about 55 students for Master' degree programme and 25 students for Ph.D. programme. The students of this college have excelled not only in studies but also in extra-curricular activities and National level competitive examinations. The college has been making efforts to improve the quality of education offered in this direction. Since the college is due for accreditation, the present self study report provides all the necessary information about the college activities performed during last five years (01-01-2014 to 31-12-2018).

The University Level Task Force and Steering Committee have also been gratefully acknowledged for their help, guidance and suggestions given in preparing the report.

The college level Steering Committee and Task Force have done a great job in compiling information and bringing out this report to be submitted to Accreditation Board of ICAR. My heartfelt thanks to all for providing valuable suggestions to improve the quality of presentation.

**College of Horticulture, Bagalkot
March, 2019.**


**Dean
(H.B.Patil)**

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6.4.1. BRIEF HISTORY OF THE GRADUATE DEGREE PROGRAMME

The Bagalkot district is hub of horticultural crops. Especially the two fruit crops viz., pomegranate and grapes grown in this district and adjoining area are being exported and contribute to a major extent towards national income. However the farmers who are practicing horticulture are facing numerous problems with regard to scientific cultivation and plant protection. At the same time the large number of students from this area wanted to propel their studies in horticultural science. In this context, to cater the needs of farmers as well as to give due regard to the enthusiasm of student community of this area to seek degree in horticultural science, the college of horticulture started with B. Sc (Horticulture) degree programme on 07th July, 2008 as per Gazette Notification No.AE/159/ VECHH:4.03 of Government of Karnataka, dated 25.03.2008 under University of Agricultural Sciences (UASD), Dharwad. Later the college was brought under the administrative control of the University of Horticultural Sciences, Bagalkot (UHSB) after its establishment on 22nd November 2008. The college is providing quality education, conducting research and involved in extension activities mainly in the horticulture sector.

The college started functioning from 2008-09 with an admission intake of 28 students to the first year of B.Sc. (Horticulture) degree programme at DATC building in Haveli village of Bagalkot district with six laboratories, four class rooms, one library hall and ample office space. Apart from this, field structures like poly house, mist houses, shade/net houses, *etc.* have also been installed to cater the needs of teaching and research.

The college was shifted to new campus Udyanagiri in September 2013. The new campus is having an area of 300 ac with well equipped 7 blocks allotted to different departments, graduate and post graduate laboratories, ample teaching space, well equipped library, huge play ground with modern facilities, 2 hostels for boys and 3 hostels for girls, a canteen and other facilities.

The college started post graduate programme (M.Sc. Horticulture) in vegetable science in the year 2011-12. Later in, 2012-13 post graduate programme started in four other disciplines namely 1) Fruit Science, 2) Vegetable Science, 3) Soil Science and Agricultural Chemistry and 4) Entomology. Further, the post graduation programme was introduced in the disciplines of 1) Post Harvest Technology 2) Plant Pathology 3) Biotechnology and Crop Improvement during the year 2013-14. During the academic year 2014-15 the post

graduation studies were introduced in the departments of 1) Plantation, Medicinal and Aromatic crops and 2) Floriculture and Landscape Architecture.

Similarly Ph. D. programme started in the year 2014-15 in 3 disciplines viz., 1) Entomology 2) Plant Pathology and 3) Biotechnology and Crop Improvement. At present the college is offering M.Sc. (Horticulture) programmes in ten departments and Ph.D. in nine departments.

Accomplishments / Achievements of students

UHS Gold medals for securing top OGPA in University

Sl.No	Name of student	Name of Degree Programme	Name of the award	Year
1	Mr. Ravi Kiran A. R.	B. Sc. (Horticulture)	UHS, Gold Medal (University level) for highest OGPA in B. Sc (Horti) among all Colleges of university	2016-17

Performance of students of COH Bagalkot in JRF Examinations

Year	2013-14	2014-15	2015-16	2016-17	2017-18
No of JRF Achievers	4	5	-	9	9

Performance of COH Bagalkot students in Inter-Agri. University Youth Festival

Sl. No	Name of the student	Name of the event	Place Secured	Year
1	Mr.Ravikiran A.R.	Group dance	II Prize	2014-15
2	Mr. Mahesh K.N.	Spot painting	II Prize	2014-15
3	Ms Apoorva G.	One act play	II Prize	2014-15
4	Ms Manasa Rani T.	Quiz	III Prize	2014-15
5	Mr. Mahesh K.N.	Poster Making	III Prize	2014-15
6	Ms.Ashwini V Dummagol	Rangoli	I Prize	2015-16
7	Ms.AproovaGuddareddy	One act play	II Prize	2016-17
8	Mr. Mahesh K N	Group dance	III Prize	2016-17
9	Mr.Ravikiran A. R	Skit	III Prize	2016-17
10	Ms.Sahana	Mime	III Prize	2016-17
11	Ms.Soumya S. M	Group dance	III Prize	2016-17
12	Ms.Shrinidhi B. R	Group dance	III Prize	2016-17
13	Mr.Udaya T. V.	Group dance	III Prize	2016-17
14	Mr.Shivakumar S	Cartooning	III Prize	2017-18
15	Ms.Shrutidevi Math	Skit	I Prize	2017-18

Performance of COH Bagalkot students in All India Inter Agri-University Sports

Sl. No	Name of student	Name of the event	Name of the awarding institute	Date/year
1	Mr.SantoshHadagali and Mr.Nitinakumar as a members of team	Second place in 4x400 m relay (Men)	17 th AIIAU Sports and Games Meet, at CCS Haryana Agricultural University, Hisar, Haryana	2016-17

Performance of students of COH Bagalkot in NSS

Sl. No	Name of student	Name of the award/achievement	Name of the awarding institute	Year
1	Mr.Umeshgouda S. Patil	Indira Gandhi National NSS Award - 2014	Government of India	2014
2	Mr.Umeshgouda S. Patil	Participation in National RD Parade	Government of India	2014
3	Mr.Tejukumar B.K	Participation in National RD Parade	Government of India	2016
4	Mr.Tejukumar B.K	NSS Best volunteer State award	Government of Karnataka	2017

6.4.2. FACULTY STRENGTH

Faculty strength at COH, Bagalkot

Sl. No.	Designation / Cadre	Sanctioned strength	Filled position	Vacant position
01	Professor	10	08	02
02	Associate Professor	12	05	07
03	Assistant Professor	45	28	17
	Total	67	41	26

Department wise Faculty strength at COH, Bagalkot

Sl. No.	Name of the Department/Faculty	Sanctioned strength	Faculty in place	Vacant/ Excess	Department/Faculty recommended by ICAR	Existing	Deviations from ICAR recommendations
01	Fruit Science				Fruit Science (Breeding + Production)		
	Professor	1	1	-	1	1	Nil
	Assoc. Professor	2	-	-2	2	0	- 2
	Asst. Professor	2	2	-	3	3	Nil
02	Vegetable Science				Vegetable Science (Breeding + Production+ Seed technology)		

Sl. No.	Name of the Department/Faculty	Sanctioned strength	Faculty in place	Vacant/ Excess	Department/Faculty recommended by ICAR	Existing	Deviations from ICAR recommendations
	Professor	1	1	-	1	1	-
	Assoc. Professor	2	1	-1	1	1	-
	Asst. Professor	2	2	-	4	3	-1
03	Floriculture and Landscape Architecture			Floriculture and Landscape Architecture (Breeding + Production)			
	Professor	1	-	-1	1	0	-1
	Assoc. Professor	2	1	-1	1	1	Nil
	Asst. Professor	2	3	+1	2	3	+1
04	Plantation, Spices, Medicinal and Aromatic Crops			Plantation, Spices, Medicinal and Aromatic Crops			
	Professor	1	-	-1	-	-	-
	Assoc. Professor	2	-	-2	-	-	-
	Asst. Professor	2	2	-	-	-	-
05	Post Harvest Technology			Post Harvest Technology			
	Professor	1	1	-	1	1	Nil
	Assoc. Professor	1	-	-1	1	0	-1
	Asst. Professor	2	4	+2	2	4	+2
06	Biotechnology and Crop Improvement (Biochemistry, Crop Physiology, Genetics and Plant Breeding, Plant Biotechnology, Molecular Biology & Seed Science and Technology)			Basic Sciences (Biochemistry, Crop Physiology, Biotechnology & Genetics and Plant Breeding, Statistics*, Computer Science*) (* placed in social and allied sciences)			
	Professor	2	1	-1	1	1	Nil
	Assoc. Professor	2	-	-2	2	0	-2
	Asst. Professor	6	5	-1	6	5	-1
07	Plant Pathology			Plant Protection (Entomology + Plant Pathology + Nematology)			
	Professor	1	1	-	1	3	+2
	Assoc. Professor	2	1	-1	2	1	-1
	Asst. Professor	2	2	-	3	4	+1
08	Entomology						
	Professor	1	2	+1			
	Assoc. Professor	2	0	-2			
	Asst. Professor	2	2	-			
09	Social and Allied Sciences (Agril Economics, Agril Extension, Agril Statistics, English, Computer Science, Animal Science, Physical Education and Kannada)			Social Sciences (Agril Economics, Agricultural Extension, Agril/Horticulture Business, English Physical education, Library Science)			
	Professor	-	1	+1	1	1	Nil
	Assoc. Professor	-	-	-	1	0	-1
	Asst. Professor	8	2	-6	5	2	-3
10	Natural Resource Management (Agronomy, Agril Microbiology, Forestry, English, Agril. Engineering and Animal Science)			Natural Resource Management (Soil Science and Chemistry, Microbiology, Water tech centre (WTC), Experimental Science and			

Sl. No.	Name of the Department/Faculty	Sanctioned strength	Faculty in place	Vacant/ Excess	Department/Faculty recommended by ICAR	Existing	Deviations from ICAR recommendations
					Agril(Engineering)		
	Professor	-	-	-	1	0	-1
	Assoc. Professor	2	1	-1	1	2	+1
	Asst. Professor	4	2	-2	6	4	-2
11	Soil Science & Agril. Chemistry				-	-	-
	Professor	1	-	1			
	Assoc. Professor	1	1	-			
	Asst. Professor	2	2	-			
	Total				Total		
	Professor	11	8	-3	8	8	Nil
	Assoc. Professor	18	5	-13	11	5	-6
	Asst. Professor	34	28	-6	31	28	-3
	Total	63	41	22	50	41	-9

College of Horticulture, Bagalkot is situated in the main campus of the University. Hence, teachers from other directorates at the campus and other nearby research stations (as detailed below in table 8 a) are being engaged for teaching and for serving as chairman /member of PG students advisory committee based on the requirements.

Faculties from Directorates and nearby Research Stations:

Sl. No.	Name of the Directorates / nearby research station	No. of teachers involved in teaching
01	Directorate of Education	02
02	Directorate of Research	05
03	Directorate of Extension	05
04	Directorate of (Post Graduate Studies)	02
05	Directorate of Student Welfare	02
06	HREC, Vijayapur (Tidagundi)	02
07	RHREC, Kumbapur	01
08	KRCCH, Arabhavi	04
09	CHEFT Devihosur	02

In some subjects like, Animal Science, Agril. Engineering, Kannada language, where in no permanent faculty are available, teachers are being engaged on contractual basis for offering the respective courses.

6.4.3. TECHNICAL AND SUPPORTING STAFF

Technical and supporting staff

Sl. No	Designation	Sanctioned strength	Faculty in place	Vacant position	Temporarily on contract basis	Faculty recommended by ICAR	Deviations from ICAR recommendations
01	Assistant Registrar	01	01	-		01	Nil
02	Assistant Administrative Officer	01	-	01		01	Nil
03	Assistant Comptroller	01	01	-		01	Nil
04	Assistant Medical Officer	01	-	01	01	01	Nil
05	Library Assistant	01	-	01		02	-01
06	Superintendent (General)	01	-	01		01	Nil
07	Superintendent (Accounts)	01	-	01		-	+01
08	Assistant Engineer (Civil)*	01	-	-		01	Nil
09	Junior Engineering (Ele.)*	01	-	-		01	Nil
10	Stenographer	01	01	-		-	+01
11	Senior Assistant/ Assistant cum Computer Operator	11	08	03	03	06	+05
12	Senior Field Assistant / FieldAssistant*	09	07	02	-	08	-01
13	Laboratory Assistant	08	11	-	-	08	Nil
14	Senior Tractor Driver/Tractor Driver*	02	01	01	01	02	Nil
15	Driver (LV)/ Driver (HV)	03	01	02	02	06	-03
16	Lab / office Attender	01	01	-	-	06	-05
17	Caretaker/ Cook cum Caretaker	02	-	02	02	03	-01
18	Jr. Technician/ Electrician*	01	-	01	01	01	Nil
19	Shelf Assistant*	01	-	01	-	02	-01
20	Assistant Cook cum Caretaker	02	-	02	03	04	-02
21	Plumber	-	-	-	01	01	-01
22	Pump Attender*	01	-	01	-	-	+01
23	Office Attender / Messenger*	09	-	09	07	06	+03
24	Watchman*	04	-	04	04	06	-02
25	Janitor*	01	-	01	02	02	-01

* Since the college is located at main campus the research fields are managed by staff of the MHREC and general engineering/technical works are managed by staff of the Estate office, UHS, Bagalkot.

6.4.4. CLASS ROOMS AND LABORATORIES

College has sufficient number of classrooms and laboratories as detailed below. Each year of UG degree programme (I st, II nd& III rd year) are having separate class rooms and laboratories and IV th year students undergo ELP and RHWE programme.

Detailed facilities are as below

Class room facilities in the college

Sl. No.	Class room	Year	Seating capacity	Facilities
1	UG Class room No 1	I B.Sc. (Hort) Section A	80	LCD projector and Computer
2	UG Class room No 2	I B.Sc. (Hort) Section B	80	LCD projector and Computer
3	UG Class room No 3	II B.Sc. (Hort) Section A	80	LCD projector and Computer
4	UG Class room No 4	II B.Sc. (Hort) Section B	80	LCD projector and Computer
5	UG Class room No 5	III B.Sc. (Hort)	80	LCD projector and Computer
6	UG Class room No 6	IV B.Sc. (Hort)	80	LCD projector and Computer

Laboratory facilities in the college

Sl. No.	Name of the Department	Name of the Laboratory	Nos.	Space	Specialty
1	Fruit Science	UG Lab	01	7.8 X 11 m	General UG laboratory
2	Vegetable Science	UG Lab	01	7.8 X 11 m	General UG laboratory
3	FLA	UG Lab	01	7.8 X 11 m	General UG laboratory
4	PSMA	UG Lab	01	7.8 X 11 m	General UG laboratory
5	PHT	UG Lab	01	7.8 X 11 m	General UG laboratory
6	BCI	UG Lab	01	7.8 X 11 m	General UG laboratory
7	Entomology	UG Lab	01	7.8 X 11 m	General UG laboratory
8	Plant Pathology	UG Lab	01	7.8 X 11 m	General UG laboratory
9	Soil Science & Agril. Chemistry	UG Lab	01	7.8 X 11 m	General UG laboratory
10	NRM	UG Lab	01	7.8 X 11 m	General UG laboratory
11	Computer Lab	UG Lab	01	7.8 X 11 m	Computer lab with network and server facility.

Major equipments

Name of the equipment	Number	Name of the equipment	Number
1. Fruit Science			
Refrigerator	04	Penetrometer	01
Electronic Balance	07	Lap top	01
Digital camera	01	Refractometer	01
Hot air oven	01	Glass musium jars	30
Mixer	02	Sprayer	01
Hot Plate cum magnetic stirrer	01	Cylindrical Jar	30
Water bath	01	Digital Caliper	02
Signal distillation unit	01		
2. Vegetable Science			
Binacular microscope	01	Spectrophotometer	01
Electronic weighing balance	06	Verniercalipers	01
Refractometer	01	pH meter	01
Weighing Balance	01	Digital conductivity TDS meter	01
Refrigerator 250lt	02	Mixer grinder	01
Hot plate cum magnetic stirrer	01	Quartz double distillation unit	01
Electronic lab table	01	Pipette	04
Leaf area meter	01	Laboratory Air cooler	03
Water bath	01	Deep freezer	01
3. Plantation, Spices, Medicinal and Aromatic Plants			
Distillation unit	01	Manual vernier	04
Mixer grinder	01	Clevenger apparatus	04
Hot air oven	01	Water Bath	01
Microscope	01	Refractometer	01
Hot plate	01	Water distillation unit	01
Magnetic Stirrer with Hot Plate	01	Stem distillation unit 10 kg capacity	01
pH meter	01	Lux meter	01
Digital conductivity / TDS meter	01	Hand refractometer	01
Electronic Weighing balance	02	Water circulator	02
Induction cook top	01	Vacuum pump	01
Table balance	01	Digital electronic balance	01
Refrigerator	01	Sox let apparatus	01
Digital verniercaliper	04	Deep Freezer	01
4. Post Harvest Technology			
Distillation unit	1	Collection / Holding Tank	1
Microwave oven	1	Vacuum Kettle	1
Wet grinder	1	Cooking Kettle	1
Prominence Binary gradient HPLC with accessories	1	Rotary Flat Can Body Reformer	1
Juicer	1	Can Body Beader	1

Name of the equipment	Number	Name of the equipment	Number
Microwave oven	2	Flanger	1
Deep freezer (-20° C)	2	Treadle Lid Embossing Machine	1
Portable analyzer for O ₂ and CO ₂ measurement	1	Double Seamer	1
Vegetable suag	1	Straight Line Exhaust Box	1
Automatic ethylene generator	1	Canning Retort	1
Refractometer	1	Vacuum Filler	1
Water bath	1	GCB Filler	1
pH Meter	1	Crown Corking Machine	1
Vertical Laminar Air Flow	1	Cap Sealer	1
Centrifuge speed 1500rpm	1	Cap Sealer	1
Moisture carrot juicer with aluminum frame		Sugar Syrup Preparation System	1
Plastic bag sealing machine	1	B.O.D Incubator	1
Crown corker	1	Sugar Syrup Holding Tank	1
Homogeniser	1	Centrifugal Pump	1
Ice box 50 Ltr Neelkamal	1	Blending Tank	1
Mixer grinder	1	Centrifugal Pump	1
Mosambi juice maker (hand operated)	1	Vegetable cutter (hand operated)	1
Boiler	1	Pasteuriser (Tube Type)	1
Hand Refractometers 0-32	3		
Sealing machine	1	Interconnecting Conveyor	1
Spectrophotometer	1	Shower Cooler	1
Electronic weighing machine	3	End Processing Table	1
Laboratory incubator	3	Interconnecting SS Pipelines & Fittings	1
Biscuit and cake production machine	1	Automatic Monobloc Rinser/ Filler /Capper	1
Electronic lab table	1	Interconnecting MS Pipelines & Fittings	1
Electronic weighing balance	1	RO Plant	1
Digital temperature controller cum indicator	1	Multifunction Vegetable Slicer / Chopper	1
Dehydrator	1	Blancher	1
Lab. Spray drier	1	Vacuum Dehydrator	1
Lab. Freeze drier	1	Pouch filling & sealing machine	1
Trinocular research microscope	1	Mixer grinder	2
Fruit & Vegetable Washer	1	Bakery kneading machine	1
Fruit / Vegetable Crusher	1	Bakery spiral mixture	1
Fruit Mill	1	Bakery bread slicer	1
Pulper	1	Bakery double deck oven	1
Helicoidal Juice Expunger	1	Water bath digital	1
Collection Tank	2	LED display board	1
Screw Pump	2	Ozonator	1

Name of the equipment	Number	Name of the equipment	Number
5. Biotechnology and Crop Improvement			
Water Bath with Shaker	01	Hot Plate	02
Double Distillation unit	01	Digital pH Meter	01
Autoclave	02	Centrifuge Mini Spin & Rotar	01
Orbital Shaker	01	Visible Spectrophotometer	01
Germinator	01	Biospectrometer	01
Digital Calorimeter	02	Water Purifier Milipore	01
Refrigerator	01	Deep freezer	01
Electronic Weighing Balance	02	Spinix Vortex Shaker	01
Hot Plate Cum Magnetic Stirrer	02	Upright Freezer	01
Photometer	01	Horizontal Gel Electrophoresis	01
Homogeniser	01	Micro Pipettes	04 sets
Horizontal Laminar Airflow	01	Vernier Caliper Size 0-150mm	01
Vertical Autoclave	01	Thermo Cyclor	01
Binocular Microscope	06	Sequencing Gel Electrophoresis with power pack	01
Electronic Top Loading Balance	01	Benchtop Refrigerated Centrifuge	01
Monocular Microscope	01	Gel Documentation System	01
Digital conductivity	01	Mixer Grinder	01
Air conditioner	02	Digital Caliper	01
Weighing Balance Cap. 35 kg	01	Refractometer	01
6. Plant Pathology			
Analytical Balance	01 No	Soil Moisture Meter	01
Student microscopes	10 Nos	Rotary Shaker	01
Automatic seed moisture analyzer	01 No.	pH Meter	01
Monocular Microscope	02 No.	LCD Projector	01
Heating Mantle 250 ML	03 No	Computers	03
Colony Counter	01 No.	Binocular Microscope	02
Hot Air Oven	01 No	B.O.D. incubator	01
Hot Plate	01 No.	Air Conditioner	01
Laminar Air Flow	01No.	Refrigerators	01
Refrigerators	01No	Horizontal electrophoresis unit	01
Quartz-Bi-Distillation Unit	01 No.	Trinocular Microscopes	01
Digital S.L.R. Camera	01No.	Analytical Balance	01
Water bath digital with 12 holes	01No.	Thermo Cyclor	01
Orbital shaking incubator Non refrigerated	01 No.	Thermo Elisa reader	01
Trinocular Microscopes	04 Nos	Refrigerated Centrifuge	01
Auto claves	02 Nos	Gel documentation system	01
Laboratory stools Steel	35	Deep- Freezer	01

Name of the equipment	Number	Name of the equipment	Number
Phatmicrography system.	02Nos.	RTPCR System	01
Microwave ovens	02 No	Quartz-Bi-Distillation Unit	01
Automatic weather station with sensor	01 No.	Binocular Microscope	02
Global Positioning System	01 No.	Laminar Air Flow	01
7. Entomology			
Stereo zoom trinocular microscope with multi out-put camera with adapter	01 No	Hot plate 8 “dia	01
Binocular stereo zoom microscope	02 No	BOD Incubator Size HXWXD[50X50X50]	01
Stereoscopic binocular microscope	04 No	Mixer Grinder	01
Trinocular compound microscope	01 No	Canon Digital Camera 80 D 18-55 with close up lense 100mm	01
Binocular research microscope with battery backup	01 No	Digital camera	01
Olympus trinoculr stereo zoom microscope with Camera adofter and Drawing tube	01 No	Analytical balance	01 No
Refrigerator 310 ltr Double door	01 No	LCGC Electronic weighing balance cap 300	01
Laminar air flow size 4x2x2	01 No	LCGC Electronic weighing balance cap 600g	01
Vertical auto clave	01 No	Magnetic stirrer (Dragon Lab)	04
Hot air oven	01 no	Hot plate cum magnetic stirrer	01
8. Soil Science and Agril. Chemistry			
Flame photometer with Na, K filters	01	Post Hole Augar	01
pH System with electrode and probe	01	Screw type Augar	01
Quartz single stage Distillation unit,	01	Visible Spectrophotometer,	01
Water Circulator unit	01	Servo voltage stabilizer	01
Combined Electrode CL-51B for pH Meter	01	Sieve shaker	01
Conductivity cell CC03 for conductivity meter	01	Muffle furnace, Make-Scientek	01
Acetylene gas 40 litres purity 99%	01	Sand Bath	01
Nitrous oxide gas 47 ltrs purity 99.9%	01	End to End Shaker	01
Argon Gas 47 ltrs purity 99.9%	01	Water Bath (12 Holes)	01
Mineral display storage rack	04	Electronic weighing Machine,	01

Name of the equipment	Number	Name of the equipment	Number
Analytical Balance	01	Organic Dispenser Ultra Make	01
TDS Analyzer with temperature probe	01	Handi Step- Pipette Ultra Make	01
Flame Photometer	01	GPS ETREX 30	01
Dissolved oxygen analyzer	01	Hot air oven	01
pH meter with electro	01	Single Distillation unit	01
Digital nephelometer,	01	Electronic weighing Balance	02
Digital conductivity meter	01	OHP Projector	01
Refrigerator	01	Electronic Kelpus digestion system Electronic Auto distillation system	01
High speed centrifuge	01	Horizontal shaker	01
Stirrer	01		

Instructional farms

Following are the various instructional blocks available for teaching in the campus.

Sl. No.	Instructional blocks	Area (ha)	Crop details	Remarks
1	Major fruit crops	23.87	Crops like Mango, grapes, Sapota, pomegranate, Guava , Citrus, Banana	Block used for fruit science course practicals for the students
2	Minor fruit crops	2.00	Ber, Bread fruit, Phalsa, West Indian cherry, Karaonda, Wood Apple, jack fruit, custard apple,	Block used for fruit science course practicals for the student's
3	Vegetable crops	2.95	Drumstick, Tomato, brinjal, Cabbage, Bhendi, Chilli, Cucurbiteaceous	Block is used for PG and staff research, visits for student's practical
4	Floriculture and landscape gardening	1.06	Rose, Gillardia, China aster, Crossandra, Asparagus	Block is used for PG and staff research, visits for student's practical
5	Plantation, Spices, Medicinal and Aromatic crops	3.62	Coconut, Oil palm, cashewnut, Arecanut, Spices, Medicinal and Aromatic crops	Block is used for PG and staff research, visits for student's practical
6	Forestry	4.01	Teak, Pongamia, Tamarind, Manilla, Tamarind, Cactus, Neem,	Block is used for PG and staff research, visits for student's practical's
7	IFS model	2.07	Different IFS components	Used for students practical and also for display to

Sl. No.	Instructional blocks	Area (ha)	Crop details	Remarks
				farmers and other visitors to the campus
8	Area under tissue culture crops	1.62	Tissue culture banana	Block is used for PG and staff research, visits for student's practicals
9	Nursery	2.08	Coconut, Medicinal plants, Drumstick, Jamun, Lime, Flower crops, Mango	Block is used for PG and staff research, visits for student's practicals
10	Landscape gardening	1.41	-	Used for students practicals and beautification
11	Threshing yard, Seed godown	1.49	-	Used for student's practicals
12	Post-harvest technology lab	0.41	Value added products preparation	Used for student's practicals
	Total	46.21		

Average Number of Students in Theory and Practical Classes

Sl. No.	Degree Programme	Admitted students									
		2013-14		2014-15		2015-16		2016-17		2017-18	
		T	P	T	P	T	P	T	P	T	P
I	B. Sc (Horticulture)	59	30	53	27	51	26	82	28	87	29

6.4.5. CONDUCT OF PRACTICAL AND HANDS ON TRAINING

Practicals are conducted for 2.5 hrs and 2.0 hrs for the graduate students who are undergoing degree as per 4th and 5th Dean's committee recommendations respectively. For post graduate students the practicals are conducted for 2.5 hours.

During the practical classes the students are asked to perform the practicals as per the syllabus and instructions given by the teacher (table 20). Students are provided individually or in a group of 3-4 to handle the microscopes, spectrophotometer, PCR etc. The students need to record the observations and get the signature at the end of the class. Same thing has to be entered in the manual and need to submit it after attending the study questions. The practical manuals are designed as per the curriculum of 5th Dean's committee recommendations and approved by the university.

Activities carried out during practical hours in various departments.

Sl. No.	Department	Method of hands-on-training
1	Fruit Science	Grafting, layering, preparation pot mixture for raising seedlings, study of floral biology, canopy structures, irrigation methods <i>etc.</i> ,
2	Vegetable Science	Land preparation, Preparation pot mixture for raising seedlings for transplantation, study of floral biology, different gardening(terrace, vertical), irrigation methods <i>etc.</i> ,
3	Floriculture & Landscape Architecture (FLA)	Land scaping- using computer softwares (AutoCAD), types of gardens, plant multiplications methods in nursery.
4	PSMA(Plantation, Spices, Medicinal and Aromatic) Crops	Land preparation, study of floral biology, different gardening, irrigation methods, <i>etc.</i> , methods of extraction of commercial ingredients from plants
5	Post Harvest Technology	Preparation of value added products, packaging methods, processing techniques, storage methods
6	BCI and breeding	Floral biology, emasculation methods, pollination techniques, mitosis and meiosis
7	Plant Bio Technology	Plant tissue culture techniques-meristem culture, node culture, anther culture, somatic embryogenesis, molecular markers, nucleic acid extraction, PCR, gene cloning, plant genetic engineering techniques.
8	Social and Allied Sciences	English: Spoken English, grammar, Computer science: C-programming, MS office, DOS, ICT application. Economics
9	Entomology	Collection of insects types of gardens, identification, studying their parts, classifications
10	Plant Pathology	Collection of diseased plant specimens, identification of the diseases in the fields, Sectioning of diseased specimens, identification of casual microorganism in laboratory, growing them in laboratory and molecular characterization, mass multiplication of bioagents, handling of agrochemicals <i>etc.</i>
11	Microbiology:	Staining methods, isolation techniques, -Rhizobium, Azotobacter, Azospirillum, VAM <i>etc.</i>
12	Soil science & Agricultural Chemistry	Collection and analysis of soil and water samples, interpretation of soil and water analysis results identification of manures, preparation of mixed fertilizers, use of GIS and interpretation of natural resources. Site specific nutrient recommendation based on STCR, SSNM, DRIS <i>etc.</i> ,
13	Physical Education	Coaching in different sports and games (both Indoor and outdoor) viz., Table Tennis, Football, Volleyball, Kabaddi, Basketball and athletic games viz., running, javelin, shot-put, high jump, long jump.

Sl. No.	Department	Method of hands-on-training
14	NSS	Conducting events like shramadhana, cleaning habitats and public places and different personality development programmes for attaining the employability skills and to make the students to understand that they are for others. Awareness programme for eradicating evils practices of the society and also health issues.

6.4.6. SUPERVISION OF THE STUDENTS IN PG/PHD PROGRAMME

A faculty is nominated as class teacher for students of each year immediately after their admission to college. Further they are divided into small batch / groups (comprising of 10 students) and each batch is assigned to one of the teachers who is designated as counsellor. The nominated class teacher and counsellors are continued for the same batch till the admitted students complete their degree. Each student immediately after enrolment fills up the registration card with the guidance of counsellor. The counsellors also help the students in planning their academic programmes.

The counsellor will establish a close personal relationship with students assigned during their entire stay in the college. The counsellor will have periodical meetings at least twice in a semester either with the entire batch of students or with each individual student as often as is considered necessary in an effort to know their problems, review their study programme and take such remedial actions as may be necessary in consultation with the concerned teachers and the Dean.

The counsellor will maintain a record of the students containing previous particulars, courses registered and grades obtained. The progress of the students is intimated to their parents after each semester.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.)

The students after the completion of degree programme are asked to give the feedback of degree programme. Some important feed backs received are motioned hereunder.

Sl. No.	Name of the Student	Year of Passing	Feedback	Action Taken
1	Kirankumar K.H.	2014	1. Infrastructure facility is good 2. Water shortage in	1.√ 2. Temporary facilities are made

Sl. No.	Name of the Student	Year of Passing	Feedback	Action Taken
			udyanagiri campus	
2	RohanHundekar	2014	<ol style="list-style-type: none"> 1. Teaching staff and facility -excellent 2. Lab facilities for conduct of practical-need to be improved 3. Hostel facilities were poor in haveli campus 	<ol style="list-style-type: none"> 1.√ 2.Upgraded the lab and hostelfacilities in new campus
3	Mahesh Dashyal	2015	<ol style="list-style-type: none"> 1. Initially the facilities were poor but when college shifted to new campus facilities were excellent 2. However water facility is poor in new campus. 	<ol style="list-style-type: none"> 1.-√ 2.Temporary facilities are made
4	MadhushreeKerkalamatti	2016	<ol style="list-style-type: none"> 1. Financial assistant for participation in National, and International work shop to be provided. 2. Need to open competitive exam cell. 3. Purified drinking water facility 4. General store, book stall and Xerox facility needed 5. Public transport facility 6. Canteen with hygiene upto 8.00 PM o-clock 7. Temple to be constructed 8. Establishment charges in hostel is heavy 	<ol style="list-style-type: none"> 1. Made provision wherever possible 2. HRD room facility provided 3. Facilitated RO water filters in each dept. 4 Will be provided shortly. 5.Approached to KSRTC regarding transport facility 6.A new canteen started at new campus 7. Already a temple is there in campus 8.Monitored and needful action taken
5	Suma Budnimath	2017	<ol style="list-style-type: none"> 1. Teaching faculty is accessible at any time 2. Excellent teaching 3. Excellent Library facility 	<ol style="list-style-type: none"> 1.√ 2.√ 3.√
6	Jnapika K.H.	2017	<ol style="list-style-type: none"> 1. Teaching faculty are good and helping 2. Library facility are good 3. More practical oriented classes needed 	<ol style="list-style-type: none"> 1.√ 2.√ 3. Scheduled practical classes according to the syllabus
7	RashmiIngalagavi	2017	<ol style="list-style-type: none"> 1. Very good infrastructure library and excellent teaching 2. Food and accommodation in hostel superior 3. facilities Bank and Post 	<ol style="list-style-type: none"> 1.√ 2.√ 3.√

Sl. No.	Name of the Student	Year of Passing	Feedback	Action Taken
			office are very much helpful	
8	DeepaKumbar	2018	<ol style="list-style-type: none"> 1. RO-water facility in the college 2. Re-open the HRD Cell 3. Academic Section is not responding properly 4. More no. of personality development classes 5. LCD projectors are not working in some departments. 	<ol style="list-style-type: none"> 1. Provided 2. Provided 3. Dean instructed Academic unit instructed to handle the things smoothly 4. Taken care 5. Provided in all PG depts. a new set.
9	SantoshHalagali	2018	<ol style="list-style-type: none"> 1. Good encouragement for the participation extracurricular activities 2. lack of sports material 3. lack reading room facility after office hour. 	<ol style="list-style-type: none"> 1.√ 2. Taken care through SAU grants 3. HRD cell reopened
10	Gouramma M.N	2018	<ol style="list-style-type: none"> 1. Fully furnish library and good teaching staff 2. Lack of drinking water facility 3. re-opening of HRD Cell 	<ol style="list-style-type: none"> 1.√ 2. Provided 3. Reopened

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS

Student intake and attrition

Year	Sanctioned seats	Actual intake	Attrition	% Attrition
2013-14	63	63	04	6.34
2014-15	58	58	05	8.62
2015-16	59	59	08	13.56
2016-17	86	86	04	4.65
2017-18	92	92	05	5.44
Total	358	358	26	7.26

8.1.9. ICT APPLICATION AND CURRICULA

ICT enabled teaching-learning encompasses a variety of techniques, tools, content and resources aimed at improving the quality and efficiency of the teaching-learning process.

There are a variety of options available to the teacher and students to utilise various ICT tools at COH, Bagalkot for effective teaching and learning. Teachers will participate in selection and critical evaluation of digital content and resources. They will also be encouraged to develop their own digital resources, sharing them with colleagues and students through the digital repositories for this each individual staff allotted with high configured Computer System and connected with high speed Internet facilities for sharing digital contents.

ICT Lab Facilities for B. Sc (Horticulture) at COH, Bagalkot

Sl.No.	Name of Lab	Equipment	Usage
1	ICT Enabled Class Rooms	6 Class rooms with Computer System and LCD Projector	For educational video, PPT, conferencing , teaching and learning
2	UG - Computer Lab	1) D-Link : 48 post hub. 2) 27 HP 32- bi 3) Computers 4) 2 printer	Conducting classes, Training of ICT, browsing Internet and Statistical data analysis
3	ICT Enabled Conference Hall	High Definition CISCO Camera System with High Speed Internet of 4 Mbps lease Line connectivity	To Interact with University Key Officials by students and staff, to interact with different subject experts in different stream online

Different ICT Software's/facilities used for B. Sc (Horticulture) at COH, Bagalkot

Sl. No	ICT Application	Usage
1	SYSTAT	Statistical Software for analysis of Statistical Data
2	WindoSTAT	Statistical Software for analysis of Statistical Data
3	CeRA Consortium of e-Resource in Agriculture	The CeRA software is used for online accessibility of important e-journals related to agriculture and allied sciences. Through which one can have access to more than 3500 journal articles from journals published in all over the world including R & D organization. This enables the students to browse through vast area of knowledge.
4	e-books	Library is having access to Springer e-books for the copy right years 2014-16, which covers nearly 1900 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition library has access to 200 Indian e-books.

Internet and Wi-fi facility

The college and library is provided with separate internet link line with speed of 100mbps. Wi-fi is available in the college and library premises. One can have net facility in

the main campus through IP based network through which students and faculty members can browse CeRA and e-resources of the library in hostels and departments, respectively.

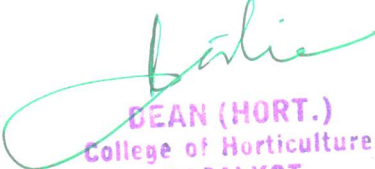
There is a separate digital library section made in the library which is equipped with 25 computers with facility of internet connected to all computers. Web OPAC of the main campus library is available in the net. EZ-proxy remote access server is installed in the library through which one can access e-resources, CeRA, and Agristat in distant places also.

6.4.12.

CERTIFICATE

I, the Dean, College of Horticulture, Bagalkot hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: March, 2019


DEAN (HORT.)
College of Horticulture,
BAGALKOT.