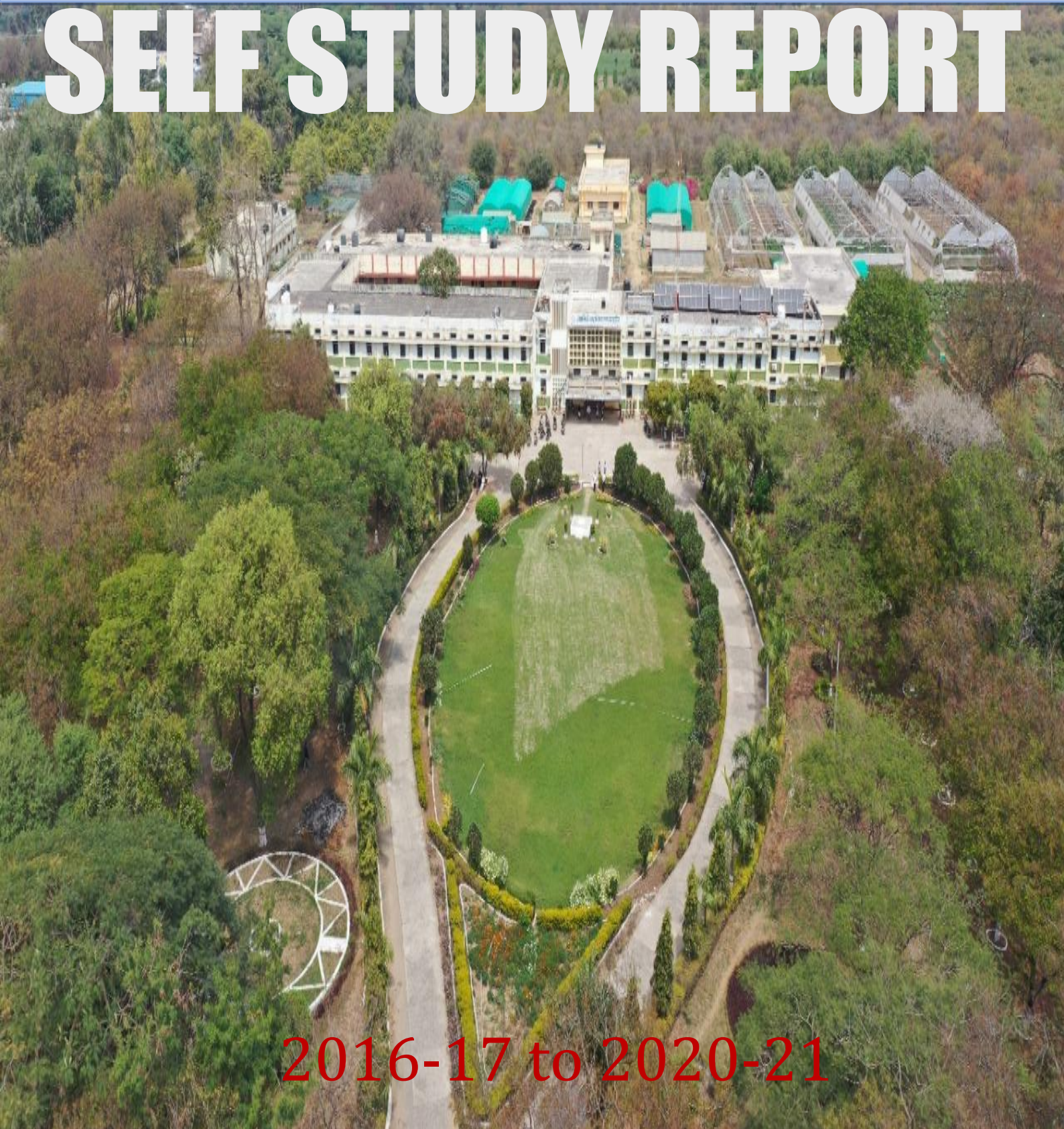


**KNK, COLLEGE OF HORTICULTURE,
MANDSAUR**

SELF STUDY REPORT



2016-17 to 2020-21

RAJMATA VIJYARAJE SCINDIA

KRISHI VISHWA VIDHYALAYA, GWALIOR

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PREFACE

It is my proud privilege to bring forth this self-study report (SSR) for accreditation of the College of Horticulture, Mandasaur (M.P.). This attempt has bestowed upon us an opportunity to review and analyze the institutional progress during the years meant for assessment and braced us up in our pursuit for quality and excellence. Regular meetings were held with the entire stake holder's viz., the faculty, university authorities, students and parents to review the report. Meetings were also held with the Heads of the Department to discuss the details of the Departmental profiles. The process of preparation of the SSR was a happy journey towards the desired destination. The preparation of SSR is not an output of any individual; rather it has been a team effort.

The college is equipped with the requisite infrastructure and equipment, which has been instrumental in creating the credibility .The College of Horticulture, Mandasaur alumni are absorbed in different national and multi-national institutes, as well as few students have started their own business units and are promising entrepreneurs, besides being employed in public sector Banks thus, contributing immensely to the nation and particularly the agricultural system. We believe that having established our credentials in the field of agricultural education, we need to take our commitment forward through introducing newer and higher avenues for the budding agriculturist. Our aim is to imbibe the good work practices as well as research culture and professional attitude amongst the student fraternity to make them able and competent to contribute to the ultimate goal of having sustainable agriculture.

This self-study report is the collective effort of the university authorities, staff (both teaching and non-teaching) and students. I appreciate the deep involvement and painstaking cooperative efforts of the entire team who have extended whole hearted support in the preparation of this Self Study Report. I am very grateful to the Honorable Vice-Chancellor for providing his valuable guidance. I also express my sincere thanks to the Dean Faculty of Agriculture for compilation of SSR and other officers of the university, HODs, faculty members and students. Last but not the least I extend thanks to all those who have directly or indirectly have rendered their services in preparing the self-study report.

I am very much keen to meet the peer review team during their forthcoming visit to our institution. Such occasion and interaction provide us all with an opportunity to enrich ourselves with their insight and vision.

We are eagerly looking forward to welcome the ICAR Peer Review Team and hope they will applaud us for our efforts.

With thanks and greetings



SELF STUDY REPORT OF COLLEGE OF HORTICULTURE, MANDSAUR

HISTORY

College of Horticulture, Mandsaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first B.Sc. (Hort.) batch was admitted in the College in the year 2002. It has produced competent and capable manpower in the field of horticulture and still continuing with its mandate of producing trained work force for the country. It has major three following mandates.

Mandate

- ❖ To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- ❖ To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- ❖ To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

Faculty

The College has as many as 32 faculty members at various stretch of times during the period under consideration.

6.5. SELF-STUDY REPORT FOR THE COLLEGES

6.5.1. COLLEGE ADMINISTRATION

6.5.1.1. College Dean's Office Establishment:

The Dean's post is sanctioned by the appropriate authority and appointed through open selection on all India basis.

Staff available in the Dean's Secretariat as per the setup.

Dean's Name	Dr. Mridula Billore	
Weather the Dean's post sanctioned by the appropriate authority as per ICAR Model Act/UGC guidelines	Yes (as per the setup.)	
Date of Selection of Present Dean	01.03.2014	
Mode of Selection	Direct selection	
STAFF	Sanctioned	In position
Assistant Account Officer	1	0
Assistant Librarian	1	1
Asst. Grade-1	2	0
Stenographer	2	0
Asst. Grade-2	2	0
Asst. Grade-3	4	3
Computer Operator	1	1
Sub engineer	1	1
P.T.I.	1	0
Horticulture Assistant	10	3
Bus Driver	1	0
Jeep Driver	2	1
Tractor Driver	1	0
Lab Assistant	8	0
Farm Manager	1	0
Mali	4	2
Library Attendant	1	0
Electrician	1	2
Store keeper	1	0
Total	45	40

INFRASTRUCTURE			
Dean's Office	Yes. Necessary infrastructure, office, furniture and computer facilities are available.		
PS and TO Office	Yes. Separate office with furniture and computer.		
AAO Office	Yes. Independent office room, furniture and computer available.		
Cashier Chamber	Yes, with all the facilities.		
Academic Cell	Yes, AC Academic Cell is available with all the facilities.		
Store (s)	Yes		
Committee Room	Yes, AC committee room with video conferencing for seating capacity of 40 persons.		
Waiting Lounge / Hall for Visitors	Yes		
Common room for girl students	Yes		
Washrooms/Toilets	Yes (10)		
Auditorium AC	Yes, (Partial)	Seating capacity:	220
Computer Centre (College Level)	01	No. of computers:	20
Department (No.): 16			
Names: Agricultural Economics; Agricultural Meteorology, Agriculture Engineering, Agronomy; Basic Sciences; Entomology; Extension Education; Floriculture and Landscaping Architecture, Fruit Science, Genetics and Plant Breeding; Horticulture; Plant Pathology & Nematology; Plantation Spice, Medicinal & Aromatic Crops, Post Harvest Management, Soil Science; Vegetable Science			
Lecture Halls (No.)	03(UG Classrooms)		
Facilities in the lecture hall like seating capacity,	Seating capacity 60 in 03 Halls AC, LCD Projector, Interactive Board, CCTV Camera, white board, Internet available.		
Smart Class rooms (No.)	03 (Same as above)		
Seminar Rooms (No.)	01, Air conditioned, LCD Projector, Interactive Board, CCTV Camera, Electronic podium (Used as PG Seminar Hall.)		

College Library	02 (01 UG & 01 PG Library)
Departmental Computer facility	Each faculty member and Non-Teaching Staff has computer facility.

6.5.1.2. Monitoring Mechanism for Quality Education (on-line):

The Academic Excellence Committee, functional at the college level, ensures the quality education to the students. It is this committee that has devised many strategies for enhancing the standard of quality of education in the college. The initiation of separate study and computer rooms in both the hostels is one such step that this committee has suggested and the implementation of which has yielded excellent results for the students of the college. During Covid period the committee ensures the supply of study materials in soft copy to the students through *pen-drive*, *email* and *Whatsapp* so that studies would not suffer. The agenda items for improvement of quality education is decided upon by this committee and the same is sent to the University head quarter for the perusal of academic council so that the same may be implemented by framing the requisite rules/policies. The students of the college are registered with *NIPARES*, an online platform for practice papers for preparation of different competitive examinations like JRF, NET, Banking and others. Lectures both online and off line are conducted by the recourse persons of repute on the topics like soft skill development, communication skills, personality development, entrepreneurial skills and for the preparation of competitive exams by utilizing the fund made available through Development Grant and NAHEP.

Agriculture Education Day is celebrated every year to attract the best quality school students from public schools to opt for agriculture education for their higher studies.

Monitoring of Teaching

- Biometric attendance machines for monitoring the attendance are installed.
- Evaluation of teachers through feedback pro forma from students.
- CCTV cameras have been installed in each lecture room for regular surveillance.
- Monitoring by Academic Excellence Committee.
- Self-appraisal report of individual teachers is evaluated by Dean, DR, DEE, DPGS

and VC.

Monitoring of Research

- Monitoring of synopsis seminar and result seminar by Academic Excellence Committee
- Programme of work, synopsis and thesis work of PG students are approved in Departmental Advisory Committee, Advisory Committee and finally approved by the Dean, and DI.
- The Prof. & Heads along with AEC make frequent visits to the research field and laboratories.
- Presentation of research work by the students at university head quarter in Cotyledon Programme.

Monitoring of Extension

- Extension activities to be conducted by faculty members are planned in the Departmental Committee. The extension activities are also monitored by the respective KVK Advisory Committee.
- Tour programmes and tour diaries are approved by the controlling authority.
- Prof. & Head convene regular meetings of different DESs, Ext. Specialists and also maintains liaisoning through telephone system for disease survey & surveillance.
- Funds made available under SC-SP sub plan of Development Grant is being utilized for capacity building of SC rural youth and the SC students through the College. Activities under MGMG is monitored by DES and SC-SP sub plan by DFA.
- Director Extension is the overall in charge for monitoring the Extension activities.

Impact:

Year-wise numbers of the students passed out are given as under

Students passed out during 2016-2021.						
	2016-17	2017-18	2018-19	2019-20	2020-21	TOTAL
UG	53	48	44	51	45	242
PG	30	23	16	35	43	147

- **Achievements of Students in Academic Activities**

The close and keen monitoring of teaching, research and extension has produced excellent trained manpower from the College. No drop out and no unemployment have been reported. A number of students have got jobs in different sectors and secured admissions in prestigious institutes through competitive examinations. Both parents and their wards have been found to be satisfied as no complaint has been received regarding the quality of education and employment from their side.

- **RAWE** focuses on strengthening capacity of individual students so that they can respond to the farmers' need and promote issues related to such needs in their service career. It includes: orientation and basic training; rural experience through village placement, agro- industrial attachment, self-employment training, project report preparation and presentation and evaluation of report. Besides, MGGM programme and the presence of the faculty and the students among the rural youth help in spreading the message of cleanliness, hygiene and support in capacity building and awareness.

- **Rural Experience:** Students assume full responsibility to operate individually and in small groups to interact with farmers during stay in villages. They prepare survey schedule, identify issues and constraints in farming system and analyze factors involved in the sustainability of overall system in the village. Students learn how farmers determine and manage their resources and prepare a document, which is presented to the faculty at the end of the course. This helps students to develop and maintain cooperation among the group and with farmers.

- **Horti-Industrial Attachment:**

During the period under report, students were placed in various agro-based industry. The students gain a substantial experience through interaction with agro-based industries. The experience of commercial environment further advanced their practical knowledge in communication skills and working in a team. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project.

6.5.1.3. CC/Board of studies: CC/Board of studies operates at the University level.

6.5.1.4. Anti-Ragging Cell:

Yes, the college follows the regulation and subsequent guidelines issued in the matter. There is an Anti-ragging committee and Anti-ragging Flying Squad constituted by the Dean. The composition of the Committee along with details of the members is given as under.

Composition of committee: Chairman: Dr. Mridula Billore

A. Representative of Faculty Members

S. No.	Name of Teacher	Address	Mobile
1.	Dr. O. P. Singh	College of Horticulture Mandsaur	9893262108
2.	Dr. Roopesh Chaturvedi	College of Horticulture Mandsaur	9424812127
3.	Dr. B. K. Patidar	College of Horticulture Mandsaur	9424888039
4.	Dr. Roshan Gallani	College of Horticulture Mandsaur	9329040504
5.	Dr. K. Alam Khan	College of Horticulture Mandsaur	7974389126
6.	Dr. Nitin Soni	College of Horticulture Mandsaur	7223997907
7.	Dr. Jyoti Kanwar	College of Horticulture Mandsaur	8356971414
8.	Dr. K. C. Meena	College of Horticulture Mandsaur	9713718390

B. Representative of Non-Teaching Staff

S. No.	Name of Teacher	Address	Mobile
1.	Shri Dharmendra Patidar	College of Horticulture Mandsaur	9826577903

C. Representative of Students

S. No.	Name and Admn. No.	Class	Mobile No.
1.	Deepak Kumawat	I Year	9753808372
2.	Khushi	I Year	9977604164
3.	Ritesh Chaurasia	IV Year	9644286893

D. Representative of Civil Administration: - Tehsildar, Mandsaur

E. Representative of Police: - T.I. Nai Abadi Thana, Mandsaur

F. Representative of Local Media: - Bureau chief Dainik Bhaskar

G. Representative of NGO in youth activities: - From Nehru Yuva Kendra, Mandsaur

H. Representative of Parents

Activities of the Committee

The committee along with the Disciplinary Action Committee monitors the events involving ragging, enquires into and report to the Dean, and works out modalities of functioning, frequency of visits, meetings etc. The committee checks the ragging menace during the college hours in and around the college premises and also makes surprise raids to hostels and other places vulnerable to incidents of ragging. The committee also monitors the functioning of Anti-ragging Flying squad and its functioning at various ragging-prone spots.

6.5.1.5. Biological waste disposal facility:

The College has suitable biological waste facility as per the norms of ongoing cleanliness drive that gives emphasis on maintaining separate storage of dry and wet garbage. The most of the vegetative waste is utilized in the production of Vermi compost that later on used in promotion of organic farming in the campus and sold to the needy farmers. The college does not produce any hazardous bio-waste that may cause harm to the environment and to the health of the people living in and around the campus. Two sanitary pad Vending and Burning machines are installed in the girls' hostel.

6.5.1.6. Institutional Ethics Committee for Experiment on Animals:

It is not the part of the nature of the functioning of the College as the College does not conduct experiment with animal life as such, therefore such committee is not functional.

6.5.1.7. Committee for Prevention of Sexual Harassment of women at work places:

A fully functional committee of senior faculty members including Hostels Wardens for this regard has been constituted in the College that takes care of all the issues related with offering the conducive atmosphere to the women folk who have joined the college as the student and the staff. The committee ensures the protection of the rights of everyone involved.

Yes, a committee is constituted under the chairmanship of the Dean. The composition of the committee is given below:

1.	Dr. O.P. Singh	Chairman
2.	Dr. Roshan Gallani	Member
3.	Dr. Jyoti Kanwar	Member
4.	Smt. Amrita Singh Rathore (Social Activist)	Member

No case of sexual harassment has been reported so far, however the students and faculty are briefed about the issue on the occasion of the orientation of newly admitted first year students and also on International Women's Day every year.

6.5.2 FACULTY

6.5.2.1. Faculty strength of the College:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

* 02 Contractual Teachers

6.5.2.2. Faculty Profile (Department wise) (Year 2016-17 to 2020-21)

The College has well qualified and experienced faculty members having vast experience and exposure.

Sanctioned Staff Position and Present Status:

S. No.	Sanctioned post	Discipline	S	F	V
1.	Assoc. Prof	Fruit Science	1	0	1
2.	Assoc. Prof	Vegetable Science	1	0	1
3.	Assoc. Prof	Plantation Spices Medicinal and Aromatics	1	1	0
4.	Assoc. Prof	Floriculture and Landscape Architecture	1	0	1
5.	Assoc. Prof	Medicinal & Aromatic Plant	1	0	1
6.	Assoc. Prof	Post Harvest Management	1	0	1
7.	Assoc. Prof	Physics and Meteorology Department	1	0	1
8.	Assoc. Prof	Biochemistry	1	0	1
9.	Assoc. Prof	Biotechnology	1	0	1

S. No.	Sanctioned post	Discipline	S	F	V
10.	Assoc. Prof	Plant Breeding and Genetics	1	0	1
11.	Assoc. Prof	Agri Economics	1	0	1
12.	Assoc. Prof	Extension Education	1	0	1
13.	Asst. Professor	Fruit Science	3	3	0
14.	Asst. Professor	Vegetable Science	3	2	1
15.	Asst. Professor	Plantation Spices Medicinal and Aromatics Crops	3	0	3
16.	Asst. Professor	Floriculture and Landscaping	3	1	2
17.	Asst. Professor	Medicinal & Aromatic Plant	2	1	1
18.	Asst. Professor	Post Harvest Management	3	2	1
19.	Asst. Professor	Physics and Meteorology Department	1	1	0
20.	Asst. Professor	Biochemistry	1	1	0
21.	Asst. Professor	Biotechnology	1	0	1
22.	Asst. Professor	Plant Physiology	2	1	1
23.	Asst. Professor	Statistics and Computer science	1	1	0
24.	Asst. Professor	English	1	1	0
25.	Asst. Professor	Plant Breeding and Genetics	1	1	0
26.	Asst. Professor	Entomology	2	1	1
27.	Asst. Professor	Plant Pathology	1	1	0
28.	Asst. Professor	Soil Science	2	1	1
29.	Asst. Professor	Nematology and Microbiology	1	1	0
30.	Asst. Professor	Extension Education	1	0	1
31.	Asst. Professor	Agri Economics	1	0	1
32.	Asst. Professor	Agri Engineering	1	1	0
33.	Asst. Professor	Agronomy	2	1	1

6.5.2.3. Credentials of the Faculty: (Faculty Strength during Accreditation Period)

The institution has employed competent faculty members through direct selection process.

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
Dean					
1	Dr. Mridula Billore	Plant Breeding & Genetics	Ph.D.	32	-
Professor and equivalent					
2	Dr. H. Patidar (Retd.)	Plant Breeding & Genetics	Ph.D.	35	-
3	Dr. (Late) G.N. Pandey	Plant Pathology	Ph.D.	35	-
4	Dr. S.N. Mishra (Retd.)	Soil Science	Ph.D.	35	-
5	Sh. H. G. Goutam (Retd.)	Economics	M.Sc.	35	-
6	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
7	Dr. I.S. Naruka	Spice & Plantation Crops	Ph.D.	16	-
8	Dr. R.S. Chundawat (Research)	Agronomy	Ph.D.	35	-
Associate Professor and equivalent					
9	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03
10	Dr. R.P. Patel	Plant Pathology	Ph.D.	16	-
11	Dr. S.S. Kushwah	Vegetable Science	Ph.D.	16	03
Assistant Professor and equivalent					
12	Dr. R.N. Kanpure	Fruit Science	Ph.D.	16	02
13	Dr. R. Chaturvedi	English	Ph.D.	16	03
14	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
15	Dr. Vidhya Shankar M. (Resigned)	Floricultural & Land Scaping	Ph.D.	15	-
16	Dr. S.B. Singh	Entomology	Ph.D.	16	03
17	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
18	Shri B.K. Patidar	Nematology/Microbiology	M.Sc.(Ag)	06	04

19	Dr. Roshan Gallani	Soil Science	Ph.D.	06	05
20	Dr. S.K. Dwivedi	PHM	Ph.D.	06	04
21	Dr. Rajiv Dubey	Agronomy	Ph.D.	06	03
22	Dr. R.K. Sharma	Vegetable Science	Ph.D.	06	03
23	Dr. Anuj Kumar	Floricultural & Land Scaping	Ph.D.	06	03
24	Dr. Om Singh	PHM	Ph.D.	06	02
25	Dr. Jyoti Kanwar	Fruit Science	Ph.D.	06	03
26	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02
27	Dr. Priyamvada Sonkar	Fruit Science	Ph.D.	06	02
28	Er. K. Alam Khan	Agriculture Engineering	M. Tech.	06	02
29	Dr. Nitin Soni (Research)	Horticulture (Fruit Science)	Ph.D.	04	04
30	Dr. K.C. Meena	Medicinal and Aromatic Crops	Ph.D.	04	02
31	Dr. P. K. Meghwal (Full Time Contractual)	Agricultural Extension	Ph.D.	02	-
32	Dr. Rajendra Verma (Full Time Contractual)	Agricultural Economics	Ph.D.	01	-

Publication:

S. No.	Name	Designation	Specialization	Publications in number						
				Full paper	Conference/ symposium	Books	Book Chapters	Manual	Annul/ Research reports	Technical Bulletin
1.	Dr. O.P. Singh	Assoc. Professor	Plant Physiology	20	20	01	-	-	-	-
2.	Dr. K C. Meena	Asst. Professor	PSMA	15	05	01	-	01	05	02
3.	Dr. Jyoti Kanwar	Asst. Professor	Fruit Science	13	01	-	4	-	-	-
4.	Dr. M. K. Tripathi	Asst. Professor	Physics & Meteorology	03	12	-	02	01	01	-
5.	Dr. H. C.	Asst.	Library	03	04	-	02	-	-	-

	Bharvey	Librarian	Science							
6.	Dr. R. K. Sharma	Asst. Professor	Vegetable Science	16	14	-	-	-	-	-
7.	Dr. R. Gallani	Asst. Professor	Soil fertility and organic farming	20	05	-	02	01	02	01
8.	Er. K. Alam Khan	Assistant Professor	Food process Engineering	05	-	02	08	01	-	01
9.	Dr. Om Singh	Asst. Professor	Fruit Beverages, Horticulture	14	06	-	04	01	-	01
10.	Mr. B. K. Patidar	Asst. Professor	Nematology & Microbiology	07	08	-	02	02	06	01
11.	Dr. B. K. Kachouli	Asst. Professor	Plant Breeding & Genetics	08	03	-	-	-	03	-
12.	Dr. P. Sonkar	Asst. Professor	Horticulture (Fruit Science)	05	04	-	-	01	-	-
13.	Dr. S. B. Singh	Asst. Professor	Entomology	18	04	03	01	03	-	-
14.	Dr. Anuj Kumar	Asst. Professor	Floriculture & Landscape Architecture	12	03	02	-	02	-	-
15.	Dr. S. S. Kushwah	Assoc. Professor	Vegetable Science	26	11	01	-	02	05	-
16.	Dr. R. N. Kanpure	Asst. Professor	Fruit Science	23	20	01	-	01	-	01
17.	Dr. R. Chaturvedi	Asst. Professor	Phonetics, Indian Writing in English	04	04	03	02	01	-	-
18.	Dr. R. P. Patel	Assoc. Professor	Pliant Pathology	05	03	01	-	-	-	01
19.	Dr. R. Dubey	Asst. Professor	Agronomy	09	02	01	03	01	08	-

		Professor								
20	Dr. Nitin Soni (Research)	Scientist	Horticulture	06	30	02	04	02	08	
21	Dr. S. K. Dwivedi	Asst. Professor	PHM	18	13	01	04	01	02	

Awards and Recognitions

S. No.	Name of the scientist	Award	Agency
1.	Dr. H. Patidar, PI and Dean; Dr. G.N. Pandey, Dr. S.N. Mishra, and Dr. R.S. Chundawat	Awarded Best AICRP center	ICAR
2.	Dr. Shailendra K. Dwivedi	Young Scientist Excellence in Teaching Award	Samagra Vikas Welfare Society (SVWS)
3.	Dr. Anuj Kumar	Excellence in Teaching Award	Samagra Vikas Welfare Society (SVWS)
4.	Dr. R.K. Sharma	Excellence in Teaching Award	Samagra Vikas Welfare Society (SVWS)
5.	Dr. Roshan Gallani	Young Scientist	Samagra Vikas Welfare Society (SVWS)
6.	Dr. Om Singh	Young Scientist	Samagra Vikas Welfare Society (SVWS)
7.	Dr. Rajiv Dubey	Young Scientist	Samagra Vikas Welfare Society (SVWS)
8.	Dr. R. Charurvedi	CREATIVE GIANT	Home of Letters Bhubaneshwa
9.	Dr. R.K. Sharma	Young Scientist Award	Astha Foundation
10.	Dr. R.P. Patel	excellence in teaching award	GRISAAS
11.	Dr. K.C. Meena	Young Scientist award	ABCD
12.	Dr. Vidhya Sankar M.	Indira Gandhi Gold Medal	GEPRA, NEW DELHI
13.	Dr. S.B. Singh	Excellence in Research Award	GRISAAS
14.	Dr. R.P.Patel	Excellence in Research Award	GRISAAS
15.	Dr. S.K. Dwivedi	Young Scientist Award	NEEDEF
16.	Shri H C Bharvey	Excellence in Communication Award	GRISAAS

6.5.2.4. Technical and supporting staff in the College:

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Asst. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Asst. Grade-2	2	0	2
6	Asst. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2*	0
19	Store keeper	1	0	1
TOTAL		45	14	32

6.5.3 LEARNING RESOURCES:

6.5.3.1. College Library (digital)

The college has centrally located library in the main building itself, separate for UG and PG students both. This is catering to the needs of all the departments of the college. The library is well equipped with a large number of books and other facilities like Wi-Fi *Krishi Kosh*, *CeRa*, video conferencing and multimedia. It provides information support to its teachers, scientists, extension specialists, students, and other members drawn from non-teaching staff and other stakeholders. The working hours of library are from 10.00 AM to 05.00 PM. It has 02 Reading Halls with seating capacity of 50 readers. Three staff members one Asst. Librarian, one Asst. Grade III and one Assistant on muster roll are working to ensure the smooth functioning of the library.

Library and documentation service

COLLEGE LIBRARY: COLLECTION AT A GLANCE

BOOKS

➤ Text Books	13701
➤ Reference Books	2363
➤ Competitive Books	1272
➤ E- Books	29
Total Books	19855

PG Theses

➤ Department of Fruit Science	68
➤ Department of Vegetable Science	61
➤ Department of Plantation, Spice, Medicinal & Aromatic Crops	63
➤ Department of Floriculture & Landscaping Architecture	59
➤ Department of Post Harvest Management	17
➤ Total Thesis	268

Instructional Training/Practical Manual

20

Database

- Horticulture database CD's from 1954-2005
- Horticulture database CAB abstract from 1996-2009

Services Facilities

- CeRA for E-Journal
- *Krishikosh* for E-Thesis
- National Digital Library of India (NDL)
- Koha OPAC
- Kiosk
- Photocopy
- Reference Section
- Reading Room
- E-Library

Staff Position: 01 Asst. Librarian, 01 Asst. Gr.-III, 01 Library Assistant

6.5.3.2. Laboratories, Instructional farm, workshops Diary Plant, veterinary clinic, Hatchery, Ponds etc. Institute is having separate 11 laboratories for UG classes with requisite practical and hands on facilities.

S. No.	Departments	Space L (m) x W (m)	Remark
1. Laboratories	i) Fruit Science ii) Vegetable Science iii) Floriculture And Landscaping Architecture iv) Plantation Spices, Medicinal And Aromatic Crops v) Plant Pathology & Nematology vi) Entomology vii) Soil Science viii) Genetics and Plant Breeding ix) Post Harvest Management x) Agriculture Engineering xi) Computer & Language Lab	9x20 M.	UG & PG For analytical work

2. Instructional orchard	5.6 ha	Practical crop production by the students
3. Pond	12.93ha	
4. Farm area	152.96 ha	Seed Production Research Purpose
5. Dairy	Yes	
6. Vermi-compost Unit	Yes	

6.5.3.3. Student READY/ In-plant Training/ Internship/ Experiential Learning Programmes:

READY Programme:-

Experiential Learning Programme:-

Five ELPs are being run for Skill Development, two of which are granted by ICAR. These ELP units are not being run in business mode. The fund generated by a particular unit is utilized for meeting out the running cost of that ELP. All the ELPs support in a great deal for the skill development and capacity building of the students. Propagation of fruit plants by various methods, Cultivation of high value vegetable crops in polyhouse, Landscape gardening Propagation of ornamental plants, Production of Mushroom and Processing of Horticulture crops are some of the major assignments given to these students.

1. **Nursery Production and Management (2016-17 to 2020-21) (ICAR)**
2. **Protected cultivation of high value horticultural crops (2016-17 to 2020-21)**
3. **Floriculture & Landscape Gardening (2016-17 to 2020-21) (ICAR)**
4. **Post Harvest Technology and Value Addition (2016-17 to 2020-21)**
5. **Mushroom Culture (2016-17 to 2020-21)**

6.5.3.4. Curricula Delivery through IT (smart classrooms/ interactive board etc.)

The College of Horticulture, Mandasaur has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. Google meet, google forms, *Whatsapp* groups for sharing of files and

questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.

6.5.4 STUDENT DEVELOPMENT

6.5.4.1 Student Intake and Attrition:

Name of the Degree Programme	Actual students admitted in last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
B.Sc. (Hons.) Horticulture	51	49	52	50	49	00	00	00	00	00
M.Sc. Ag/ Horticulture()										
<ul style="list-style-type: none"> • Fruit Science • Vegetable Science • Floriculture & Landscaping Architecture • Plantation Spices, Medicinal & Aromatic Crops 	32	25	21	43	46	00	00	00	00	00

Intake Capacity at a Glance:

S. N.	Faculty	Intake Capacity				Total
		Free seats	Payment seats	NRI	ICAR	
1.	B.Sc. (Hort.)	40	08	02	06	56
2.	M.Sc. (Hort.)	24 (6 in each dept.)	24 (6 in each dept.)	-	-	48
	Total	64	32	02	06	104

Intake Capacity at a Glance:

Year	General		S.C		ST		OBC		Total		G. Total
	B	G	B	G	B	G	B	G	B	G	
B. Sc.											
2016-17	09	08	05	02	04	01	16	06	34	17	51
2017-18	16	9	6	2	6	4	4	1	32	16	48
2018-19	02	02	05	04	07	07	20	05	34	18	52
2019-20	05	06	06	01	08	04	16	04	35	15	50
2020-21	04	06	04	02	06	05	18	04	31	17	49
M. Sc.											
2016-17	10	07	02	00	02	00	03	02	17	09	25
2017-18	07	01	04	01	01	00	07	00	19	02	21
2018-19	09	05	07	01	05	01	09	07	30	14	44
2019-20	11	05	06	01	04	-	12	06	33	12	45
2020-21	11	04	02	02	04	02	12	05	29	13	42

6.5.4.2 Average number of students in theory and practical Classes

S. No.	Name of the Degree Programme	Total Intake/ Year	Batch of the Students in Theory Classes	Batch of the Students in Practical Classes
B.Sc. (Hons) Horticulture				
1	2016-17	47	47	47
2	2017-18	51	51	51
3	2018-19	49	49	49
4	2019-20	52	52	52
5	2020-21	48	48	48
M. Sc. Ag./ Horticulture				
1	2016-17	36	36	36
2	2017-18	36	36	36
3	2018-19	32	32	32
4	2019-20	48	48	48
5	2020-21	44	44	44

Post Graduate Students Admitted (Department Wise):

S. No.	Department	8 in each dept.		12 in each dept.		
		2016-17	2017-18	2018-19	2019-20	2020-21
1.	Floriculture & Landscape Architecture	08	05	11	11	09
2.	Fruit Science	06	05	11	11	09
3.	Plantation, Spice, Medicinal And Aromatic Plants	05	08	11	12	12
4.	Vegetable Science	06	03	11	11	12
Total		25	21	44	45	42

Student strength at a glance:

Year	S. No.	Degree Programme	No. of students
2016-17	1.	B.Sc. (Hort.)	204
	2.	M.Sc. (Hort.)	67
	Total		271
2017-18	S. No.	Degree Programme	No. of students
	1.	B.Sc. (Hort.)	187
	2.	M.Sc. (Hort.)	45
Total		232	
2018-19	S. No.	Degree Programme	No. of students
	1.	B.Sc. (Hort.)	196
	2.	M.Sc. (Hort.)	61
Total		257	
2019-20	S. No.	Degree Programme	No. of students
	1.	B.Sc. (Hort.)	195
	2.	M.Sc. (Hort.)	89
Total		284	
2020-21	S. No.	Degree Programme	No. of students
	1.	B. Sc. (Hons.) Horticulture	187
	2.	M. Sc. Ag. Horticulture	88
Total		275	

6.5.4.3. Admission Process:

Admission Procedure UG:

1. Admission of candidates to Bachelor Degree courses of the Vishwa Vidyalaya (V.V.) shall be made through the entrance test being conducted by Professional Examination Board, Bhopal, Madhya Pradesh (PEB, Bhopal). Candidates selected by ICAR entry test shall be admitted over and above the prescribed seats from time to time.

Admission to NRI shall be done subject to their fulfillment of prescribed minimum admission requirement and other condition laid down by the Govt. of M.P, Department of Agriculture and Vishwa Vidyalaya (V.V.), from time to time.

2. As per the Directives of the Ministry of Human Resource Development two supernumerary quota seats have been made available to the students of Jammu and Kashmir who seek admission through centralized counselling in university.
3. New entrants, after payment of prescribed fees on-line, must report in person to the respective Dean of the College on the stipulated date of admission notified by the Vishwa Vidyalaya (V.V.) for payment of *fee* etc. and for registration.

The admission in a course shall consist of the following steps:

- i. Submission of all required original documents and medical certificate
 - ii. Payment of fees as prescribed by the Vishwa Vidyalaya (V.V.)
 - iii. Registration of courses
 - iv. Migration certificate must be submitted within one month from date of registration.
4. No registration in absentia is permitted.

Admission Procedure PG:

Post Graduate Programmes: Through JEE Pre PG entrance examination conducted by MP online, Bhopal (M.P.).

6.5.4.4. Conduct of Practical and Hands on Training:

The practical in UG classes are conducted as per the recommendations of V Deans' Committee. Practical classes are conducted with hands on training in lab as well as in field for different subjects. Separate UG and PG labs with all the requisite equipment are available in the College.

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Media for propagation of plants in nursery beds, potting and repotting. Preparation of nursery beds and sowing of seeds. Raising of rootstock. Seed treatments for breaking dormancy and inducing vigorous seedling growth. Preparation of plant material for potting. Hardening plants in the nursery. Practicing different types of cuttings, layering, graftings and buddings including opacity and grafting, top grafting and bridge grafting etc. Use of mist chamber in propagation and hardening of plants. Preparation of plant growth regulators for seed germination and vegetative propagation. Visit to a tissue culture laboratory. Digging, labelling and packing of nursery fruit plants. Maintenance of nursery records. Use of different types of nursery tools and implements for general nursery and virus tested plant material in the nursery. Cost of establishment of a mist chamber, greenhouse, glasshouse, polyhouse and their maintenance. Nutrient and plant protection applications during nursery.

Features of orchard, planning and layout of orchard, tools and implements, identification of various horticultural crops, layout of nutrition garden, preparation of nursery beds for sowing of vegetable seeds, digging of pits for fruit plants, planting systems, training and pruning of orchard trees, preparation of fertilizer mixtures and field application, preparation and application of growth regulators, layout of different irrigation systems, identification and management of nutritional disorder in fruits, assessment of bearing habits, maturity standards, harvesting, grading, packaging and storage.

Study of garden equipment. Study of Graphic language, Use of drawing equipment, graphic symbols and notations in landscaping designing, Study and designing of different styles of gardens, Study and designing of gardens based on different themes, Designing gardens using Auto-cad/ archi-cad, Designing gardens for home, traffic islands, schools and colleges, public buildings, factories, railway stations, air ports, temples, churches, play grounds, corporate buildings/ malls. Designing and planting of avenues for state and National highways, Design and establishment of Japanese, English and Mughal gardens. Visit to public, institutional and botanical gardens

Under student READY programme RHWE and ELPs are being run for making the students ready to face the real life challenges of tough competitive world. Students are attached with different host farmers to learn the farming practices and similarly under

ELP programme, the College offers 5 different ELP modules to the students and students are allocated different modules and the students learn the entrepreneur skills through hands on training.

6.5.4.5 Examination and Evaluation Process:

Internal evaluation such as midterm and practical examinations are conducted by the College administration and evaluated by concerned teachers along with external examiner deputed by the administration. However, the final theory examination is conducted and monitored by the University on semester basis during last five years. Now the evaluation of midterm exam and final theory exams are done at the University Head Quarter and setting of question papers are done outside the University. Top rank holder in both UG and PG classes are awarded with Gold Medal by the university during convocation each year.

S. No.	Name of degree programme	Examination pattern (External/Internal)					Evaluation process (External/Internal)			
		Theory	Practical	Viva-Voce	Theory	Practical	Comprehensive Written	Comprehensive oral	Thesis evaluation	Thesis Viva- voce
1.	UG	External	Internal	Internal	External	Internal				
2.	PG	External	Internal	Internal	External	Internal	Yes	-	Yes	Yes

UG OGPA	Division
6.5 and above	1 st class
5 to 6.5	2 nd class

PG OGPA	Division
6.5 and above	1 st class
6 to 6.5	2 nd class

Comprehensive examination (Written and Viva Voce/Oral):

In PG., after passing of 75% course work in major and minor subjects, written comprehensive exam is conducted. In major subject two papers and in minor subject one paper is conducted. Paper setting and evaluation is external and qualifying marks are 60%.

6.5.4.6. NSS Unit**National Service Scheme (NSS) Activities:**

Different activities for social and general awareness are conducted according to the calendar of the event from time to time under Red Ribbon Club. Blood Donation Camp, Health Camps and Regular Camps in rural area too are organized every year.

Year	Name of Examination	Volunteers Appeared	Volunteers Passed	Result (%)
2016-17	"B" Certificate	45	45	100
2017-18	"B" Certificate	44	44	100
2018-19	"B" Certificate	54	54	100
2019-20	NSS Practical examination	50	50	100

6.5.4.7 Language Laboratory:

The College has fully functional language laboratory that trains the students on the various aspects of communication skills and managerial skills.

6.5.4.8 Cultural and Sports Center:

The College has a separate cell that identifies and develops the sense of understanding for fine arts and different skills of theatre, music and other sports. The unit trains the students for as many as 18 areas of dance, music, fine arts theatre and sporting skills so that the students can participate in Inter-Collegiate Cultural and sports' meet and the students strive hard for their selection for national level Inter-University Cultural and Sports meet (Agri-fest).

6.5.4.9 Personality Development:

Every year the workshops are conducted to develop the soft skills of the students of the College. Resource persons of repute are invited every year to impart the knowledge of GD, Interview Skills and Communication Skills that help in the overall development of the employability skills of the students and make them ready to be absorbed by any institute worldwide. During Covid period online lectures for mentioned areas are conducted by utilizing the fund made available under Development Grant and NAHEP. Some of the students are still in touch with the resource persons from the outside for continuous grooming of their personalities.

6.5.5. PHYSICAL FACILITIES:

6.5.5.1 Hostels:

A) Physical Facilities in Boys' Hostels

S. No.	Points taken	Numbers	Remarks
1	Hostel available	1 One	
2	Total capacity	80 students	Total 40 rooms
3	Student per room accommodation	2 students per room	
4	Mess facility	Available	
5	Drinking water	With RO in each hostel	
6	Cleaning of hostel premises	Proper cleaning and maintenance work performed time to time	
7	Transportation facility	Available	
8	Emergency medical facility	Available	
9	TV facility	Available	
10	Intermate/Wi Fi facility	Available	
11	Gym	Available	
12	Computer Room	Available	
13	Separate Study Room	Available	

B) Physical Facilities in Girls' Hostels

S. No.	Particulars	Details	remark
1	Number of Girls Hostel Available for Girls	1 (One)	
2	Rooms available	12 (Double seated) (6 rooms are under construction)	Total 12 rooms
3	Total Capacity	24 Girls	
4	Students per room accommodated in girls Hostel	Double Seated (2 girls in one room)	
5	Mess Facility	Available	
6	Drinking water	With RO in each hostel	
7	Indore Games for girls Hostel	Available	
8	Cleaning of hostel premises	Done regularly	
9	Transport Facility	Available	
10	Emergency medical Facility	Available	
11	Gym	Available	
12	Computer Room	Available	
13	Separate Study Room	Available	

6.5.5.2 Examination Hall: The College has one examination hall with a capacity of 100 students.

6.5.5.3 Sports and Recreation Facilities:

Facilities	Numbers
Football play ground	01
Gym (Indoor)	02
Table Tennis	02
Auditorium	01
Badminton Court	03
Open Gym	01
Jungle Gym	01

6.5.5.4 Auditorium:

The College has one semi air-conditioned auditorium. It was constructed in the year of 2012-13 with a sitting capacity of 220 people.

6.5.5.5 Exhibition Hall / Museum:

Yes, the College has one exhibition hall to showcase the relevant information and technology to the various stakeholders.

6.5.6 RESEARCH FACILITIES

The College has separate UG and PG labs with all the requisite equipment to conduct all the practical and hands on training as per the course curriculum.

6.5.6.1 Post graduate Laboratories and Equipment:

S/No.	Name of Department	Number of PG Laboratory	Name of Equipment
1.	Fruit Science	01	Digital refractometer
			SPAD chlorophyll meter
			Mixer cum grinder machine
			Analytical balance
2.	Vegetable Science	01	B.O.D. Incubator
			Electronic Balance (analytical balance)
			Seed Germinator
			Lux Meter (LX-101/A)
			Lux Meter (TES-1332)
			Hand Refractometer Range 0-32%
			Hand Refractometer Range 0-50%
			Seed moisture meter
			Hot air oven
			Table top Scale (Balance)
			Conductivity meter
			Pan Evaporimeter
LCD Projector			
Electronic weighing balance			

			Infrared Thermometer
3.	Floriculture and Landscape Architecture	01	Hot air oven
			Microwave oven
			Grass mower side wheel type 14"
			Eutech pH meter
			Dissecting microscope RDM- 2
			Dissecting microscope RDM- 4
			Double distillation unit-
			Digital thermohygrometer
			Aspee knapsack sprayer
			Aspee hand compressor sprayer
			Sony SLR camera
			Analytical balance
			Weighing balance
			Water bath
4.	Plantation Spices Medicinal and Aromatic Crops	01	Oil distillation unit
			Gas chromatography
			HPLC
			Conductivity meter
			BOD incubator

6.5.6.2 Research Contingency:

The research contingency Rupees 10000/- per year per PG student is being received since 2018-19 to meet out the expenses of PG research trials by the students.

6.5.7. Outcome/Output

6.5.7.1 Student Performance in National Examinations:

Students' performance in ICAR-JRF/NET examination

- A. Online/offline classes are being conducted as per the syllabus of JRF/SRF/NET and other competitive exams by the faculty of the college and by the resource persons from outside institutes.
- B. *Whatsapp* groups of the aspirants are formed and multiple questions are shared on daily basis upon which Weekly Mock Tests are conducted.
- C. Students are registered with *NIPARES* for providing digital platform which gives a digital practice sessions to all students. It is a boon especially for RHWE students as they can prepare for different competitive exams even when they stay away from the college.
- D. The books for various competitive exams are made available through the College library and also placed in study rooms of both the hostels.
- E. A *Whatsapp* group for multiple choice questions was formed, in which faculty of each subject shared MCQs and the same MCQs helped in creation of a question bank during lockdown period. The oft quoted phrase 'opportunity in calamity' has seen the day light by the efforts of the teachers of the college as two volumes of multiple choice questions with the title KNK series of Horticulture and KNK series of Agriculture have been published during Covid period.

Fellowship/ Scholarship	2016-17	2017-18	2018-19	2019-20	2020-21
JRF	Nil	Nil	Nil	06 (Without scholarship)	14 (02 with scholarship)
NET	-	06	03	01	-
SRF	-	-	-	-	02

6.5.7.2 Student Placement Profile:

The unemployment of any kind is not reported by any student of this College so far. Every pass out is well placed in different government or private organizations.

The continuous emphasis on quality education has started yielding good results as this year (2020-21) Mr. Prashant Patidar secured AIR-III in JRF exam and Miss

Ravina Singh stood First (AIR-I) in Delhi Development Authority's Sectional Officer (Horticulture) Exam.

6.5.7.3 Awards/recognitions/Certificates at University Level:

Activities	2016-17	2017-18	2018-19	2019-20	2020-21
Debate	Runner	-	Winner	Winner	-
Cartooning	Runner	-	-	-	-
Rangoli	Runner	Winner	-	Runner	-
Group Song	Runner	-	-	Runner	-
Collage	Runner	Winner	Winner	-	-
Elocution	-	Winner	Winner	Winner	-
Extempore	-	Winner	-	-	-
Clay Modeling	-	Winner	-	-	-
Dance	-	Winner	-	-	-
Skit	-	-	-	Winner	-
Patriotic Sing	-	-	-	Winner	-
On-spot painting	-	-	-	Runner	-

National Level Activities:

Year	Activities	Winner		Runner		participation	
		Male	Female	Male	Female	Male	Female
2017-18	Badminton						
	1. Gabru Girwal	-	-	-	-	Yes	Yes
	2. Ravina Singh						

Year	Activities	Winner		Runner		participation	
		Male	Female	Male	Female	Male	Female
2018-19	Extempore					-	Female
	Elocution					-	Female
	Badminton					-	Female
	Volleyball					01	-

6.5.7.4 Employability

Promotion of innovation in application of information communication technology in agriculture and dissemination of knowledge play a critical role in knowledge-based growth of Horticulture. Therefore, it is imperative to update the professional skills of teachers, researchers, extension specialists and students with the latest knowledge and techniques in the field of their specialization to bring about the desired qualitative improvement and necessary orientation to contemporary problems to make research and education more relevant. The basic objective in the competency framework of the College of Horticulture is not only to have the required competencies for the job but are also to promote development and delivery of need based research and educational programmes for the students that would enhance the livelihood security and build up an easy, accessible and cost-effective knowledge. Career progression of students is also linked with periodic exposure to capacity building programmes. The college provides a complete package of facilities to the students for building up their career. The UG students learn a lot of practical/ farm exercise through the practical crop production (PCP) during their course. In addition to this, Rural Horticultural Work Experience (RHWE) programme is also facilitating to the UG students. The programme focuses on strengthening capability of individual students so that s/he can respond to the farmers' need and promote issues related to such needs in their service career. It includes: orientation and basic training; rural experience through village placement; horti-industrial attachment; self-employment training etc. Students prepare survey schedule under rural experience, identify issues and constraints in farming system and analyses factors involved in the sustainability of overall system in the village. The students gain a substantial experience through interaction with agro-based industries. The experience of commercial environment further advanced their practical knowledge in communication skills and working in a team. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. The Plant Clinic has been established as a mission to impart exhaustive practical training on field problems to the students and serves the farmers in quick diagnosis of problems in the plants and recommending remedial measures. Plant Clinic has interdisciplinary approaches for solving the complex problems in major crops in which experts from disciplines of Plant Pathology, Entomology, Soil Science, Agronomy and Nematology actively participate.

The industrial attachment of the students support in enhancing the understanding of the functioning of the commercial world. The college organized ELPs for the students on different aspects such as mushroom production technology with special emphasis on commercial spawn production, basic and advance computer training, personality development course, employability skills etc. Academic Excellence and Career Council Cell are trying their level best to improve the employability skills of the students of the College.

On the basis of these overall exposure/experiences, students get opportunity in private sectors, government sectors (as a teacher, researcher, extension specialist, Horticulture Development Officers, Agriculture Development officers) and banking sectors (as Agriculture Officer). Some of the students start their own business in Agriculture sector. Hence, the product of this college serves for the farmers directly and indirectly in many ways.

Schedule of Lectures during Workshop on 'Trends in Employability 2018-19

S. No.	Date	Speaker	Topic
1.	15-02-2018	Dr. Binod Mishra	Soft Skill Development Ladder to Success part-I
2.	15-02-2018	Dr. Prashant Mishra	Component of communication Skills Part-I
3.	15-02-2018	Dr. Binod Mishra	Soft Skill Development Ladder to Success part-II
4.	15-02-2018	Dr. Prashant Mishra	Component of communication Skills Part-II
5.	16-02-2018	Dr. Binod Mishra	Positive Thinking and Personality Development Part-I
6.	16-02-2018	Dr. Binod Mishra	Positive Thinking and Personality Development Part-II
7.	16-02-2018	Dr. Binod Mishra	Effective Communication Skills Part-I
8.	16-02-2018	Dr. Binod Mishra	Effective Communication Skills Part-II
9.	17-02-2018	Dr. Sanjya Singh	Listening and Behavioral Skills: Cornerstone of Career Building Part-I
10.	17-02-2018	Dr. Sanjya Singh	Listening and Behavioral Skills: Cornerstone of Career Building Part-II
11.	17-02-2018	Dr. Sanjya Singh	Presentation Skills

Programme of Lecture Series on Communication Skills: February 22 to 23, 2020	
(A) Dr. Binod Mishra, IIT Rorkee	
1.	Soft Skills and Employability Skills the Need of Hour Part I
2.	Soft Skills and Employability Skills the Need of Hour Part II
3.	Non-verbal communication: The major role player Part I
4.	Non-verbal communication: The major role player Part II
5.	Presentation Skills Part I
6.	Presentation Skills Part II
7.	Interview Skills Part I
8.	Interview Skills Part II
(B) Professor Joseph Scaria, Prof. Department of Higher Education (M.P.)	
1.	Communicative English A tool to success
2.	Functional English for successful professional life

Personality Development: February 24, 2020	
(C) Dr. Ashok Vyas, International Trainer, Dholakia Foundation, Surat	
1.	Expression of Emotion the right way Part 1
2.	Expression of Emotion the right way Part II
3.	21 Lessons for the 21 st Century by Yuval Noah Harari an introduction.
4.	Tense as a tool for means of communication part I
5.	Tense as a tool for means of communication part II

Personality Development: February 25, 2020	
(C) Professor Shailesh Dwivedi, Department of Higher Education (M.P.)	
1.	Balanced personality: The key to life part I
2.	Balanced personality: The key to life part II
(E) Sandeep Kumar, Bureau Chief Business Standard, Bhopal (M.P.)	
1.	Fourth Pillar of Democracy: Tomorrow Today and Yesterday
2.	Fake news, Paid News, Copy editing and Proof reading, An overview.
3.	History of Journalism in India with special reference to Social Media.
4.	Tense as a tool for means of communication part I

5.	Tense as a tool for means of communication part II
Soft Skills February 27-28-29, 2020	
(F) Professor Sachin Surve, Coordinator UGC HRDC Savitribai Phule Pune University	
1.	Life Skills for success part I
2.	Life Skills for success part II
3.	Life Skills for success part III
4.	Communication Skills part I
5.	Communication Skills part II
6.	Communication Skills part III
7.	Body Language for confidence part I
8.	Body Language for confidence part II
9.	Body Language for confidence part III
10.	Interview and group discussion part I
11.	Interview and group discussion part II
12.	Interview and group discussion part III

**List of the Online Lectures conducted under SC-SP Sub Plan: - 2020-21
(Covid Period)**

S.N.	Speaker	Title
1	Dr. Pawan Singh Gurjar Scientist CIAH, Bikaner (Raj.)	1. Analysis of ICAR JRF exam pattern and syllabus 2. Nutritional Importance, bearing habit and planting systems of fruit crops 3. Mango: Production, Improvement and Post Harvest 4. Grape: Production, Improvement and Post Harvest
2.	Mr. K. K. Gautam Scientist IIVR, Varanasi (UP)	1. Production Technology of vegetable crops I 2. Production Technology of vegetable crops II 3. Production Technology of vegetable crops III 4. Production Technology of vegetable crops IV
3.	Dr. Ghanshyam Abrol Assistant Professor Post Harvest	1. Principles and methods of preservation. Methods of preparation of different processed and value added products of horticultural commodities.

	Technology RLBCAU, Jhansi (U.P.)	<ol style="list-style-type: none"> 2. Importance of postharvest technology and preservation industry in India. Maturity indices, harvesting, handling, grading of horticultural crops. 3. Need and types of pre-cooling. Pre and postharvest factors affecting quality of horticultural produces. 4. Need and types of packaging, transportation and storage system of horticultural and processed products. 5. Spoilage in fresh and processed horticultural products, quality control, Govt. policy on import-export, food laws of fresh and processed horticultural produces.
4.	Dr. Gograj Singh Scientist Vegetable Science ICAR-IARI, New Delhi	<ol style="list-style-type: none"> 1. Advances in cucurbitaceous crops I 2. Advances in cucurbitaceous crops II 3. Advances in cole crops 4. Advances in solanaceous vegetable crops 5. Advances in root vegetable crops 6. Advances in onion and okra
5.	Dr. B. B. Sharma Scientist Vegetable Science ICAR-IARI, New Delhi	<ol style="list-style-type: none"> 1. Elementary knowledge of Vegetable Science 2. In vitro assisted vegetable breeding 3. Leguminous vegetable crops 4. Nutraceutical breeding in vegetable crops"
6.	Dr. Awani Kumar Singh Principal Scientist CPCT ICAR-IARI, New Delhi	<ol style="list-style-type: none"> 1. Role of protected cultivation technology in horticulture 2. Protected cultivation of high value vegetable crops
7.	Dr. Balraj Singh ICAR-IARI, New Delhi	<ol style="list-style-type: none"> 1. Advances in protected cultivation technology 2. Importance of honey bee and pollinators in horticulture
8.	Dr. Kalyan Barman	<ol style="list-style-type: none"> 1. Post harvest management of horticultural crops

	Assistant Professor Horticulture BHU, Varanasi (U.P.)	
9.	Dr. Rakesh Kumar Assistant Professor Floriculture & Landscape Architecture BUAT, Banda (U.P.)	<ol style="list-style-type: none"> 1. Present status of floriculture in India as well as world 2. Advances in production technology of gladiolus 3. Advances in production technology of gladiolus
10.	Dr. Manjeet Kumar Scientist Genetics ICAR-IARI, New Delhi	<ol style="list-style-type: none"> 1. Elementary knowledge of plant science 2. Principles of plant breeding
11.	Dr. Tejveer Singh Scientist Crop Improvement ICAR-IGFRI, Jhansi (U.P.)	<ol style="list-style-type: none"> 1. Germplasm conservation 2. Elementary knowledge on plant breeding 3. Heterosis breeding
12.	Dr. Tejraj Singh Hada Scientist Horticulture KVK, Udaipur (Raj.)	<ol style="list-style-type: none"> 1. Elementary knowledge of tropical fruits 2. Elementary knowledge of sub-tropical fruits
13.	Dr. Gaurav Sharma Associate Professor & Head Floriculture & Landscaping RLBCAU, Jhansi (U.P.)	<ol style="list-style-type: none"> 1. Styles and Types of garden
14	Dr. Amit Kumar Assistant Professor Fruit Science SKUAST, Srinagar (U.P.)	<ol style="list-style-type: none"> 1. Advances in Pome and minor temperate fruit production 2. Advances in Stone and nut fruit production.
15.	Dr. Hitesh Kumar	<ol style="list-style-type: none"> 1. Inheritance law and its deviation.

Assistant Professor Plant Breeding and Genetics BUAT, Banda (U.P.)	
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List of the Webinars conducted so far under NAHEP: - 2020-21

S. No.	Date	Time	Topic	No. of Participants	Output/ Recommendations
1.	April 30 to May 4, 2020	04.00 pm to 05.00 pm	Excelsior: Online classes for Personality Development	52	Very useful for participants
2.	May 06 to May 10, 2020	11.00 am to 12.30 pm	Blossom: An opportunity to define yourself	50	A very good course for personality development
3.	May 12 to May 16, 2020	01.30 pm to 02.30 pm	The sky is the limit	39	Confidence booster
4.	May 26 to May 30, 2020	11.00 am to 12.00 noon	Momentum: Learning Life Skills	50	Soft skills improved
5.	29 June -01 July, 2020	10.00 am to 05.00 pm	Innovative food processing technologies: value addition, food safety and security	6000	Value addition, food safety and security elaborated
6.	31.05.2020	09.30am to 10.30 am	Path to success in Agriculture Entrepreneurship Development through Floriculture and Landscaping)	200	Entrepreneurship Skills sharpened

7.	01.06.2020	10.30am to 11.30 am	Path to success in Agriculture (Introduction to Industry readiness for Agriculture students)	205	Entrepreneurship Skills sharpened
8.	02.06.2020	11.00 am to 12.00 noon	Path to success in Agriculture (Self Sufficient Agriculture Graduate)	220	Entrepreneurship Skills sharpened
9.	03.06.2020	11.00 am to 12.00 noon	Path to success in Agriculture (Career opportunities in Agriculture field)	210	Entrepreneurship Skills sharpened
10.	04.06.2020	11.00 am to 12.00 noon	Path to success in Agriculture (Career opportunities in electronic media for Agriculture Graduates)	215	Entrepreneurship Skills sharpened
11.	16.07.2020	10.00 am to 04.30 pm	Entrepreneurship Opportunities Through Alternate Horticulture Based Farming System	2800	Alternate Horticulture made easy
12.	10.12.2020	11.30 am to 12.30 pm	How to use e-resource for JRF and SRF exams	25	Must for JRF/SRF aspirants
13.	11.12.2020	02.00 pm to 03.00 pm	Empowering the rural youth for livelihood security	500	Entrepreneurship Skills sharpened
14.	14.12.2020	04.00 pm to 05.00 pm	Establishment of small scale food processing industries: Way to entrepreneurship skill development	25	Entrepreneurship Skills sharpened
15.	15.12.2020	02.30 pm to 04.00 pm	Roles of fruits and vegetables in human mind	25	Entrepreneurship Skills sharpened

			and body		
16.	18.12.2020	05.00 pm to 06.00 pm	Canopy Management for the production of Quality Grapes	31	Entrepreneurship Skills sharpened
17.	26.12.2020	04.00 pm to 05.00 pm	Opportunities on Custom Hiring Entrepreneurship of Farm Implements	60	Entrepreneurship Skills sharpened
18.	04.12.2020	04.00 pm to 05.00 pm	Technical Knowhow about Govt. Schemes for Budding Food Processing Entrepreneurs	25	Entrepreneurship Skills sharpened
19.	14.12.2020	04.00 pm to 05.00 pm	Establishment of small scale food processing industries: Way to entrepreneurship skill development	35	Entrepreneurship Skills sharpened
20.	15.12.2020	2.30 pm to 03.00 pm	On preparation of JRF/ SRF/ARS Exams and role of fruit and vegetable in human mind and body	20	Entrepreneurship Skills sharpened
21.	17.12.2020	04.00 pm to 05.00 pm	Canopy management for the production of quality grapes	35	Entrepreneurship Skills sharpened
22.	18.12.2020	04.00 pm to 05.00 pm	Avenues in horticulture sector	25	Entrepreneurship Skills sharpened
23.	26.12.2020	04.00 pm to 05.00 pm	Opportunities in custom hiring: Entrepreneurship of farm implements	30	Entrepreneurship Skills sharpened
24.	04.01.2021	04.00 pm to 05.00 pm	Technical Knowhow about Govt. Schemes for Budding Food Processing	35	Entrepreneurship Skills sharpened

			Entrepreneurs		
25.	12.01.2021	04.00 pm to 05.00 pm	Processing and Value addition of Medicinal and Aromatic Plants: Case study of aloe-vera herbal soaps	25	Entrepreneurship Skills sharpened
26.	22.03.2021	02.00 pm to 03.00 pm	World Water Day	30	awareness of Valuing Water
27.	26.06.2021	11.00 am	Career Opportunities in Agriculture Insurance Sector	30	Capacity Building
28.	07.07.2021	05:00 pm to 06:00 pm	Remote sensing in the field of environment /Agriculture	40	Entrepreneurship Skills sharpened
29.	11.08.2021	10.00 am to 11.00 pm	Aquaponics vs Traditional farming		Entrepreneurship Skills sharpened

CERTIFICATE

I, the **Dean, College of Horticulture, Mandsoor** hereby certify that the information contained in **Sections 6.4 and Section 6.5.1 to 6.5.7.4** is furnished as per the records available in the college and degree awarding university.



UG Programme

B. Sc. (Hons.) Horticulture 4 Year Programme

6.4 About the College

6.4.1. Brief History of the Degree Programme on “B. Sc. (Hons.) Horticulture”

HISTORY

College of Horticulture, Mandasaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first B.Sc. (Hort.) batch was admitted in the College in the year 2002. Total number of 56 students are admitted in First year degree programme through entrance exams conducted by PEB and ICAR. The studies are conducted by following the recommendations of Vth Deans' committee. Total 58 courses are taught from First semester to Sixth semester for 140 credits (Theory 82+Practical 58). At the same time Semester Seventh and Eighths are dedicated for Students' READY programme that has 40 credits. Rural Horticultural Work Experience Programme, Horti Industrial Attachment (HIA) and five ELPs complete the requirements of degree programme that produces well aware and knowledgeable work force from the field of Horticulture. The institute has produced many experts in the field of horticulture and still continuing with its mandate of producing trained manpower for the country. It has major three following mandates.

Objectives of initiating UG programme:

The College adopts the following goals and objective which permeate in offering of various curricula, and undertake research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agriculture productivity and environment sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agriculture systems and develop mitigation strategies adopting inter-disciplinary approaches

Mandate:

- ❖ To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- ❖ To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- ❖ To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

6.4.2. Faculty Strength of the College:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

*** 02 Contractual Teachers**

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
Dean					
1	Dr. Mridula Billore	Plant Breeding & Genetics	Ph.D.	32	-
Professor and equivalent					
2	Dr. H. Patidar (Retd.)	Plant Breeding & Genetics	Ph.D.	35	-
3	Dr. (Late) G.N. Pandey	Plant Pathology	Ph.D.	35	-
4	Dr. S.N. Mishra (Retd.)	Soil Science	Ph.D.	35	-
5	Sh. H.G. Goutam (Retd.)	Economics	M.Sc.	35	-
6	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
7	Dr. I.S. Naruka	Spice & Plantation Crops	Ph.D.	16	-
8	Dr. R.S. Chundawat (Research)	Agronomy	Ph.D.	35	-
Associate Professor and equivalent					
9	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03
10	Dr. R.P. Patel	Plant Pathology	Ph.D.	16	-
11	Dr. S.S. Kushwah	Vegetable Science	Ph.D.	16	03
Assistant Professor and equivalent					

12	Dr. R.N. Kanpure	Fruit Science	Ph.D.	16	02
13	Dr. R. Chaturvedi	English	Ph.D.	16	03
14	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
15	Dr. Vidhya Shankar M. (Resigned 19/6/2020)	Floricultural & Land Scaping	Ph.D.	15	-
16	Dr. S.B. Singh	Entomology	Ph.D.	16	03
17	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
18	Shri B.K. Patidar	Nematology/Microbiology	M.Sc.(Ag)	06	04
19	Dr. Roshan Gallani	Soil Science	Ph.D.	06	05
20	Dr. S.K. Dwivedi	PHM	Ph.D.	06	04
21	Dr. Rajiv Dubey	Agronomy	Ph.D.	06	03
22	Dr. R.K. Sharma	Vegetable Science	Ph.D.	06	03
23	Dr. Anuj Kumar	Floricultural & Land Scaping	Ph.D.	06	03
24	Dr. Om Singh	PHM	Ph.D.	06	02
25	Dr. Jyoti Kanwar	Fruit Science	Ph.D.	06	03
26	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02
27	Dr. Priyamvada Sonkar	Fruit Science	Ph.D.	06	02
28	Er. K. Alam Khan	Agriculture Engineering	M. Tech.	06	02
29	Dr. Nitin Soni (Research)	AICRP on Grapes	Ph.D.	04	04
30	Dr. K.C. Meena	Medicinal and Aromatic Crops	Ph.D.	04	02
31	Dr. P. K. Meghwal (Full time contractual)	Agricultural Extension	Ph.D.	02	-
32	Dr. Rajendra Verma (Full time contractual)	Agricultural Economics	Ph.D.	01	-

6.4.3. Technical and supporting staff in the college:

Along with available regular staff, the staff engaged on contractual basis support in the day to day functioning of the labs and computer related works.

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Asst. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Asst. Grade-2	2	0	2
6	Asst. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2	0
19	Store keeper	1	0	1

6.4.4 Classrooms and Laboratories:

No. of lecture rooms with seating capacity	Three with seating capacity of 60
No. of smart class-rooms	Three(Same as above) 9x20 M.
No. of labs under Dean's office with specialized purpose	Eleven Under graduate Labs with basic required equipments.
Farm facilities	Yes (152.96 Ha)
Workshops	Farm Engineering Workshop
Any other instructional units being utilized for the award of the Degree Programme	Instructional Orchard

Dimensions of Classrooms:

S. No.	Name of Classrooms	Length (Metre/Feet)	Width (Metre/Feet)
1.	B. Sc. (Hons.) Horticulture I st year	50 Feet	30 Feet
2.	B. Sc. (Hons.) Horticulture II nd year	50 Feet	30 Feet
2.	B. Sc. (Hons.) Horticulture III rd year	50 Feet	30 Feet
4.	B. Sc. (Hons.) Horticulture IV th year	-	-

Theory and practical batches for UG Programme

Year	Theory				Practical			
	1 st year	2 nd year	3 rd year	4 th year	1 st year	2 nd year	3 rd year	4 th year
2016-17	01	01	01	05	01	01	01	05
2017-18	01	01	01	05	01	01	01	05
2018-19	01	01	01	05	01	01	01	05
2019-20	01	01	01	05	01	01	01	05
2020-21	01	01	01	05	01	01	01	05

6.4.5. Conduct of Practical and Hands-on-Training:

The practical in UG classes are conducted as per the recommendations of V Deans' Committee. Practical classes are conducted with hands on training in lab as well as in field for different subjects. Separate UG and PG labs with all the requisite equipment are available in the College.

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Media for propagation of plants in nursery beds, potting and repotting. Preparation of nursery beds and sowing of seeds. Raising of rootstock. Seed treatments for breaking dormancy and inducing vigorous seedling growth. Preparation of plant material for potting. Hardening plants in the nursery. Practicing different types of cuttings, layering, graftings and buddings including opacity and grafting, top grafting and bridge grafting etc. Use of mist chamber in propagation and hardening of plants. Preparation of plant growth regulators for seed germination and vegetative propagation. Visit to a tissue culture laboratory. Digging, labelling and packing of

nursery fruit plants. Maintenance of nursery records. Use of different types of nursery tools and implements for general nursery and virus tested plant material in the nursery. Cost of establishment of a mist chamber, greenhouse, glasshouse, polyhouse and their maintenance. Nutrient and plant protection applications during nursery.

Features of orchard, planning and layout of orchard, tools and implements, identification of various horticultural crops, layout of nutrition garden, preparation of nursery beds for sowing of vegetable seeds, digging of pits for fruit plants, planting systems, training and pruning of orchard trees, preparation of fertilizer mixtures and field application, preparation and application of growth regulators, layout of different irrigation systems, identification and management of nutritional disorder in fruits, assessment of bearing habits, maturity standards, harvesting, grading, packaging and storage.

Study of garden equipment. Study of Graphic language, Use of drawing equipment, graphic symbols and notations in landscaping designing, Study and designing of different styles of gardens, Study and designing of gardens based on different themes, Designing gardens using Auto-cad/ archi-cad, Designing gardens for home, traffic islands, schools and colleges, public buildings, factories, railway stations, air ports, temples, churches, play grounds, corporate buildings/ malls. Designing and planting of avenues for state and National highways, Design and establishment of Japanese, English and Mughal gardens. Visit to public, institutional and botanical gardens

Under student READY programme RHWE and ELPs are being run for making the students ready to face the real life challenges of tough competitive world. Students are attached with different host farmers to learn the farming practices and similarly under ELP programme, the College offers 5 different ELP modules to the students and students are allocated different modules and the students learn the entrepreneur skills through hands on training.

• **RAWE :**

Focuses on strengthening capacity of individual students so that they can respond to the farmers' need and promote issues related to such needs in their service career. It includes: orientation and basic training; rural experience through village placement, agro- industrial attachment, self-employment training, project report preparation and presentation and evaluation of report.

• **Rural Experience:**

Students assume full responsibility to operate individually and in small groups to interact with farmers during stay in villages for 65 days. They prepare survey schedule, identify issues and constraints in farming system and analyze factors involved in the sustainability of overall system in the village. Students learn how farmers determine and manage their resources and prepare a document, which presented to the course faculty at the end of the course. This helps students to develop and maintain cooperation among the group and with farmers.

• **Horti-Industrial Attachment:**

The students gain a substantial experience through interaction with agro-based industries. The experience of commercial environment further advanced their practical knowledge in communication skills and working in a team. The students work on specified projects and document the project output for further planning and execution of commercial activity related to the project. During the period under report, students were placed in various agro-based industries

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

Not Applicable for UG Programme.

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):

A feedback pro forma has been designed by the university and each class teacher (UG course) has also been assigned duty to get it filled from the UG students before the completion of degree programme. Feedback from the students only has been obtained in the mentioned pro forma.

(Separate sheets attached Annexure no. 01-129)

6.4.8 Student intake and attrition in the programme for last five years:

Name of the degree programme	Actual students admitted in last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
	17	18	19	20	21	17	18	19	20	21

B.Sc. (Hons.) Horticulture	51	49	52	50	49	00%	00%	00%	00%	00%
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No drop out has been reported so far. Whosoever is admitted earns the degree as reported till date.



6.4.9. ICT application in teaching and practical for curricula delivery:

The College of Horticulture, Mandsoor has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-Fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. *Google meet, google forms, Whatsapp* groups for sharing of files and questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.



CERTIFICATE

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





Programme - 1

**M. Sc. Ag. Horticulture
Floriculture and Landscape Architecture**

Flower Bouquets

A guide to choosing the best
roses for your wedding

6.4 About the College

6.4.1. Brief History of the M.Sc. (Hort.) Floriculture and Landscape Architecture”

HISTORY

College of Horticulture, Mandasaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first M.Sc. (Hort.) batch was admitted in the College in the year 2008. Twelve students are admitted every year through Joint Entrance Examination conducted by MP online. For the completion of degree programme a student has to go through the studies of 40 credits courses (Theory 27+ Practical 13) apart from 1 credit for Masters' seminar and 20 credits for Masters' research. It has produced many experts in the field of horticulture and still continuing with its mandate of producing trained manpower for the country. It has major three following mandates.

Objectives of initiating PG programme:

The College adopts the following goals and objective which permeate in offering of various curricula, and undertake research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agriculture productivity and environment sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agriculture systems and develop mitigation strategies adopting inter-disciplinary approaches

Mandates

- ❖ To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- ❖ To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- ❖ To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

6.4.2. Faculty Strength of the College:

There is no separate sanctioned setup of positions for PG degree programme.

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

*** 02 Contractual Teachers**

There is no separate sanctioned setup of positions for PG degree programme. The teaching in the department is undertaken by the existing faculty of the college as below:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant position as per setup	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Professor	00	00	00	01
2.	Associate Professor	00	00	00	01
3.	Assistant Professor	02	00	00	02

Core Faculty Floriculture and Landscape Architecture:

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
1.	Dr. Vidhya Shankar M. (Resigned 19/6/2020)	Floricultural & Land Scaping	Ph.D.	15	-
2.	Dr. Anuj Kumar	Floricultural & Land Scaping	Ph.D.	06	03

Supporting Faculty Floriculture and Landscape Architecture:

1.	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
2.	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03
3.	Dr. R. Chaturvedi	English	Ph.D.	16	03

4.	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
5.	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
6.	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02

6.4.3. Technical and supporting staff in the college:

Along with available regular staff, the staff engaged on contractual basis support in the day to day functioning of the labs and computer related works.

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Asst. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Asst. Grade-2	2	0	2
6	Asst. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2	0
19	Store keeper	1	0	1
Total		45	14	31

6.4.4 Classrooms and Laboratories:

No. of lecture rooms with seating capacity	One with seating capacity of 20
No. of smart class-rooms	One(Common Seminar Room)
No. of labs under Dean's office with specialized purpose	One
Farm facilities	Yes (152.96 Ha)
Workshops	Farm Engineering Workshop
Any other instructional units being utilized for the award of the Degree Programme	Landscape, lawn, Dry flower museum, garden

Dimensions of Classrooms:

S. No.	Name of Classrooms	Length (Metre/Feet)	Width (Metre/Feet)
1.	M.Sc. Ag. Horticulture 1st year		
	Fruit Science	30 Feet	10 Feet
	Vegetable Science	30 Feet	20 Feet
	Floriculture and Landscape Architecture	30 Feet	10 Feet
	Plantation, Spices, Medicinal & Aromatic Crops	30 Feet	10 Feet
2.	M.Sc. Ag. Horticulture II nd year	-	-

6.4.5. Conduct of Practical and Hands-on-Training:

It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Description of botanical features- Cataloguing of cultivars, varieties and species in flowers, floral biology, selfing and crossing, evaluation of hybrid progenies, seed production-Induction of mutants through physical and chemical mutagens, induction

of polyploidy, screening of plants for biotic, abiotic stresses and environmental pollution, *in vitro* breeding in flower crops and ornamental plants.

Botanical description of varieties, propagation techniques, mist chamber operation, training and pruning techniques, practices in manuring, drip and fertigation, foliar nutrition, growth regulator application, pinching, disbudding, staking, harvesting techniques, post-harvest handling, cold chain, project preparation for regionally important cut flowers, visit to commercial cut flower units and case study.

Selection of ornamental plants, practices in preparing designs for home gardens, industrial gardens, institutional gardens, corporates, avenue planting, practices in planning and planting of special types of gardens, lawn making, planting herbaceous and shrubbery borders, project preparation on landscaping for different situations, visit to parks and botanical gardens, case study on commercial landscape gardens.

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

An advisory board is duly formed by the Director Instructions to address to the academic and non-academic needs of the PG students.

Details of M.Sc. programme offered by the Department

Year	Number of students on roll	Number of PG faculty	Teacher-student Ratio
2016-17	08	2	1:4
2017-18	05	2	1:2.5
2018-19	10	2	1:5
2019-20	11	2	1:5.5
2020-21	09	1	1:9

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):

A feedback pro forma has been designed by the university and each class teacher (PG course) has also been assigned duty to get it filled from the PG students before the completion of degree programme. Feedback from the students only has been obtained in the mentioned pro forma.

(Separate sheets attached annexure no. 01-39)

6.4.8 Student intake and attrition in the programme for last five years:

Name of the degree programme	Actual students admitted in last five years					Attrition (%)				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
	-17	-18	-19	-20	-21	-17	-18	-19	-20	-21
M.Sc. Ag/ Horticulture										
FLA	08	05	10	11	09	00%	00%	00%	00%	00%

No drop out has been reported so far. Whosoever is admitted earns the degree as reported till date.

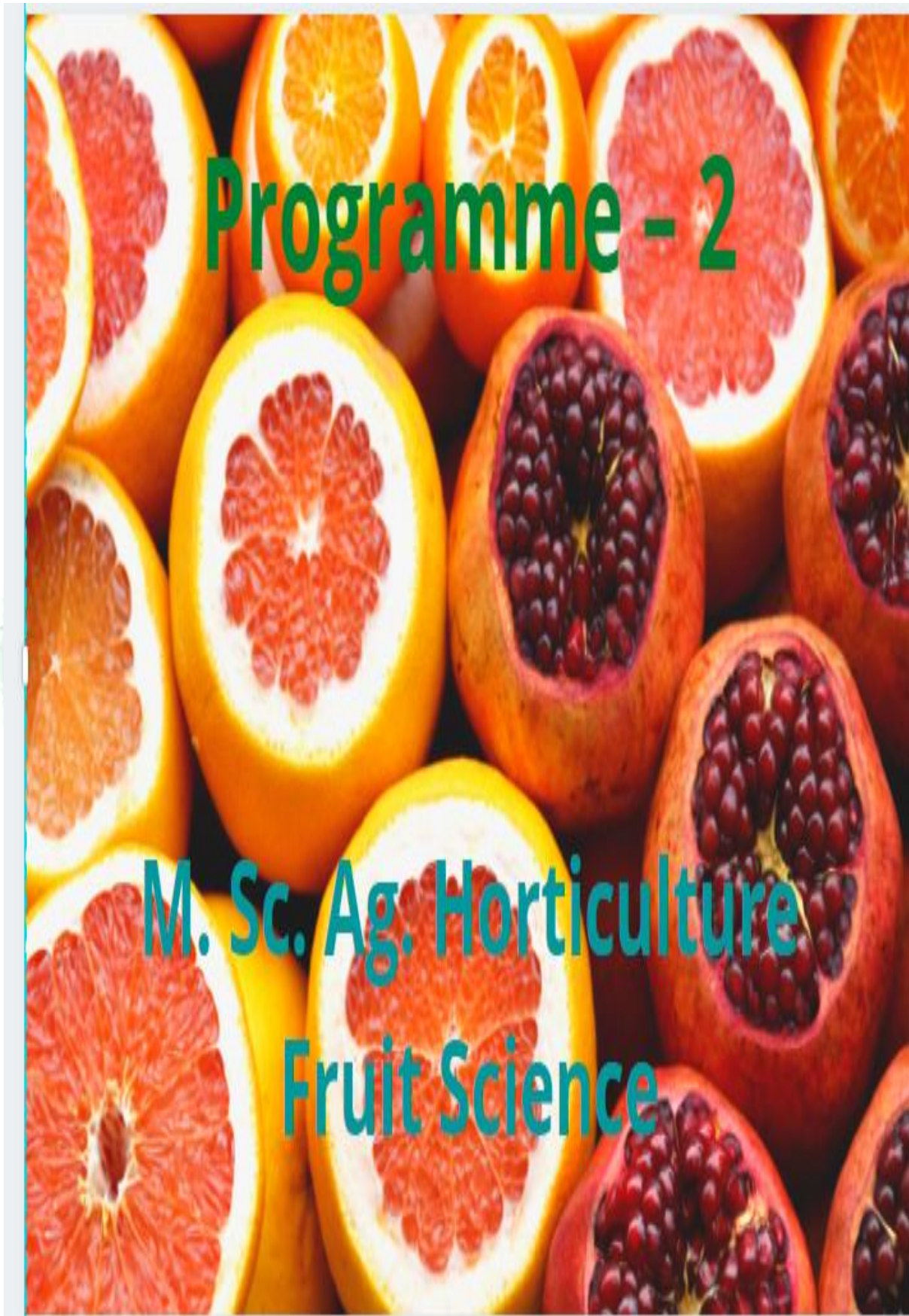
6.4.9. ICT application in teaching and practical for curricula delivery:

The College of Horticulture, Mandsoor has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. *Google meet, google forms, Whatsapp* groups for sharing of files and questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.

CERTIFICATE

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





6.4 About the College

6.4.1. Brief History of the M.Sc. (Hort.) Fruit Science

HISTORY

College of Horticulture, Mandasaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first M.Sc. (Hort.) batch was admitted in the College in the year 2008. Twelve students are admitted every year through Joint Entrance Examination conducted by MP online. For the completion of degree programme a student has to go through the studies of 38 credits courses (Theory 25+ Practical 13) apart from 1 credit for Masters' seminar and 20 credits for Masters' research. It has produced many experts in the field of horticulture and still continuing with its mandate of producing trained manpower for the country. It has major three following mandates.

Objectives of initiating PG programme:

The College adopts the following goals and objective which permeate in offering of various curricula, and undertake research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agriculture productivity and environment sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agriculture systems and develop mitigation strategies adopting inter-disciplinary approaches

Mandate:

- To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

6.4.2. Faculty Strength:

There is no separate sanctioned setup of positions for PG degree programme.

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

*** 02 Contractual Teachers**

There is no separate sanctioned setup of positions for PG degree programme. The teaching in the department is undertaken by the existing faculty of the college as below:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant position as per setup	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Professor	00	00	00	01
2.	Associate Professor	00	00	00	02
3.	Assistant Professor	04	00	00	03

Core Faculty Fruit Science:

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
1.	Dr. R.N. Kanpure	Fruit Science	Ph.D.	16	02
2.	Dr. Jyoti Kanwar	Fruit Science	Ph.D.	06	03
3.	Dr. P. Sonkar	Fruit Science	Ph.D.	06	02
4.	Dr. Nitin Soni (Research)	Horticulture (Fruit Science)	Ph.D.	04	04

Supporting Faculty Fruit Science:

1.	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
2.	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03
3.	Dr. R. Chaturvedi	English	Ph.D.	16	03
4.	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
5.	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
6.	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02

6.4.3 Technical and supporting staff in the college:

Along with available regular staff, the staff engaged on contractual basis support in the day to day functioning of the labs and computer related works.

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Asst. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Asst. Grade-2	2	0	2
6	Asst. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2	0
19	Store keeper	1	0	1

Total	45	14	31
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6.4.4 Classrooms and Laboratories:

No. of lecture rooms with seating capacity	One with seating capacity of 20
No. of smart class-rooms	One
No. of labs under Dean's office with specialized purpose	One
Farm facilities	Yes (152.96 Ha)
Workshops	Farm Engineering Workshop
Any other instructional units being utilized for the award of the Degree Programme	Instructional orchard

6.4.5. Conduct of Practical and Hands-on-Training:

It is important to have a sound grasp of the theory that underlies any professional degree. But there are some skills that can only be learned through hands-on -practice. It is important that much of the learning material in any given course should be provided in a way that allows students to get as involved as possible to increase their knowledge and abilities. Clearly mention how far students are getting desired practical and hands-on-training as per the curriculum and meeting above mentioned requirements.

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Identification of important cultivars, observations on growth and development, practices in growth regulation, malady diagnosis, analyses of quality attributes, visit to tropical and arid zone orchards, Project preparation for establishing commercial orchards.

Documentation of germplasm – maintenance of passport data and other records of accessions; field exploration trips, exercise on *ex situ* conservation – cold storage, pollen/seed storage, cryopreservation, visits to National Gene Bank and other centers of PGR activities. Detection of genetic constitution of germplasm, core sampling, germplasm characterization using molecular techniques.

Anatomical studies in rooting of cutting and graft union, construction of propagation structures, study of media and PGR. Hardening – case studies, micro propagation, explant preparation, media preparation, culturing – *in vitro* clonal propagation,

meristem culture, shoot tip culture, axillary bud culture, direct organogenesis, direct and indirect embryogenesis, micro grafting, hardening. Visit to TC labs and nurseries.

Study of different types of canopies, training of plants for different canopy types, canopy development through pruning, use of plant growth inhibitors, geometry of planting; study on effect of different canopy types on production and quality of fruits.

Characterization of germplasm, blossom biology, study of anthesis, estimating fertility status, practices in hybridization, ploidy breeding, mutation breeding, evaluation of biometrical traits and quality traits, screening for resistance, developing breeding programme for specific traits, visit to research stations working on tropical, subtropical and temperate fruit improvement.

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

An advisory board is duly formed by the Director Instructions to address to the academic and non-academic needs of the PG students.

Details of M.Sc. programme offered by the Department

Year	Number of students on roll	Number of PG faculty	Teacher-student Ratio
2016-17	06	3	1:2
2017-18	05	4	1:1.25
2018-19	11	4	1:2.75
2019-20	11	4	1:2.75
2020-21	09	4	1:2.25

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):

A feedback pro forma has been designed by the university and each class teacher (PG course) has also been assigned duty to get it filled from the PG students before the completion of degree programme. Feedback from the students only has been obtained in the mentioned pro forma.

(Separate sheets attached annexure no. 01-39)

6.4.8 Student intake and attrition in the programme for last five years:

Name of the degree programme	Actual students admitted in last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
M.Sc. Ag/ Horticulture										
Fruit Science	06	05	11	11	09	00%	00%	00%	00%	00%

No drop out has been reported so far. Whosoever is admitted earns the degree as reported till date.

6.4.9. ICT application in teaching and practical for curricula delivery:

The College of Horticulture, Mandsoor has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-Fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. Google meet, google forms, *Whatsapp* groups for sharing of files and questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.

CERTIFICATE

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





Programme - 3

**M. Sc. Ag. Horticulture
Plantation, Spices, Medicinal
& Aromatic Crops**

6.4 About the College

6.4.1. Brief History of the M.Sc. (Hort.) Plantation, Spices, Medicinal & Aromatic Crops

HISTORY

College of Horticulture, Mandasaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first M.Sc. (Hort.) batch was admitted in the College in the year 2008. Twelve students are admitted every year through Joint Entrance Examination conducted by MP online. For the completion of degree programme a student has to go through the studies of 39 credits courses (Theory 26 + Practical 13) apart from 1 credit for Masters' seminar and 20 credits for Masters' research. It has produced many experts in the field of horticulture and still continuing with its mandate of producing trained manpower for the country. It has major three following mandates.

Objectives of initiating PG programme:

The College adopts the following goals and objective which permeate in offering of various curricula, and undertake research and extension activities by its departments to:

- Provide world-class education to our students.
- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agriculture productivity and environment sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agriculture systems and develop mitigation strategies adopting inter-disciplinary approaches

Mandate:

- To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

6.4.2. Faculty Strength of the College:

There is no separate sanctioned setup of positions for PG degree programme.

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

*** 02 Contractual Teachers**

There is no separate sanctioned setup of positions for PG degree programme. The teaching in the department is undertaken by the existing faculty of the college as below:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant position as per setup	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Professor	00	00	00	00
2.	Associate Professor	01	00	00	01
3.	Assistant Professor	01	00	00	01

Core Faculty Plantation, Spices, Medicinal & Aromatic Crops:

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
1.	Dr. I.S. Naruka	Spice & Plantation Crops	Ph.D.	16	-
2.	Dr. K.C. Meena	Medicinal and Aromatic Crops	Ph.D.	04	02

Supporting Faculty Plantation, Spices, Medicinal & Aromatic Crops:

1.	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
2.	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03
3.	Dr. R. Chaturvedi	English	Ph.D.	16	03

4.	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
5.	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
6.	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02

6.4.3. Technical and supporting staff in the college:

Along with available regular staff, the staff engaged on contractual basis support in the day to day functioning of the labs and computer related works.

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Asst. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Asst. Grade-2	2	0	2
6	Asst. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2	0
19	Store keeper	1	0	1
Total		45	14	31

6.4.4 Classrooms and Laboratories:

No. of lecture rooms with seating capacity	One with seating capacity of 20
No. of smart class-rooms	One
No. of labs under Dean's office with specialized purpose	One
Farm facilities	Yes (152.96 Ha)
Workshops	Farm Engineering Workshop
Any other instructional units being utilized for the award of the Degree Programme	Instructional orchard

6.4.5. Conduct of Practical and Hands-on-Training:

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Description of botanical and varietal features, selection of mother palms and seedlings in coconut and arecanut, soil test crop response studies and manuring practices, pruning and training, maturity standards, harvesting, Project preparation for establishing plantations, Visit to plantations.

Identification of seeds and plants, botanical description of plant; preparation of herbarium, propagation, nursery raising, field layout and method of planting, cultural practices, harvesting, drying, storage, packaging and processing, value addition; short term experiments on spice crops.

Botanical description, Propagation techniques, Maturity standards, Digital documentation, Extraction of secondary metabolites, Project preparation for commercially important medicinal crops, Visit to medicinal crop fields, Visit to herbal extraction units. Extraction of Essential oils, Project preparation for commercially important Aromatic crops, Visit to distillation and value addition units – Visit to CIMAP.

Characterization and evaluation of germplasm accessions, Blossom biology, studies on pollen behaviour, practices in hybridization, ploidy breeding, mutation breeding, evaluation of biometrical traits and quality traits, screening for biotic and abiotic stresses, haploid culture, protoplast culture and fusion- induction of somaclonal variation and screening the variants. Identification and familiarization of spices; floral biology anthesis; fruit set; selfing and crossing techniques; description of varieties. Salient features of improved varieties and cultivars from public and private sector, bioinformatics, visit to radiotracer laboratory, national institutes for plantation crops

and plant genetic resource centers, genetic transformation in plantation crops for resistance to biotic stress/quality improvement etc.

Description of Botanical features, Cataloguing of cultivars, varieties and species in medicinal and aromatic crops, Floral Biology, Selfing and crossing, Evaluation of hybrid progenies, Induction of economic mutants, High alkaloid and high essential oil mutants, evolution of mutants through physical and chemical mutagens, Introduction of polyploidy, Screening of plants for biotic and abiotic stress and environmental pollution, *in-vitro* breeding in medicinal and aromatic crops.

Study of processing of different spices and plantation crops. Study of processing of medicinal plants, their drying and storage. Extraction of active ingredients from different spices and herbs using TLC, HPLC, GC/CG-MS technology. Distillation, solvent extraction from aromatic plants – davana, mint, rosemary, citronella, lavender, jasmine, etc. Identification of different odoriferous factors in essential oil with GLC/GCMS. Physico-chemical and sensory evaluation of oils and oleoresin. Value added products from spices and plantation crops.

Method of preparation of compost, vermicomposting, biofertilizers, soil solarization, bio pesticides in horticulture, green manuring, mycorrhizae and organic crop production, waster management, organic soil amendment for root disease, weed management in organic horticulture. Visit to organic fields and marketing centers.

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

An advisory board is duly formed by the Director Instructions to address to the academic and non-academic needs of the PG students.

Details of M.Sc. programme offered by the Department

Year	Number of students on roll	Number of PG faculty	Teacher-student Ratio
2016-17	05	2	1:2.5
2017-18	03	2	1:1.5
2018-19	10	2	1:5
2019-20	11	2	1:5.5
2020-21	12	2	1:6

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):

A feedback pro forma has been designed by the university and each class teacher (PG course) has also been assigned duty to get it filled from the PG students before the completion of degree programme. Feedback from the students only has been obtained in the mentioned pro forma.

(Separate sheets attached annexure no. 01-39)

6.4.8 Student intake and attrition in the programme for last five years:

Name of the degree programme	Actual students admitted in last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
M.Sc. Ag/ Horticulture										
PSMA	05	03	10	11	12	00%	00%	00%	00%	00%

No drop out has been reported so far. Whosoever is admitted earns the degree as reported till date.

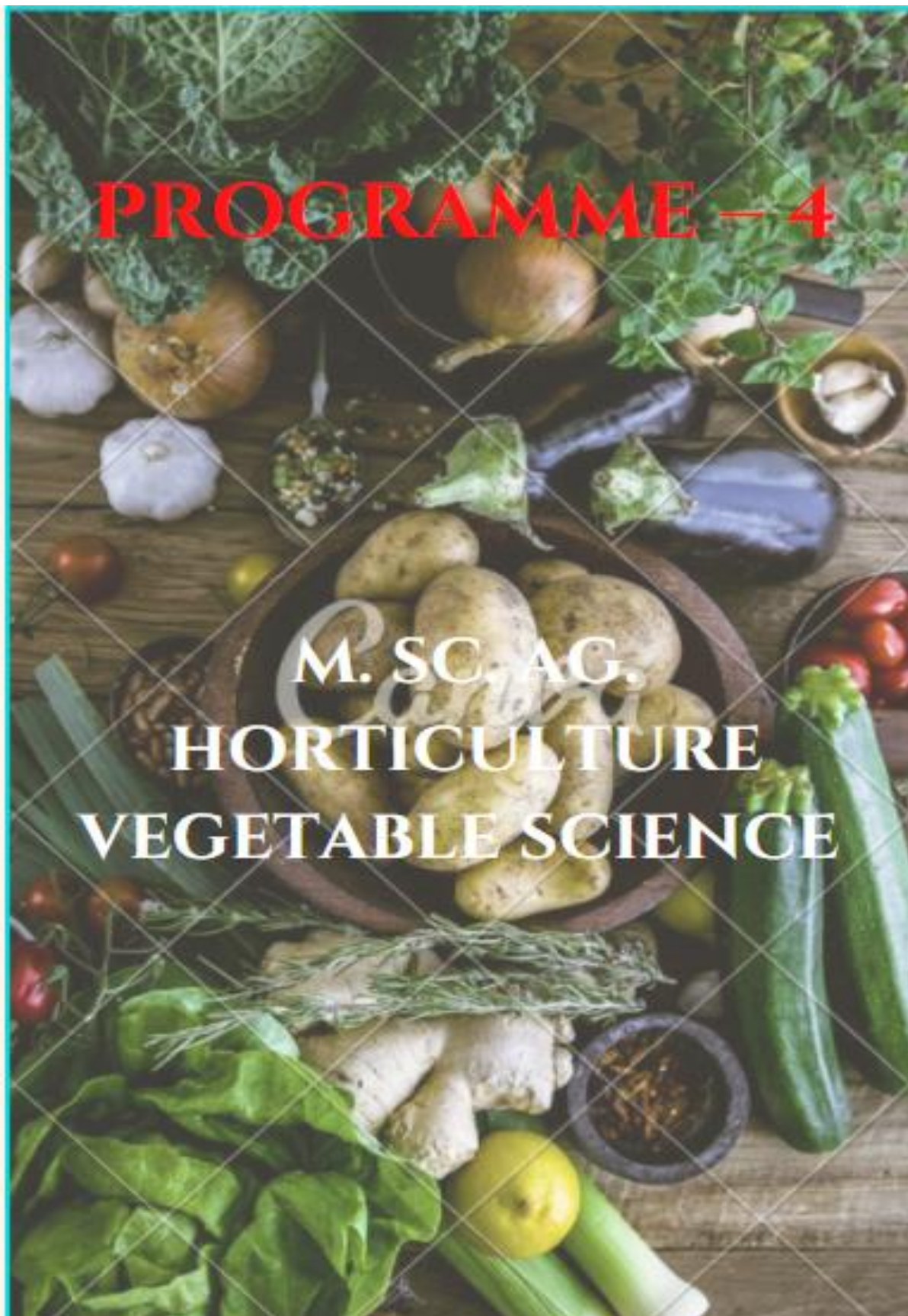
6.4.9. ICT application in teaching and practical for curricula delivery:

The College of Horticulture, Mandasaur has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. Google meet, google forms, *Whatsapp* groups for sharing of files and questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.

CERTIFICATE

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





6.4 About the College

6.4.1. Brief History of the M.Sc. (Hort.) Vegetable Science

HISTORY

College of Horticulture, Mandasaur was established on March 28, 1987 as the College of Agriculture. Later on the College of Agriculture was converted into the College of Horticulture on October 4, 2002 and became the first Horticulture college of Madhya Pradesh. The first M.Sc. (Hort.) batch was admitted in the College in the year 2008. Twelve students are admitted every year through Joint Entrance Examination conducted by MP online. For the completion of degree programme a student has to go through the studies of 39 credits courses (Theory 26 + Practical 13) apart from 1 credit for Masters' seminar and 20 credits for Masters' research. It has produced many experts in the field of horticulture and still continuing with its mandate of producing trained manpower for the country. It has major three following mandates.

Objectives of initiating PG programme:

Provide world-class education to our students.

- Maintain a strong basic and applied research programme to support all segments of agriculture and allied sectors through enhanced agriculture productivity and environment sustainability.
- Serve the rural society through extension activities by disseminating research based knowledge.
- Assist stakeholders through value-added endeavours, bio-based products, bio-processing, crop diversification etc.
- Monitor climate change impacts on agriculture systems and develop mitigation strategies adopting inter-disciplinary approaches

Mandates

- ❖ To serve as a center of teaching, research and extension in the fields of horticulture/ agriculture and allied sciences for providing trained and efficient manpower especially in the field of Horticulture.
- ❖ To disseminate technologies to farmers, extension functionaries and organizations, engaged in development of horticulture/agriculture through various extension programmes.
- ❖ To provide the sufficient quantity of breeder seed and planting material of different horticultural crops to farmers.

6.4.2. Faculty Strength of the college:

There is no separate sanctioned setup of positions for PG degree programme.

S. No.	Sanctioned Faculty	Faculty in Place	Vacant Position	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Dean	01	00	01	-
2.	Professor	03 (CAS)	00	00	08
3.	Associate Professor	03 (CAS)	12	12	11
4.	Assistant Professor	18+02 *	16	36	31

* 02 Contractual Teachers

There is no separate sanctioned setup of positions for PG degree programme. The teaching in the department is undertaken by the existing faculty of the college as below:

S. No.	Sanctioned Faculty	Faculty in Place	Vacant position as per setup	Faculty recommended by The ICAR/UGC/VCI/ other regulatory bodies	
				As per Setup	As per ICAR
1.	Professor	00	00	00	01
2.	Associate Professor	00	00	00	01
3.	Assistant Professor	02	00	00	02

Core Faculty Vegetable Science:

S. No.	Name	Department	Profile of the faculty		No. of Trainings
			Highest Degree	Yr. of Exp.	
1.	Dr. S.S. Kushwah	Vegetable Science	Ph.D.	16	03
2.	Dr. R.K. Sharma	Vegetable Science	Ph.D.	06	03

Supporting Faculty Vegetable Science:

1.	Dr. G.P.S. Rathore	Statistics	Ph.D.	20	-
2.	Dr. O.P. Singh	Botany & Plant Physiology	Ph.D.	16	03

3.	Dr. R. Chaturvedi	English	Ph.D.	16	03
4.	Dr. B.K. Kachouli	Plant Breeding & Genetics	Ph.D.	13	03
5.	Shri H.C. Bharvey	Library	M.L.I.Sc.	09	01
6.	Dr. M.K. Tripathi	Physics and Meteorology	Ph.D.	06	02

6.4.3 Technical and supporting staff in the college:

Presently institution is not having sufficient technical/ laboratory/farm staff but the process for the recruitment is in progress.

S. No.	Name of Post	Sanctioned Post	Filled	Vacant
1	Assistant Account Officer	1	0	1
2	Assistant Librarian	1	1	0
3	Assi. Grade-1	2	0	2
4	Stenographer	2	0	2
5	Assi. Grade-2	2	0	2
6	Assi. Grade-3	4	3	1
7	Computer Operator	1	1	0
8	Sub engineer	1	1	0
9	P.T.I.	1	0	1
10	Horticulture Assistant	10	3	7
11	Bus Driver	1	0	1
12	Jeep Driver	2	1	1
13	Tractor Driver	1	0	1
14	Lab Assistant	8	0	8
15	Farm Manager	1	0	1
16	Mali	4	2	2
17	Library Attendant	1	0	1
18	Electrician	1	2	0
19	Store keeper	1	0	1
Total		45	14	31

6.4.4 Classrooms and Laboratories:

No. of lecture rooms with seating capacity	One with seating capacity of 20
No. of smart class-rooms	One
No. of labs under Dean's office with specialized purpose	One
Farm facilities	Yes (152.96 Ha)
Workshops	Farm Engineering Workshop
Any other instructional units being utilized for the award of the Degree Programme	Instructional orchard

6.4.5. Conduct of Practical and Hands-on-Training:

Hands on trainings are conducted on some of the selected topics as mentioned below:-

Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control) of winter vegetable crops and their economics; Experiments to demonstrate the role of mineral elements, plant growth substances and herbicides; study of physiological disorders; preparation of cropping scheme for commercial farms; visit to commercial greenhouse/ polyhouse.

Selection of desirable plants from breeding population, observations and analysis of various qualitative and quantitative traits in germplasm, hybrids and segregating generations; induction of flowering, palanological studies, selfing and crossing techniques in vegetable crops; hybrid seed production of vegetable crops in bulk. Screening techniques for insect-pests, disease and environmental stress resistance in above mentioned crops, demonstration of sib-mating and mixed population; molecular marker techniques to identify useful traits in the vegetable crops and special breeding techniques. Visit to breeding blocks.

Preparation of solutions of plant growth substances and their application; experiments in breaking and induction of dormancy by chemicals; induction of parthenocarpy and fruit ripening; application of plant growth substances for improving flower initiation, changing sex expression in cucurbits and checking flower and fruit drops and improving fruit set in solanaceous vegetables; growth analysis techniques in vegetable crops.

Seed sampling, seed testing (genetic purity, seed viability, seedling vigour, physical purity) and seed health testing; testing, releasing and notification procedures

of varieties; floral biology; rouging of off-type; methods of hybrid seed production in important vegetable and spice crops;

Identification of seeds; botanical description of plants; layout and planting; cultural practices; short-term experiments of under exploited vegetables.

Solarization, bio pesticides in horticulture, green manuring, mycorrhizae and organic crop production, water management, organic soil amendment for root disease, weed management in organic horticulture. Visit to organic fields and marketing centers.

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

An advisory board is duly formed by the Director Instructions to address to the academic and non-academic needs of the PG students.

Details of M.Sc. programme offered by the Department

Year	Number of students on roll	Number of PG faculty	Teacher-student Ratio
2016-17	06	2	1:3
2017-18	08	2	1:4
2018-19	10	2	1:5
2019-20	12	2	1:6
2020-21	12	2	1:6

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.):

A feedback pro forma has been designed by the university and each class teacher (PG course) has also been assigned duty to get it filled from the PG students before the completion of degree programme. Feedback from the students only has been obtained in the mentioned pro forma.

(Separate sheets attached annexure no. 01-39)

6.4.8 Student intake and attrition in the programme for last five years:

Name of the degree	Actual students admitted in last five years					Attrition (%)				
	2016-	2017-	2018-	2019-	2020-	2016-	2017-	2018-	2019-	2020-

programme	17	18	19	20	21	17	18	19	20	21
M.Sc. Ag/ Horticulture										
Vegetable Science	06	08	10	12	12	00%	00%	00%	00%	00%

No drop out has been reported so far. Whosoever is admitted earns the degree as reported till date.

6.4.9. ICT application in teaching and practical for curricula delivery:

The College of Horticulture, Mandsoar has upgraded four class rooms into smart class rooms for teaching of UG and PG students. The teaching is being done by using projector based teaching facility and interactive boards. Open access to *Wi-fi* for all has made the online conduction of classes and exams possible during the tough times of Covid period. Google meet, google forms, *Whatsapp* groups for sharing of files and questions have supported in a great deal for making the process of learning possible. Coaching and online lectures by the resource persons from the other institutes could be conducted with the support from IT based teaching. The registration of the students with *NIPARES* has kept them updated with the latest desirable knowledge to crack the most coveted competitive exams.

CERTIFICATE

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




Dean
College of Horticulture
Mandsaur
College of Horticulture
MANDSAUR (M. P.)