

12-B Status from UGC



GLA University, Mathura

FACULTY OF AGRICULTURAL SCIENCES

SELF STUDY REPORT

Submitted To

NATIONAL AGRICULTURAL EDUCATION ACCREDITATION BOARD INDIAN COUNCIL OF AGRICULTURAL RESEARCH NEW DELHI

GLA University, Mathura A Gateway to Global Success

In 1998, Shri Narayan Das Agrawal initiated a visionary endeavour to honour his father's legacy, culminating in the founding of GLA Institute of Technology and Management. Over a period of time this pioneering institution flourished and evolved into the esteemed GLA Group of Institutions. In 2010, it attained its ultimate form as GLA University, solidified by the enactment of the U.P. State Legislative Act of 2009 (UP Act 21 of 2010). The University is recognized by UGC under section 2(f) with 12B Status. GLA University is a NAAC A+ Accredited institution with a score of 3.46 out of 4, which is the highest score in the league of NAAC A+ accredited state private universities. It is a member of the Association of Indian Universities (AIU). GLA university is IACBE (International Assembly of Collegiate Business Education) accredited for its business management. Also, it is an educational member of the Association to Advance Collegiate Schools of Business (AACSB). The university secured 53rd position in the Pharmacy category, 101-125 band in Management, 151-200 in Engineering, 101-150 band in the university and 150-200 band in the overall category of NIRF 2024 ranking. Moreover, GLA University has attained a worldwide rank in 1001-1200 Band, AIR 44, and Research Quality World Rank of 691, 401-500 band in Asia and 351-400 in young university in the Times Higher Education (THE) World University Ranking 2024. GLA University is known for its robust National and International collaborations, remarkable track record of placements, impressive research profile, and a strong alumni base of more than 39,000. In the 2022-23 batch, over 3000 students were placed by 500+ recruiters, with packages reaching up to 55 LPA. With more than 150 international MoUs, GLA provides a global learning environment, and its 1500+ alumni excel in Fortune 500 companies worldwide. It is India's 14th institution with an oncampus NewGen IEDC Lab to foster and fund student startup ideas. Stanford University featured our seventeen faculty members as in the top 2% of scientists in the world. Research project of ₹14.31 crores are in progress in various departments of the University. GLA University embraces holistic growth of students and it has been working towards social welfare as synergy of motivation and education walks hand in hand to succeed this noble task.



FOREWORD

The Faculty of Agricultural Sciences is one of the renowned faculties of GLA University, which is making its presence felt by leaps and bound. A large proportion of our students are first generation learners in the arena of higher education hailing from backward rural districts. Our university strives tirelessly to upgrade skills and knowledge, impart values and guide our students to meet their responsibilities with all sincerity.

At GLA University, the Faculty of Agricultural Sciences was established as the Department of Agriculture in 2019 and later on elevated as the Faculty of Agricultural Sciences (FAS). The FAS is following the recommendations of the V Deans' committee and fully committed for implementing NEP in agriculture. Ever since its establishment, the FAS played a pioneering role in creating excellent human resources through UG teaching and spreading the vast knowledge through its effective outreach program. The FAS has grown in terms of faculty members, students, co-curricular and extra-curricular program.

With increasing pressure on land and burgeoning population, the demand for sustainable technologies and technical manpower is on the increase. The FAS will have to play a different role as a dynamic, progressive and competitive institution to lead Indian Agriculture to greater heights in the coming decades.

It is a matter of great satisfaction that National Assessment and Accreditation Council (NAAC) has accredited our University with NAAC A⁺ grade with a score of 3.46 out of 4, which is the highest score amongst all the NAAC A⁺ accredited state private universities. The FAS is now moving towards getting accreditation from National Agricultural Education Accreditation Board (NAEAB) of Indian Council of Agricultural Research (ICAR), New Delhi.

I have the privilege to present this Self-Study Report (SSR) of the FAS for accreditation to the National Agricultural Education Accreditation Board (NAEAB). I express my sincere thanks to the Dean, steering committee members, faculty members and the members of various task force constituted for this purpose.

Vice Chancellor

Vice-Chancellor GLA University 17 Km. Stone, NH-2, Mathura-Delhi Road P.O. - Chaumuhan, Mathura (U.P.), INDIA

Place: Mathura Date: 25.09.2024

PREFACE

The Faculty of Agricultural Sciences was established in 2019 as Department of Agricultural Sciences. Later on it was elevated as Faculty of Agricultural Sciences (FAS). Our faculty provides quality education that imparts knowledge, skills and values that make them responsible citizens. The FAS has a vision and mission to impart holistic education. The faculty renders mentoring, counselling, remedial coaching and encourage students for competitive exams etc.

This Self Study Report (SSR) offers a comprehensive panorama of our academic programs, research undertakings, state-of-the-art infrastructure, and community outreach initiatives. It reflects our steadfast commitment to continuous improvement, innovation, and inclusivity in our operations. Through this report, we aim to showcase our strengths, acknowledge areas for refinement, and illustrate our preparedness to meet ICAR's standards.

I am privileged to present this SSR of the FAS to the National Agricultural Education Accreditation Board (NAEAB). My heartfelt gratitude extends to the administrative team, IQAC, esteemed faculty members, dedicated administrative staff, enthusiastic students, esteemed alumni, and supportive stakeholders. Their collective expertise and unwavering commitment have been instrumental in compiling this report, reflecting our journey towards excellence.

As we embark on the accreditation process with ICAR, this SSR stands as a testament to our commitment to transparency, accountability, and the relentless pursuit of academic and research excellence. We are confident that the rigorous evaluation by ICAR will recognize our strengths and provide valuable insights to enhance our academic programs and research endeavors further.

Place: Mathura Date: 25.09.2024

Dean Dr. Surander Singh Siwach Dean Nacility of Agricultural Sciences GLA University, Mathura-281406

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6.4.1 Brief History of the B.Sc. (Hons.) Agriculture Programme

The Faculty of Agricultural Sciences was established under the aegis of GLA University Mathura, which is a State Private University established by the Uttar Pradesh State Legislature under "The GLA University Act 2010". It is a government-recognized state private university with the right to confer degrees as per Sections 2(f) and 12(B) of the UGC Act, 1956. It has been granted 12B status by UGC in 2020. GLA University has been accredited with NAAC A⁺ grade with a score of 3.46 out of 4, which is the highest score amongst all the NAAC A⁺ accredited state private universities. The university secured 53rd position in the Pharmacy category, 101-125 band in Management, 151-200 in Engineering, 101-150 band in the university and 150-200 band in the overall category of NIRF 2024 ranking. Moreover, GLA University has attained a worldwide rank in 1001-1200 Band, AIR 44, and Research Quality World Rank of 691, 401-500 band in Asia and 351-400 in young university in the Times Higher Education (THE) World University Ranking 2024.

The university offers multi-disciplinary and industry-relevant diploma, undergraduate, postgraduate, and doctoral programs in the domains of Management, Pharmacy, Agriculture, Law, Education, Applied Sciences, Humanities, Biotechnology, and Engineering Technology in Computer Science, Electrical, Electronics, Civil, and Mechanical Engineering. The courses are designed to blend theoretical knowledge with practical exposure, ensuring that students are equipped with the skills and competencies required in their chosen fields.

GLA University is known for its robust National and International collaborations, remarkable track record of placements, impressive research profile, and a strong alumni base of more than 39,000. GLA University has been bestowed with a membership of the Association of Universities of Asia and the Pacific (AUAP) and the Association of Indian Universities (AIU). GLA University has 14 research centers and industrial labs in collaboration with industry leaders. The researchers at GLA have published over 8500 publications in SCI and SCOPUS-indexed journals. The university receives research grants from government departments and industry. With over 60 patents granted and 500+ patents published, GLA University has achieved many benchmarks in research. GLA University is well recognized for its industry-ready curriculum, contemporary pedagogy, and research excellence. It has signed MoU with more than 150 national- and international universities and industries. The University is home to over 15,000 students and 650+ well-qualified, experienced faculty members, and has more than 52 acres of verdant campus.

The GLA University started B.Sc. (Hons.) Agriculture program in the year 2019 to impart quality agricultural education and tackle the problems of the farming community. The motive of this program is to develop well-trained professionals with necessary practical skills in various fields of agricultural sciences and the program is tailored for industrial needs, entrepreneurship, and employability. Subsequently, after a positive response from various stakeholders, the University decided to elevate the Department of Agriculture to an independent institute as the Faculty of Agricultural Sciences (FAS) in the year 2021. The FAS follows the Fifth Deans' Committee framed by the Indian Council of Agricultural Research (ICAR) to maintain quality and uniformity in the syllabus. The FAS is committed to provide agricultural education with the following objectives, vision and mission:

Objectives

- To develop skilled professionals by imparting quality education for making them globally competent in the field of agriculture and allied sciences.
- To provide hands-on skills to students through effective curricula delivery to meet the needs of various stakeholders in academia and industry.
- To conduct research in the field of agriculture to develop cutting-edge technologies to enhance crop productivity in sustainable agriculture.
- To provide training to the farming community by transfer of technology to facilitate capacity building for agri-preneurship, innovation and leadership.
- To address the challenges of a farming community and provide appropriate solutions through credible consultancy and effective extension services.

Vision

To develop the centre of excellence for academia, research, extension, and entrepreneurship to meet the needs of the emerging frontier of agroindustry, farming community, and allied sectors.

Mission

- To impart knowledge & develop experiential skills among students with a problemsolving approach for capacity-building.
- To create a conducive, student-centric, industry-aligned dynamic learning culture and prepare industry-ready agri-graduates, keeping pace with the emerging trends in the agricultural sector.
- To magnify the growth of agri-preneurship, and provide consultancy to agricultural and allied sectors.

- To facilitate the transfer of knowledge through conventional and modern technology to elevate the socio-economic status of the rural community.
- To promote cutting-edge technologies for making agriculture more productive, sustainable, remunerative, and climate-resilient.

In the FAS, 29 faculty members in different domains are engaged to teach B.Sc. (Hons.) Agriculture students. Within the FAS, a diverse range of administrative responsibilities are allocated to individual faculty members based on their respective expertise. This tailored approach ensures that each faculty member contributes their specific strengths to the administrative tasks, fostering a well-coordinated and proficient system within the faculty (Table 6.4.1.1).

S. No.	Roles	Faculty
1.	PC / Year Coordinator	Dr. Vineeta Pandey
2.	PDP Coordinator	Dr. Sarvesh Singh
3.	Placement Coordinator	Dr. Sanjeev Kumar
4.	Internship Coordinator	Dr. Kousik Atta
5.	PG Coordinator	Dr. Sanjeev Kumar
6.	Proctor In-charge	Dr. Amitabh Singh
7.	Time Table In-charge	Dr. Kailash Sati & Dr. Suthar Bhoomibhen Rajendrakumar
8.	Examination In-charge	Dr. Mohammad Yaseen & Dr. Biplov Chandra Sarkar
9.	Departmental Branding In-charge	Dr. Alok Rai & Dr. Sadhna Mishra
10.	Alumni In-charge	Dr. Akanchha Singh
11.	Dept. Society / Club / Chapter IC	Dr. Sadhna & Dr. Suthar Bhoomibhen Rajendrakumar
12.	Abacus Coordinator	Dr. Amita Yadav
13.	Farm In-charge	Dr. Vikash Kumar
14.	Sports Coordinator	Dr. Sushant Kumar

Table 6.4.1.1: Administrative Role of Faculties

The key features of the FAS are highlighted below:

To maintain academic excellence, the FAS regularly convenes meeting of Board of Studies (BoS) to review and update the curriculum based on feedback from stakeholders. By harnessing the collective insights of these stakeholders, the BoS makes informed decisions that are aligned with the evolving needs and aspirations of the FAS.

- The GLA University strictly adheres to a zero-tolerance policy on ragging. It has a grievance redressal mechanism accessible to students via email at antiragging.glau@gla.ac.in, overseen by an anti-ragging committee formed in accordance with UGC regulations.
- The university has a zero-tolerance policy towards sexual harassment of women in the workplace. The university provides an inclusive environment for female staff and students to encourage their participation in higher education by creating a gender-sensitive environment. The university organizes workshops and awareness generation programs regularly to sensitize the employees to the provision of this Act and also orientation programs for the members of the internal committee in the manner as prescribed. An Internal Complaint Committee (*Annexure 1*) constituted by the Vice Chancellor is also placed for redressing grievances and performing other duties as prescribed.
- The FAS has a comprehensive library situated on the first floor of academic block VI, covering a substantial area of approx. 3617 sq. ft. with seating for up to 120 students. The library offers a congenial atmosphere for academic activities, facilitating scholarly pursuits effectively. Complementing the main library space, the college library features a dedicated reading room capacity of 50 students. The college library has a diverse collection comprising 6788 volumes, including 1330 distinct titles. In addition, students have access to a subscription of 4233 e-books and 354 e-Journals, enriching their academic pursuits with a wide range of literature and resources, both in print and digital formats (Table 6.4.1.2).

Subject	Print Book	e-Book	e-Journal
Agriculture	3787	4124	274
Biotechnology	1026	-	-
Management	980	109	80
English	453	-	-
Humanities & Social Science	61	-	-
Reference	481	-	-
Total	6788	4233	354

 Table 6.4.1.2: Detail of Library Resources

- 4 At the university level, there are an active NSS and NCC unit, overseen by a designated unit in charge and supported by student coordinators. These units operate with a structured faculty-student hierarchy. Students from FAS actively participate in several activities organized by the NSS and NCC units.
- The Cultural Center at the FAS encompasses two clubs dedicated to various cultural events viz., 'Agriventure' and 'Almagro'. Through these clubs, students participate in various activities that promote leadership, teamwork, and communication. Table 6.4.1.3 & Picture 6.4.1.1 provides an overview of the activities of these clubs.

Club Activities	Data	Evonts/Activities	Number of
Club Activities	Date	Events/Activities	Participants
Vicen Divice		Poster-making competition	25
Celebration	23.11.2019	PowerPoint Presentation	14
Celebration		• Story writing competition	12
Earth Day Celebration	22.04.2020	• Plantation Drive	25
		• Handmade poster-making competition	20
A		Reel Competition	5
Agriculture Education Day	03.12.2020	PowerPoint presentation	7
Education Day		• Poetry	11
		• Extempore	10
	22.04.2021	• Mind Fizz (Quiz Competition)	54
Earth Day Celebration		• Paint Earth Green Today (Poster Making Competition)	26
		• Nail your Words (Essay Writing Competition)	22
Fluent U	05.06.2021	• Video comprehension competition.	167
Squid Game	23.11.2021	• Fun Games like Tug of War, Red Light Green Light, Dog and the Bone, and Hurdle Race were organized	96
Share & Care	03.12.2021 to 10.12.2021	•The event was aimed at collecting spare clothes, books, and other commodities, and the collected commodities were given to the Smile Revolution NGO, Mathura, Uttar Pradesh	90

Table 6.4.1.3: Activities Organized by Clubs

Lohri Celebration	13.01.2022	•Open mic competition (singing, poetry, Shayari)	13
	• Extempore		10
5.02.2022		Photography Competition	22
Basant Panchami	5.02.2022	• Reels Competition	20
		Case Study Competition	6
		• Essay writing	15
Plant Fascination	18 05 2022	• Slogan writing	14
Day Celebration	10.03.2022	• Painting	12
		• Debate	12
World Environment Day Celebration	05.06.2022	• The event holds performances like Speech, Song, and Poetry	5
Agriculture Education Day	03.12.2022	• Agriculture Premier League	56
Share & Care 2.0	02. 01.2023 to 11.01.2023	•Collected commodities like clothes, books, toys, etc. donated to night shelter at Govardhan Chauraha, Mathura, and orphanage 'Mahila Bal Samiti Anathalaya' under the Smile Revolution NGO, Mathura, Uttar Pradesh	15
Squid Game 2.0	8.04.2023	 Fun event for the students and faculties. Red light green light, cardboard game, three leg race, and hurdle leg race were organized 	38
Independence Day Celebration	15.08.2023	• Cultural events centered around patriotism, including singing, dancing.	16
Teachers Day Celebration	05.09.2023	Dance and song performancesMimicry-based short acts	17
Krishna Janmashtami Celebration	05.09.2023	• Organized Matka Decoration Competition	10
Freshers Day Celebration	08.09.2023	• Cultural events were organized to extend a warm welcome to the freshers	37
	11.09.2023 to 16.09.2023	• Poster contest showcasing the importance of soil conservation and sustainable farming	34
Save Soil Movement		•Rally	65
		• Plantation drive	18

		• Thought-provoking documentary on "SAVE SOIL MOVEMENT" was showcased	7
		•An exhibition themed "SAVE SOIL SAVE EARTH" was organized	13
Student		• A day on a progressive farmer field at Grewal	-0
Awareness	02.12.2023	Farming, Agri Tourism and Training Centre,	50
Program		Sasroli, Jhajjar, Haryana	
		•Collected commodities like clothes, books	
	14.03.2024	toys, etc. donated to Surdas Blind School, Sur	
Share & Care 3.0	to	Sarovar, Agra, Uttar Pradesh and 'Mahila Bal	70
	16.03.2024	Samiti Anathalaya' under the Smile	
		Revolution NGO, Mathura, Uttar Pradesh	



The FAS is making all efforts towards grooming the overall personality of the students. A year wise structured program has been implemented to help the students in improving their soft skills and employability after graduation. In the first year of the B.Sc. (Hons.) Agriculture program, the students are offered two language courses to help in gaining proficiency in speaking, understanding, and writing in English. The courses offered are BAGS 0102: Comprehension & Communication Skills in English in 1st semester and BAGS 0111: Communication Skills and Personality Development in the 2nd semester. These courses are taught by the faculty of the English department, at GLA University. The syllabus of the abovementioned courses is given in *Annexure 2*. Apart from these courses offered in the first year, there is also a course that has been incorporated into the degree program, especially for soft skill enhancement viz. PGDH 0001 Group Discussion and Personal Interview (syllabus attached in *Annexure 3*).

Moreover, time-to-time guest lectures, workshops, and training sessions in collaboration with in-house as well as external experts are also conducted for the students to polish their subject knowledge, real-world simulation and exposure as well as the practical application of their learning of soft skills (Table 6.4.1.4).

S. No.	Event	Resource Person/s	Date	Торіс
1	Guest Lecture	Mr. Ajay Suman Shukla	01.10.2022	Building Leadership Skills and Innovative Approach for Agri- preneurship
2	Workshop	Mr. Dharmendra Sharma	28.03.2022 to 02.04.2022	Spoken English and Interview Preparation
3	Guest Lecture	Dr. Debapriya Dutta	04.11.2023	Characteristics of a Good Researcher
4	Mock Interview	Dr. Sanjeev Kumar and Dr. Kailash Sati	12.04.2024	Preparing the Students for Future Interviews

 Table 6.4.1.4: Personality Development Activities



Picture 6.4.1.2: Glimpses of Personality Development Activities

- To facilitate the development of students' skills in various agro-techniques, the FAS has a farm area of 25 acres. This area is allocated according to the specific requirements of each domain and in accordance with ICAR norms.
- An exhibition cum museum hall is developed at Agricultural Research Station which is accessible not only to the students but also to the farming community to serve as a center for educational as well as exposure purposes. Various charts related to different domains of agriculture have been displayed in the hall. To enhance students' knowledge and improve their understanding, this exhibition hall displays the seed of recommended varieties/ hybrids of different crops, preserved specimens of disease symptoms, and insect specimens.
- The FAS works to identify and solve the problems of farmers through innovative research practices along with the dissemination of the latest technologies for sustainable production. Faculty members and students devote time to extension activities in addition to teaching and research. Need-based short- and long-term extension strategies are initiated at the FAS. The following are the extension activities offered by the FAS.

(a) Kisan Pathshala

To disseminate agricultural knowledge and techniques among the farmers, Kisan Pathshala is organized in various villages. This initiative aims to enhance agricultural production, improve soil health, and promote integrated and diversified farming systems. Faculty members actively conduct Kisan Pathshala in adjoining villages namely Jait, Pasoli, Paigaon, Bhagaon, Choti Atas, and Ajhai, Bakalpur, Girdharpur, Satoha, Palikhera, Maholi, Dhangawan, Bati, Ral Lohvan, Dhahrua, and Goshna, where they address farming-related challenges and provide pertinent information for effective solutions (Picture 6.4.1.3).



Picture 6.4.1.3: Glimpses of Kisan Pathshala

(b) Kisan Samman Divas

FAS organized Kisan Samman Divas, a day dedicated to celebrating and honoring the vital contributions of farmers. This event serves as a platform for the university to extend its gratitude and appreciation towards farmers who have played pivotal roles in traditional farming practices and have demonstrated remarkable achievements in the realms of agricultural diversification and horticultural farming (Picture 6.4.1.4).



Picture 6.4.1.4: Glimpses of Kisan Samman Diwas

(c) Farmers Visit cum Training

The FAS has initiated an extension program to disseminate agriculture-based information to the local farming community. This initiative not only provides valuable guidance but also includes hands-on training sessions to improve farming practices. During the training programs, a comprehensive range of topics are covered, including effective intercultural practices, methods to maintain soil health, strategies for plant protection, nursery management, orchard management etc. (Picture 6.4.1.5). The program serves as an important platform for knowledge exchange and capacity building within the agricultural community, which ultimately contributes to the advancement of the farming sector.



Picture 6.4.1.5: Farmers Visit at Agricultural Research Station

(d) Village Attachment of Students

Students of FAS regularly interact with nearby farming communities in the villages of Jait, Ajhai, Narayanpur, Akbarpur and Tarauli (Picture 6.4.1.6). Through these interactions, they gain valuable insights into the specific problems and challenges farmers face during different cropping seasons. This firsthand information guides FAS in developing tailored solutions and support systems to effectively address the needs of the local farming community. Moreover, students actively contribute by sharing agricultural knowledge and practices such as panchgavya preparation, jeevamrit formulation, and innovative fertilizer application techniques. Students in the village attachment program, empower rural communities by imparting essential knowledge and techniques for embracing sustainable farming practices.



Picture 6.4.1.6: Students Sharing Agricultural Knowledge with Farmers

(e) Social Awareness Activities

FAS students are actively engaged in various social awareness initiatives, including campaigns for *Parthenium* removal, tree plantation drives, educating students and conducting various activities for their motor skills development (Picture 6.4.1.7). Students also play a crucial role in imparting essential knowledge on sanitation, nutrition, and the transformative impact of education on rural women.



Picture 6.4.1.7: Students Social Awareness Activities

FAS possesses all the required facilities for conducting basic and applied research and encourages faculty members to contribute significantly to the field of research in their respective specialized areas. In addition to inspiring the faculty members to engage in research and innovation, the university has a well-established monetary rewards mechanism for good publications (in WoS core collections indexed/SCOPUS indexed journals) and patents as an incentive. Moreover, the university also provides financial assistance for attending national and international conferences/ seminars/ symposiums/ workshops and presenting their research work. FAS facilitates the research with the following research facilities and schemes:

a) Research Contingency

The faculty of FAS regularly submit project to the external funding agencies. Besides, GLA University also provides additional funds exclusively for research through a seed money scheme to facilitate outcome based research and innovation. During the last five years, FAS has received one external and four internal projects as given in Table 6.4.1.5.

S. No.	Name of the Project	Funding Agency	Funds (INR)	Name of the Principal Investigator	Session
1.	Characterization of salt tolerant plant growth promoting <i>Rhizobacteria</i> from Brij region and its effect on salinity tolerance in Chilli (<i>Capsicum Annum</i>).	UPCST	11,94,000	Dr. Mohd. Yaseen	2022-23
2	Root organ culture (ROC) based commercial formulation of <i>Arbuscular mycorrhiza</i> Fungi (AMF) for reclamation of saline soils in Braj region of Uttar- Pradesh, India.	GLA University	2,70,000	Dr. Sanjeev Kumar	2023-24
3	Development of eco-friendly macro-irrigation system for different cropping systems.	GLA University	2,30,000	Dr. Dujeshwar	
4	Development of Shade Net	GLA University	2,50,000	Dr. Sarvesh Singh	2022-23
5	Introduction, Evaluation and Multiplication of Medicinal and Aromatic plants in Mathura Region.	GLA University	5,00,000	Dr. Vineeta Pandey	

 Table 6.4.1.5: List of Research Projects

b) Research Publications

The university places high emphasis on quality research publication and encourages faculty members to publish their research in high impact factor journals through a well-established mechanism. The FAS has maintained the increasing trend of publications in high impact journals (SCI/Scopus/NAAS indexed journals) for the last four years (Figure 6.4.1.1). The detail of research publications from FAS has been given in *Annexure 4*.



Figure 6.4.1.1: Number of Research Publications

c) Patents

The university encourages faculty members to file patents through an established procedure as patents promote innovation and help create new technologies, both of which are beneficial to society. A patent grants the owner of the invention the exclusive right to sell the product at a higher price for 20 years as well as the prohibition against using, manufacturing, and selling the product or method of use by others. The FAS published six patents of which three have been granted. The detail is given below in Table 6.4.1.6.

	Invention	Inventor	Application	Applicant	Status	Year
S. No.			Number/			
			Design Number			
1	Solar powered multi-insect trapping trap	Nikhil Raghuvanshi and Vikash Kumar	6355643 (International Design)	DDU Gorakhpur, UP and GLA University	Granted (8.4.2024)	2024
2	A potable automated perforated operated aerator system	Subha M Roy <i>et. al</i> 2023.	202311046512A	GLA University, Mathura	Published	2023
3	Automated solar powered weeding Robot	Vikash Kumar and Nikhil Raghuvanshi	6331636	DDU Gorakhpur, UP, and GLA University	Granted (20.12.2023)	2023
4	Portable Low Tunnel Polyhouse	Vinod Jatav <i>et.</i> <i>al.</i>	202211022397 A	GLA University, Mathura	Granted (17.01.2024)	2022
5	A motorised auger for taking sample of soil	Mohd. Yaseen <i>et. al</i> 2022.	202211063364 A	GLA University, Mathura	Published	2022
6	A potable duel mechanism operated integrated showering cum paddle operated aerator system	Dr Subha M. Roy <i>et.</i> <i>al2022.</i>	202211065810 A	GLA University, Mathura	Published	2022

 Table 6.4.1.6: List of Patents Published/ Granted

The FAS has established Memorandums of Understanding (MoUs) with various national and international organizations, fostering collaborative research and programs. Internationally, FAS has partnered with IPB University, Indonesia, and Namibia University of Science and Technology, Namibia since 2022, whereas with International Centre for Biosaline Agriculture (ICBA), Dubai, since 2021. Nationally, FAS has MoUs with organizations such as the Hindustan Agricultural Research Welfare Society, Agra (since 2022), and Godavari Bio Fertilizer Industry, Nashik, Maharashtra (since 2023). These partnerships have facilitated a wide range of research activities and academic programs.

4

The FAS received the Uddayomi Shiromani Award from Amar Ujala in 2024 for excellence in teaching, research, and entrepreneurship development.

Accomplishments: Some of the noteworthy accomplishments of students of B.Sc. (Hons.) Agriculture and faculty members are highlighted below:

a) Student Achievements

- Students from the FAS actively participate in sports events at both national and university level. During the 2021-22 session, Dhriti Tiwari competed in the 1st Senior Mixed National Target Ball Championship and secured a Gold Medal at the national level.
- In 2021, Nitish received a Gold Medal in the National Cricket League at the national level, showcasing another example of success within the FAS.
- In addition, during the 2022-23 Senior Mixed National Target Ball Championship, Shweta Anand claimed the top position in the senior mixed target ball category, further highlighting the achievements of the FAS.
- Shri Kavya Kokkiripati has been admitted to the MS program in Logistics Management – Supply Chain: Interdisciplinary Business at the University Center for International Education, Wright State University, Ohio.
- In NCC, three students of batch 2019 obtained 'C' certificate and one student obtained 'B' certificate. One student of batch 2020 obtained 'C' and three students obtained 'B' certificate. Further one student of batch 2021 obtained 'B' certificate, as shown in table 6.4.1.7.

S.No.	Student	Batch/Year	Certificate
1	Aashi Sharma	2019	С
2	Nisha Choudhary	2019	C
3	Ravi Kumar	2019	C
4	Shristi Singh	2019	В
5	Hariom Sarashwat	2020	C
6	Anjana Singh	2020	В
7	Manish Kumar	2020	В
8	Sachin	2020	В
9	Sudhanshu Sawan	2021	В

Table 6.4.1.7: List of Students obtained B and C Certificates in NCC

Manas Jain and Karan Tyagi received a grant of Rs. 50,000 from the New Generation Innovation and Entrepreneurship Development Centre (NewGen IEDC), GLA University, Mathura for their 'Vermicompost Production' project in 2021. In the same year, Ashutosh and Akhil received a grant of Rs. 150,000 from NewGen IEDC, GLA University, Mathura for their project on 'AGRARIAN - Agriculture Input Supply Chain', as presented in table 6.4.1.8.

S.No.	Name of the Scheme/Project/ Endowments/ Chairs	Name of the Funding agency	Current Status	Funds (INR)	Year
1	Vermicompost Production	NewGen IEDC,	Completed	50,000	
1	venineoinpost i roduction	GLA University	completed	20,000	2021
2	AGRARIAN- Agriculture	NewGen IEDC	Completed	150,000	2021
2	Input Supply Chain	GLA University	Completed	130,000	

Fable 6.4.1.8 :	List of	'Student F	Research	Projects
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In the 2022-23 B.Sc. (Hons.) Agriculture batch, 21 students secured positions in various sectors including seed companies, pesticide companies, fertilizer companies, and banks, with competitive packages. In the 2023-24 batch, the number of students securing such positions increased to 46 (*Annexure 5*).

Pass out Year	Placen	Placement of B.Sc. (Hons.) Agriculture Students							
	Industry	Higher Studies	Entrepreneurship	Total					
2023	21	23	12	56					
2024	46	9	5	60					

Table 6.4.1.9: Students Placed in Various Sectors





In the 2022-23 B.Sc. (Hons.) Agriculture batch, 23 students opted to pursue higher studies at renowned agricultural universities across the country in various disciplines. For the 2023-24 academic year, 9 students have been selected (Table 6.4.1.10).

S. No.	Name of Student	Roll No.	Subject	Institute/University	Category					
	Batch 2023									
1	Alok Ranjan	197011008	M.Sc. Ag. (Seed Science and Technology)	Chaudhary Charan Singh University, Meerut, U.P.	State University					
2	Anjana Singh	197011010	MBA- (Agri. Business)	Chandra Shekhar Azad University of Agriculture & Technology, Kanpur.	State Agriculture University					
3	Ankit Kumar	197011011	M.Sc. Ag. Horticulture (Fruit Science)	Bihar Agriculture University, Sabour, Bihar.	State Agriculture University					
4	Anu Shree	197011013	M.Sc. Ag. (Genetics and Plant Breeding)	Chaudhary Charan Singh University, Meerut, U.P.	State University					

Table 6.4.1.10	: Students	Pursuing	Higher	Education
----------------	------------	----------	--------	-----------

			M.Sc. Ag.	Sam Higginbottom	
_		105011015	Horticulture	University of Agriculture,	Deemed
5	Arya Ranu	19/011017	(Vegetable	Technology and Sciences,	University
			Science)	Allahbad, U.P.	
				Chandra Shekhar Azad	State
6	Ayush Tiwari	197011020	MBA- (Agrı.	University	Agriculture
			Business)	of Agriculture &	University
				Technology, Kanpur	D. i. i.
7	Deepak Sharma	197011023	M.Sc. Ag.	GLA University, Mathura,	Private
			(Entomology)	U.P.	University
				Chandra Shekhar Azad	State
8	Garvit Sharma	197011030	MBA- (Agri.	University	Agriculture
			Business)	of Agriculture &	University
				Technology, Kanpur	
			MBA- (Agri.	Lovely Professional	Private
9	Gaurav Raj	197011031	Business)	University, Jalandhar	University
				(Punjab)	
			MBA- (Agri.	Indian Institute of	National
10	Karan Tyagi	197011039	Business)	Management Jammu,	Institute
				J&K (India)	
				Rajmata Vijayaraje	State
11	Kajal Kumari	1970110037	Agriculture	Scindia Krishi Vishwa	Agriculture
	5		Biotechnology	Vidyalaya, Gwalior	University
				(M.P.)	5
			Logistics	Wright State University,	
12	Kokkiripati Sri	197011041	Management –	University Center for	State
	Kavya		Supply Chain	International Education	University
			11.5	Dayton, Ohio.	
				Sam Higginbottom	
	Rohit Atri		MBA- (Agri.	University of	Deemed
13		197011077	Business)	Agriculture, Technology	Universitv
			,	and Sciences, Allahbad,	5
				U.P.	

14	Shivam Shrestha Shubham Kumar	197011090 197011094	Agriculture Biotechnology M.Sc. Ag. (Seed Science and	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (M.P.) Chaudhary Charan Singh University, Meerut, U.P.	State Agriculture University State University
16	Shalini Chauhan	197011084	Technology) M.Sc. Ag. (Soil Science)	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahbad, U.P.	Deemed University
17	Shristi Singh	197011092	M.Sc. Ag. Horticulture (Vegetable Science)	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahbad, U.P.	Deemed University
18	Sumit Kumar Kushwaha	197011099	M.Sc. Agronomy	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahbad, U.P.	Deemed University
19	Shahid Kumar	197011083	M.Sc. Ag. (Soil Science)	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahbad, U.P.	Deemed University
20	Sonu Kumar	197011098	M.Sc. Ag. (Agricultural Entomology)	Nandini Nagar College, Nawabganj, Gonda. (Dr. Ram Manohar Lohia Avadh University, Faizabad, Ayodhya, U.P.)	State University
21	Tannu Shree	197011100	M.Sc. Ag. (Seed Science and Technology)	Chaudhary Charan Singh University, Meerut, U.P.	State University

			M.Sc. Ag.	GI A University Mathura	Private	
22	Tulsi Goswami	1970111102	(Genetics and		University	
			Plant Breeding)	0.1.	Oniversity	
22	Dombumor	107011068	M.Sc. Ag.	GLA University, Mathura,	Private	
23	Kallikulliai	19/011008	(Agronomy)	U.P.	University	
			Batch 2024			
			M.Sc. (Agri.)	GLA University Mathura	Drivoto	
1	Abhay Sengar	207011002	Horticulture- Fruit	ULA OIIIVEISIty, Mathura,	University	
			Science	0.1.	University	
2	Himank Singh	207011045	M.Sc. Ag.	Aligarh Muslim	Central	
2	Pundhir	207011045	(Agronomy)	University, Aligarh, U.P.	University	
				ST. Thomas Management		
2	Ishika Gunta	207011047	MBA- (Agri.	Institute (Maharshi	State	
5	isilika Gupta	20/01104/	Business)	Dayanand University,	University	
				Rohtak, Haryana)		
				IBMR Group of		
	Maniah		MDA (Acri	Institution	Stata	
4	Vumon	207011057	MDA- (Agii.	(Maharshi Dayanand	University	
	Kuillai		Busiliess)	University, Rohtak,		
				Haryana)		
5	Kartikey	207011050	MBA- (Agri.	Doon Business School,	Private	
5	Saraswat	207011030	Business)	Dehradun	Institute	
6	Shrighti Gunta	207011120		CCN-NIAM, Jaipur,	National	
0	Shirishti Oupta	207011120	r ODM- ABM	Rajasthan	Institute	
	Vaibbay		M.Sc. (Agri.)	GLA University Mathura	Drivoto	
7	Valutav Vumar Sinch	207011131	Horticulture- Fruit	ULA Oliversity, Mathura,	Invac	
	Kumar Singh		Science	0.1.	University	
			M.Sc. Ag	Gopal Narayan Singh	Private	
8	Ankit Kumar	207011020	(Agronomy)	University, Jamuhar,	University	
			(Bihar		
9	Kunal Kishor	207011055	M.Sc. Ag.	Uttaranchal University,	Private	
Ĺ	Yadav		(Agronomy)	Dehradun, Uttarakhand	University	

b) Faculty Achievements

The faculty members of FAS are actively involved in academic activities to attain excellence in teaching, research and extension. They are encouraged and supported to participate in conferences, workshops, seminars, and symposia. Some notable achievements of the faculty are listed below:

- Prof. S.S. Siwach was nominated as a member of the Research Advisory Committee of the Central Institute for Cotton Research (CICR), ICAR Nagpur, until 2023.
- Prof. S.S. Siwach has been nominated as a member of the Project Monitoring and Advisory Committee for the All India Coordinated Research Project (AICRP) on Cotton since April 1, 2023.
- Dr. Kousik Atta has received the Young Scientist Award-2024 for his outstanding contribution to the field of Plant Physiology at the International Conference on Current Approaches in Agricultural, Biological & Applied Sciences for Sustainable Development (CAABASSD-2024) held at Kumaun University, Nainital, Uttarakhand, India. He was also awarded Best Oral Presentation Award at International Conference on Next-Gen Preparedness for Food Security and Environmental Sustainability in 2023 at Assam Agricultural University, Jorhat, Assam.
- Dr. Alok Rai received the Young Scientist Award 2022 for his contributions to the field of Animal Husbandry at the National Conference on Organic & Natural Farming in the Context of Indian Agriculture held at CSAUA&T, Kanpur. In the same year he also received a Hindustan Harit Kranti Award from Hindustan Agricultural Research Welfare Society. He also received Best Teacher Award from GLA University in 2023.
- Dr. Dilip Kumar Chaurasiya received the Young Scientist Award-2024 for his exceptional contributions to the field of Plant Pathology at the International Conference on Current Approaches in Agricultural, Biological & Applied Sciences for Sustainable Development (CAABASSD-2024) held at Kumaun University, Nainital, Uttarakhand, India.
- Dr. Reetesh Kumar was awarded First Prize for his oral presentation at the 9th
 International Conference held at Invertis University, Bareilly, UP, in 2022.
- Dr. Sadhna Mishra received the Best Oral Presentation Award at the conference organized by ICAR-IISR, Lucknow in 2022.

- In 2024, Dr. Pradeep Joliya was awarded the Best Faculty Award during the Faculty Development Program at the School of Agricultural Sciences, GD Goenka University, Haryana.
- In 2024, Dr. Kailash Sati received the Best Faculty Award during the Faculty Development Program at the School of Agricultural Sciences, GD Goenka University, Haryana.
- Dr. Amita Yadav received the Young Extension Educationist Award conferred by the Indian Society of Agriculture Science & Technology Research (ISASTR), Noida. The award was presented at the International Conference on Current Innovations and Technological Advances in Agriculture and Allied Sciences (CITAAS-2024), held at Guru Kashi University, Bathinda, Punjab.
- Dr. Mohd. Yaseen Received Chancellor Appreciation for the Best Classroom Teaching
- Dr. Amitabh Singh received Dr. B.B. Mundkar Award in the International conference organized by Indian Society of Agriculture Science & Technology Research, Noida.

Ur. Vikash Kumar received Best Researcher Award from GLA University in 2023.

6.4.2 Faculty Strength

The FAS currently comprises of 29 faculty members, as outlined in *Annexure 6*. FAS has a suitable strength of faculty with better capability and specialization in all the subjects of Agriculture. The faculty members in FAS are experienced and proficient enough in their respective subjects to perform their duties for effective curriculum delivery. These qualities are of paramount importance for strengthening an education system. Faculty members in FAS hold Ph.D. degree from well-reputed State Agricultural Universities and Central Universities. Additionally, 20 faculty members have cleared the National Eligibility Test (NET). The current teacher-student ratio in FAS stands at 1:8. To ensure teaching quality, FAS has implemented regular monitoring and feedback mechanisms, integrating student input on teaching methods, curriculum delivery, and content quality. Details regarding both sanctioned and in-position faculty members, as per the MODEL ACT for Higher Agricultural Educational Institutions in India (Revised 2023), are provided in Table 6.4.2.1.

		Fa	culty Positior	Faculty	
S. No.	Faculty Designation	Sanctioned	In-place	Vacant	recommended by the ICAR (For 120 students)
1	Professor		1		
2	Associate Professor	8	2	6	8
3	Assistant Professor	15	26		15

 Table 6.4.2.1: Faculty Strength in the FAS



Figure 6.4.2.1: Cadre-wise Faculty Strength

FAS adheres to the regulations stipulated by ICAR/UGC to address faculty needs, as detailed below:

i. The weekly contact hours (semester-wise) for the UG program, with a batch size of 60 students for lectures and 30 students for practical sessions, are calculated as per the recommendations of the ICAR V Deans' Committee, as depicted in Table 6.4.2.2. As for the cadre ratio, FAS adopts the guidelines outlined in the MODEL ACT for Higher Agricultural Educational Institutions in India (Revised 2023).

Year	Batch Year	Strength of Students	Number of Sections (For Lecture)	Number of Groups (For Practical)	Lecture Hours as per Scheme	Practical Hours as per Scheme	Total Lecture Hours	Total Practical Hours	HOT/ RAWE/ ELP/ Hours	Total Hrs.
5.6	2021	72	2	4	16	8	32	32	160	224
B.Sc. (Hons.)	2022	53	1	2	16	8	16	16	NA	32
Agriculture	2023	39	1	2	16	8	16	16	NA	32
	2024	54	1	2	16	8	16	16	NA	32
	•		Tota	l Contact	Hours					320

 Table 6.4.2.2: Detailed Calculation of Total Contact Hours

ii. As per the MODEL ACT for Higher Agricultural Educational Institutions in India (Revised 2023) the cadre ratio is 0:8:15. Allocation of total contact hours of 24 in a cadre ratio of 0:8:15 for the FAS is calculated as under.

Designation	Faculty Load
Assistant Professor	296
Associate Professor	24
Total	320

 Table 6.4.2.3: Total Faculty Load Allocated Per Week (in Hours)

iii. Faculty contact hours per week are as prescribed by the UGC (under the University Grants Commission- Minimum Qualification for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education) (4th Amendment), Regulations, 2016 issued vide Notification No. F.1-2/2016 (PS/Amendment) dated 11th July 2016, (*Annexure 7*), enforce and relevant provisions of the UGC Regulations are reproduced as under:

Table 6.4.2.4: Teaching Hours per Week as Per UGC

Designation	Direct Teaching Hours per Week
Assistant Professor	16
Associate Professor	12
Professor	08

The allotted direct Teaching hours per week i.e., 16/12/8 includes, the Lectures/Tutorial/ Practical/ Project Supervision/ Field visit.

Designation	Total Weekly Load/ Direct Teaching Hours per week	Faculty Required
Assistant Professor	296/16	19
Associate Professor	24/12	2
Professor		
Total		21

 Table 6.4.2.5: Faculty Requirement

The dedicated faculty members of FAS are not merely instructors; they are dynamic contributors to both teaching and research endeavors. Their active engagement in these spheres strengthens the FAS capacity to achieve its overarching vision and mission. FAS appoint faculty from top-tier universities to ensure the quality of teaching and learning. Some of the notable agricultural institutions to which the faculty belongs are listed below:

- Anand Agricultural University, Anand, Gujrat.
- Banaras Hindu University, Varanasi, Uttar Pradesh.
- Bidhan Chandra Krishi Vishwavidhyalaya, West Bengal.
- Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh.
- Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana.
- G.B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand.
- Hemwati Nandan Bahuguna Central University, Uttarakhand.
- Indian Agricultural Research Institute, New Delhi.
- Sardar Vallabh Bhai Patel University of Agriculture and Technology, Meerut, Uttar Pradesh.
- Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu & Kashmir.
- Jawahar Lal Nehru Krishi Vishwvidhyalaya, Jabalpur, Madhya Pradesh.

The faculty members of the FAS possess extensive research expertise across a range of diverse fields, as outlined in *Annexure 8*. Their collective knowledge and experience lead the institution to emerge as a leading research center in the field of agriculture. The faculty collectively boasts an impressive tally of over 505 research publications, encompassing a wide spectrum of scholarly outputs. These publications address multifaceted aspects of agricultural challenges, reflecting the depth of expertise within the faculty and their commitment to disseminate knowledge across various platforms. Furthermore, the total number of citations

collected by FAS faculty members is an impressive 2695, underscoring their influence in the academic field.

The faculty members available to supervise the students bring extensive experience from industry, teaching, research, and extension services, as illustrated in Figure 6.4.2.2. They attend trainings, workshops, symposia, and conferences to stay abreast of the latest agricultural technology and developments. Additionally, apart from their teaching and research duties, they actively contribute to various scholarly endeavors, further enriching the academic landscape of the FAS.



Figure 6.4.2.2: Faculty Experience

Furthermore, faculty members are actively engaged with nearby farming communities by imparting knowledge and skills through initiatives such as Kisan Pathshala, Kisan Gosthi, and various outreach programs. These efforts are instrumental in updating knowledge and fostering capacity development within the rural populace, thereby contributing to their socio-economic progress.

The faculty members have been honored with prestigious awards across different tiers of recognition. These commendations stand as a testament to their exceptional contributions in their respective fields. Below are some notable recognitions, highlighting the remarkable achievements and profound impact of our faculty members.

- ICAR Nanaji Deshmukh Award.
- ICAR Team Research Award.
- CII Award at Conference on Agrivision: 2020.
- Wheat Breeding Contribution Award by Punjab Agricultural University.
- Wood Whelan Research Fellowship, Instituto de Quimica, Universidad Nacional autónoma de México.

- Best Article Award on Inductively Coupled Plasma Mass Spectrometry (ICP MS) and its Application in Food Sector (2020).
- Hindustan Harit Kranti Award-2022.
- Best Poster Award at International Extension Education Conference on Education.
- Women Scientist Award-2021.
- Young Scientist Award-2022.
- Young Scientist award in Plant Physiology- 2024.
- Leading Patent Filer Certificate.
- CEMS Research Fellowship, India.
- DST-INSPIRE Fellowship.
- Rajiv Gandhi National Fellowship.
- Best Thesis Award.

6.4.3 Technical and Supporting Staff

The technical and supporting staff of FAS meet all its needs in terms of practical and field experiments for research and other administrative purposes. The strength of technical and supporting staff is presented in the Table 6.4.3.1, Figure 6.4.3.1 and *Annexure 9*.

 Table 6.4.3.1: Strength of Technical and Supporting Staff

Designation	Positions	
	Sanctioned	In-Place
Lab Assistant & Technical Assistant	19	19
Assistant	11	11
Field Assistant & Field Worker	13	15



Figure 6.4.3.1: Department-wise Number of Lab and Field Assistants

6.4.4 Classrooms and Laboratories

FAS has twelve ICT-enabled classrooms, twelve laboratories and instructional farm to meet the course curriculum requirement of students studying in B.Sc. (Hons.) Agriculture. Each containing maximum 60 students for theory classes and for practical they are distributed in two groups, each with 30 or less students. The laboratories and instructional farm plays a very significant role in effective curricula delivery aiming at enhancing practical skills among the students. The FAS also has one conference hall with more than 120 seating capacity. The laboratories are equipped as per the recommendations of V Deans' Committee of ICAR. The classrooms, laboratories and instructional farm to meet the course curricula requirement are described below:

A. Classrooms

- All classrooms are well furnished, air conditioned and equipped with the latest ICT facilities such as LCD projectors, Wi-Fi including interactive smart board to accommodate 60 students.
- Multimedia tools like interactive smart board, projectors are utilized to access online resources and showcase videos demonstrating advanced agricultural practices from developed nations. This approach aims to make the learning experience more engaging, forward-thinking, and impactful.
- Students have access to relevant websites through Wi-Fi connectivity within the classroom environment.



Picture 6.4.4.1: Inside View of Classrooms

B. Laboratories

All twelve laboratories have sufficient space and are well equipped with sophisticated instrumentation facilities and consumables to provide the practical know-how of the subjects (Table 6.4.4.1).

S No	Name of Laboratory	Total Area
5.110.	Name of Laboratory	(sq. ft.)
1.	Agronomy and Agro-forestry	923.78
2.	Soil Science	840.00
3.	Plant Pathology	735.00
4.	Horticulture and Food Science & Technology	923.78
5.	Genetics & Plant Breeding and Seed Science Technology	733.59
6.	Animal Science and Dairy	840.00
7.	Agro-meteorology	12910.08
8.	Basic Sciences	791.04
9.	Social Sciences	923.78
10.	Agricultural Engineering and Farm Management	800.00
11.	Entomology	990.00
12.	Central Instrumentation Laboratory	1423.36

Table 6.4.4.1: List of Laboratories

All the laboratories are supervised by the faculty in-charge and a designated laboratory technician for assistance in the conduct of classes (Table 6.4.4.2). Details of available equipment in each laboratory are presented in *Annexure 10*.

S.No.	Name of Laboratory	Laboratory In-charge	Laboratory Technician	
1.	Agronomy and Agro-forestry	Dr. Vikash Kumar	Mr. Lakhan Singh	
2.	Soil Science	Dr. Mohammad Yaseen	Mr. Hridesh Kumar	
3.	Plant Pathology	Dr. Shyam Kishore Patel	Mr. Anuj Pratap Singh	
4.	Horticulture and Food	Dr. Sarvesh Singh	Mr. Dinker Pandev	
т.	Science & Technology			
5.	Genetics & Plant Breeding	Dr. Vineeta Pandey	Mr. Shiv Kumar	
	and Seed Science Technology	Di. Vinceta Fanaey		
6.	Animal Science and Dairy	Dr. Alok Rai	Mr. Lokendra Pathak	
7.	Agro-meteorology	Dr. Rohit Kumar	Mr. Gajender Singh	
8.	Basic Sciences	Dr. Sadhna Mishra	Mr. Ravi Kishan Singh	

 Table 6.4.4.2: List of Laboratory In-charge and Technician

9.	Social Sciences	Dr. Pradeep Joliya	Mr. Prem Datt Sharma
10.	Agricultural Engineering and Farm Management	Dr. Falguni Rathore	Mr. Manoj Kumar
11.	Entomology	Dr. Amit Kumar	Ms. Rupam Singh
12.	Central Instrumentation Laboratory	Dr. Reetesh Kumar	Mr. Mukesh Singh











C) Instructional Farm

The FAS agriculture research farm known as Dr. M.S. Swaminathan Agriculture Research Station is dedicated to the memory of the esteemed agricultural scientist Dr. M.S. Swaminathan, a recipient of the Bharat Ratna and the World Food Prize. The total farm area of 25 acres has been allocated to the respective domains as per ICAR norms for developing skills of students in various agro-techniques *viz.*, Hands-on Training (HOT), students practical work, Practical Crop Production (PCP), crop protection, commercial crop production, and other academic activities. The instructional units available on the farm include:

- 4 Crop Cafeteria
- Hushroom Production Unit
- Hee Keeping Unit
- 🖊 🛛 Fruit Orchard
- **Gommercial Crop Production Unit**
- Poultry and Dairy Unit

Apart from the above-mentioned units, the Agriculture Engineering & Farm Management laboratory, Agro-meteorology Observatory, Animal Science & Dairy Technology laboratory, implement Shed, Farm Manager Office, Farm Store, etc. with sufficient space are also available at the farm. The domain-wise land allocation is given in Table 6.4.4.3.

Section	on Domain		Area (in ha.)
i	Farm House/Threshing Floor/Processing Centre		1.0
ii	Crop Cafeteria		0.5
iii	Field Classroom		0.1
		Mushroom Cultivation Unit	
iv	ELP Units	Bee Keeping Unit	0.5
		Vermicompost Unit	
v	Agronomy, Genetics and	Plant Breeding, Soil Science,	1.0
Physiology, and other Departments		1.0	
vi	Horticulture (Orchard)		1.0
vii	Organic/Natural Farming		0.5
viii	Plant Protection Practical		0.5
ix	UG Practical Demonstration		2.0
Х	ELP Units – Poultry Production Technology, Agricultural Waste		
	Management, Food Processing, and New Generation Innovation		0.5
	and Entrepreneurship Development Centre (NewGen IEDC)		
xi	Commercial Crop Produ	ction	2.0
		Total	9.6

Table 6.4.4.3: Domain-wise Land Allocation

i) Farm House/Threshing Floor/Processing Center: The farm shed serves as a multipurpose agricultural center, encompassing a farmhouse for habitation with the functional threshing floor. This unified setup optimizes every aspect of farming, from nurturing crops to handling post-harvest operations, all under one roof. The presence of a dedicated threshing floor ensures swift and precise grain separation from chaff, streamlining the essential process of crop processing.



ii. Crop Cafeteria: A crop cafeteria is an approach to cultivate seasonal field crops like cereals, oil seeds, and pulse crops for educational and demonstration purposes. A crop cafeteria is a regular practice at the agriculture research farm of FAS for fulfilling students' practical requirements and channeling technology to farmers. The crops usually sown in the cafeteria are Brinjal (*Solanum melongena*), Tomato (*Solanum lycopersicum*), Broccoli (*Brassica oleracea* var. italica), Cauliflower (*Brassica oleracea* var. botrytis), Potato (*Solanum tuberosum*), Cabbage (*Brassica oleracea* var. capitata), Wheat (*Triticum aestivum*), Gram (*Cicer arietinum*), Pea (*Pisum sativum*), Berseem (*Trifolium alexandrinum*), Radish (*Raphanus raphanistrum* subsp. sativus), Mustard (*Brassica spp.*), Coriander (*Coriandrum sativum*), Spinach (*Spinacia oleracea*), Fenugreek (*Trigonella foenum -* graecum), Turnip (*Brassica rapa* subsp. rapa), Beetroot (*Beta vulgaris*), Onion (*Allium cepa*), Carrot (*Daucus carota* sub. sativus), Garlic (*Allium sativum*), Oat (*Avena sativa*), Lentil (*Lens culinaris*), and Barley (*Hordeum vulgare*).



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- **iii. Field Classroom:** The field classroom enables the students to learn about field experiments/operations in the farm itself and specifically for the students of PCP and ELP where in some cases contingent measures to be adopted are discussed with students.
- iv. Experiential Learning Program (ELP) Units: The Experiential Learning Program (ELP) is an educational approach that emphasizes learning through hands-on experiences. ELP encourages a deeper understanding for developing competence, capacity building, and acquiring skills, expertise, and confidence to start their enterprise. It is a major step forward for high-quality professional competence, practical work experience in real-life situations to graduates, production-oriented courses, and post-harvest management operations. It facilitates producing job providers rather than job seekers, and inculcates entrepreneurial development. This dynamic learning method prepares students for diverse challenges in the real world and equips them with valuable insights that traditional classroom learning alone cannot provide. The ELP units *viz.*, mushroom, bee keeping, and vermicompost units, are summarized here under.
- v. Mushroom Cultivation Unit: The mushroom unit is developed at the farm to provide hands-on experience to the students. Mushroom production comprises activities like isolation of mushrooms, preparation of master and commercial spawn, preparation of bed for mushroom cultivation, pest, and disease control, harvesting, and post-harvesting management. It creates awareness about the marketing trends of mushrooms. This unit gives a platform for the students to learn about mushroom production from the experts. Two types of mushrooms (Oyster and Button mushrooms) were grown at the mushroom production unit in the previous two years. The total mushroom production was 46.95 Kg. The number of bags and total production (Kg) are shown in Table 6.4.4.4.

S.No.	Name of Mushroom	No. of Bags	Total Production	Year
1	Oyster Mushroom (Pleurotus florida)	20	10.25 Kg	2023
2	Button Mushroom (Agaricus bisporus)	16	06.20 Kg	2020
3	Button Mushroom (<i>Agaricus bisporus</i>)	40	30.50 Kg	2024

 Table 6.4.4.4: Detail of Mushroom Production at Agriculture Research Station



Picture 6.4.4.4: Mushroom Cultivation Unit

Bee Keeping Unit: The FAS has established a beekeeping unit to give exposure to a) students about commercial beekeeping. In this unit, various activities like identification of honeybee castes, inspection, cleaning of hives, colony division, providing alternate sources of food in the off-season (sugar syrup), honey extraction and management of pests and diseases of honeybees are carried out. This exposure leads to the development of an entrepreneurial mindset to become a job creator in the commercial beekeeping sector. The FAS bee keeping unit has European bee (Apis mellifera) colonies/boxes for honey production. The total production of honey was 87 Kg with a selling price of Rs. 400/Kg (Table 6.4.4.5).

Table 6.4.4.5:	Detail of Honey	Production	at Agriculture	Research Station

S.No.	Species	Honey Harvested (Kg)	Year
1.	Apis mellifera	49	2023
2.	Apis mellifera	38	2024



Picture 6.4.4.5: Bee Keeping Unit at Agriculture Research Station

b) Vermicompost Unit: In vermicomposting the potentiality of microorganisms and earthworms is collectively exploited to obtain nutrient-rich compost. FAS has a vermicompost unit for production, training, and demonstration purposes. In this unit students learn the vermicompost production process i.e., culturing to harvest. Farmers can also benefit by the vermicompost unit to make nutrient-rich compost from the available farm waste for improving soil fertility. The vermicompost unit also inculcate skills of the students to develop themselves as entrepreneurs.



Agronomy, Genetics and Plant Breeding, Entomology, Soil Science, Physiology, v. and other department: The agronomy research area in the farm focuses on optimizing crop production through sustainable practices. It studies soil and climate conditions to recommend suitable crops, their planting, and management techniques for optimal yield. This field delves into plant genetics to enhance crop traits. Plant breeders develop new varieties with improved yield, disease resistance, and nutritional quality, contributing to global food security. Entomologists study pest behavior, develop integrated pest management strategies, and explore beneficial insects to ensure sustainable crop protection. Soil scientists analyze soil properties, composition, and fertility to optimize crop growth. Their insights guide soil management practices to maintain or enhance soil health and productivity. Plant physiologist investigates plants functions, response to their environment, understanding processes like photosynthesis, water uptake, and stress responses aid in designing better agricultural practices. The other departments like Agricultural Economics focuses on the economic aspects of farming: Agriculture Engineering trains on tools and machinery: Horticulture specializes in fruits, vegetables, and ornamental plants.

- v. Horticulture (Orchard): The establishment of an orchard is a long-term investment and deserves a very critical planning. The selection of proper location and site, planting system and planting distance, choosing the varieties and the nursery plants have to be considered carefully to ensure maximum production. Various types of fruit plants are available in FAS research station, *viz.*, Bael, Jamun, Lemon, Pomegranate, Aonla, Ber, and Guava.
- vi. Organic/Natural Farming: Organic or Natural Farming is a comprehensive strategy for farming that places an emphasis on environmental harmony and sustainability. It avoids the use of synthetic pesticides, herbicides, and genetically modified organisms. Instead, it improves soil health through different packages of practices like composting, crop rotation, and cover cropping. This method promotes biodiversity, reduces chemical runoff, and enhances the nutritional value of produce. Organic or natural farming seeks to establish a symbiotic relationship between plants, animals, and the land, fostering long-term resilience and healthier ecosystems. By fostering a balanced ecosystem and minimizing harm to nature, it aims to provide both wholesome food and ecological benefits for present and future generations. Under organic farming, different approaches such as green manure crops, legume crops, trap crops, and the application of organic manures like Farm Yard Manure (FYM), vermicompost, jeevamrit, panchgavya, etc are practiced. By using different organic farming approaches, various vegetables like tomato, brinjal, cauliflower, cabbage, broccoli, radish, carrot, pea and beans, as well as oil seeds like mustard, are being produced at the farm.



Picture 6.4.4.7: Organic Farming Unit at Agriculture Research Station

viii) Plant Protection: Plant Protection involves strategies and practices to safeguard crops from pests, diseases, and environmental stress, ensuring optimal yield and quality. Integrated pest management integrates various tactics like cultural practices, mechanical control, biological control, and judicious pesticide use to minimize ecological and economic impacts. Disease-resistant crop varieties, crop rotation, and proper irrigation contribute to sustainable plant health. Early detection, monitoring, and quarantine measures prevent the spread of harmful organisms. Sustainable agriculture emphasizes reducing chemical inputs and promoting natural processes. Plant Protection not only secures food production but also preserves biodiversity and ecosystem balance for future generations.

ix) UG Practical Demonstration: The 3rd year students conduct PCP on Rabi/Kharif crops (Cereals, pulses, vegetable crops, oil seeds and millets) besides other practical aspects.



Picture 6.4.4.8: Student Activities Under Practical Crop Production

x) ELP Units – Poultry Production Technology, Agricultural Waste Management, Food Processing and, New Generation Innovation and Entrepreneurship Development Centre (NewGen IEDC): The ELP Units are developed under entrepreneur mode, where students learn about beekeeping, mushroom cultivation, vermicomposting, etc. These skills empower the students to start their start-ups. Poultry production is the most important subsidiary income in agriculture. Poultry farming is a form of animal husbandry that raises domesticated birds to produce meat or eggs for food. The poultry unit of the FAS farm has 100 birds, of which 60 are Chabro and 40 are Kadaknath.



Picture 6.4.4.9: Poultry Unit at Agriculture Research Station

The ELP unit for Agricultural Waste Management conducted the following exercises viz. vermicompost preparation and green brick making from waste sugarcane bagasse, dhoop-batti making with dried flowers, preparation of tutti frutti from watermelon rind, anardana from pomegranate seeds, liquid banana peel fertilizer, utensil making from waste coconut shell, preparation of sorghum straw manure, organic manure from vegetable waste using Pusa decomposer capsules and pampas grass straw mulching of Jacaranda SPS.



Picture 6.4.4.10: Students Activities Under Agriculture Waste Management

B.Sc. (Hons.) Agriculture students actively participate in food processing activities at FAS, showcasing their skills in preparing apple & papaya jam, guava & apple Jelly, bael squash, pomegranate & mixed fruit juice, broccoli-powder candy and ber chhuhara preparation. Through practical engagement, they delve into the art of fruit preservation, mastering the process of making delicious jams. This hands-on experience not only deepens their comprehension of food science but also nurtures their expertise in quality control and entrepreneurship within the agricultural domain.



New Generation Innovation and Entrepreneurship Development Center (NewGen IEDC) is a programme launched by the National Science and Technology Entrepreneurship Development Board (NSTEDB), Department of Science & Technology (DST), Government of India. The aim of NewGen IEDC is to inculcate the spirit of innovation and entrepreneurship amongst the students, encourage and support start-up creation through guidance, mentorship, and support.



Picture 6.4.4.12: New Generation Innovation and Entrepreneurship Development Center

xi) Commercial Crop Production Unit: A commercial crop production unit was established at Dr. M.S. Swaminathan Agriculture Research Station with the following objectives:

- **W** To increase knowledge and student participation in the agribusiness sector.
- To expose students to highly valued regional crops and improved cropping systems while promoting problem-solving and critical thinking.
- To improve the agribusiness skills of students by selling high quality crops at local markets.

W To provide fresh vegetables to the faculty mess and staff of GLA University.

High-demand crops of the Mathura region, like vegetables (Potato, Tomato, Cauliflower, Cabbage, Broccoli, Onion, Carrot, Pea and beans, Spinach, Coriander, etc.), cereals (Wheat, Rice, Maize, Mustard, etc.) and cash crops are produced at commercial crop production unit.



Picture 6.4.4.13 a: Commercial Crop Production Unit at Agriculture Research Station



Station

D) Workshop: The FAS workshop is extensively equipped, with purpose-built industry-ready agricultural tools and machines designed to meet the needs of various domains. This allows students to develop technical skills using farm resources effectively. Equipment includes Tractor, Harrow, Cultivator, Rotavator, Seed drill, Sprayer, Mould Board Plough, etc. The workshop contains cut models to better understand engines, tractor systems, and pumps. Equipment related to farm machinery includes tillage implements, intercultural implements, plant-protection equipment, harvesting equipment, and threshing equipment. Equipment for soil and water conservation, irrigation, processing, and renewable energy equipment are also available in the workshop. Major Farm machinery/equipment are shown in Table 6.4.4.6

S. No.	Name of Equipment	Quantity
1.	Tractor (Massey Ferguson), Model No. 245, 50 HP	02
2.	Harrow	01
3.	Cultivator	01
4.	Rotavator	01
5.	Ridge maker	01
6.	Leveler	01
7.	Mould Board Plough	01
8.	Seed drill	01
9.	Sprayer (500 L)	01
10.	Spade	15
11.	Liner	10
12.	Hand Grass Cutter	04
13.	Sickle	05
14.	Rosecan	03
15.	Axe	01
16.	Trovel	20
17.	Sprayer	02
18.	Different type of threshing drums	01
19.	Different type of threshing drums	01
20.	Working models of reapers and mowers	01
21.	Cut models of CI Engine	01
22.	Cut models of SI Engine	01

 Table 6.4.4.6: Agriculture Farm Machinery/Equipment

23.	Single stage gear model	01
24.	Rack and pinion drive model	01
25.	Crankshaft to slider mechanism model	01
26.	Working model of tractor's steering	01
27.	Tractor Differential gear box	01
28.	Fuel supply system of diesel engine model	01
29.	Hydrolic brake unit model	01
30.	4 strock 4-cylinder diesel actual cut section	01
31.	Carburettor cut section	01
32.	Cut of disk brak model	01
33.	Worm gear model	01
34.	Single shoe brake model	01
35.	Disk brake model	01
36.	Multiple clutch	01
37.	Digital calliper	01



Picture 6.4.4.14: Agriculture Farm Machinery/Equipment

E) Dairy Unit: Dairy Farm refers to a type of agri-business involved in the production of milk and utilization of by-products for domestic uses such as; cow dung, urine, etc. In India, cows and buffaloes are generally used for milk production. FAS has developed a dairy unit with 2 cows for training and promotion of dairy for self-employment.

6.4.5 Conduct of Practical and Hands-on-Training

Conducting practical and hands-on training enhances learning by providing real-world experience and application of theoretical knowledge. It fosters skill development, critical thinking, and problem-solving abilities. Through direct engagement with tools and techniques, students gain confidence and a deeper understanding of the subject.

A) Conduct of Practical

The practical classes for various subjects are conducted in well-equipped laboratories as well as at the FAS research station in accordance with the syllabus. FAS has twelve well-equipped laboratories to ensure the smooth running of various subject-specific practical /experiments. In addition to this, field level facilities are also developed for performing field practical. Each containing maximum 60 students for theory classes but for practical they are distributed in two groups, each with 30 or less students. A practical class helps students learn specific techniques and improve their talents, as well as gain a much deeper comprehension of the idea through hands-on experience and personal experience that goes beyond theoretical knowledge.

To synchronize the practical with theory classes a comprehensive Lecture Delivery Plan (LDP) is prepared. The LDP plays a pivotal role in delivering academic content effectively. A well-planned Lecture Delivery Plan, ensures that students maximize their learning time by engaging in meaningful activities and emphasizes proactive and positive approaches at all levels of instructional intensity. We have a well-planned LDP for each course, which is uploaded on the university learning management system (LMS) at the beginning of the session. The detailed format of LDP is presented in *Annexure 11*. It can be accessed online by the students from the student's utility of the LMS. It encompasses a concise overview and description of all instructional strategies, pedagogies, study materials references, assignment, quizzes and supplementary web links used by faculty in their respective courses.

Dos & Don't: To avoid or minimize dangers, students are urged to rigorously adhere to the dos and don'ts while working in the laboratory. Students are also instructed to make sure that they understand the experiment before starting an experiment. Students are elaborated about wearing the right kind of clothing (safety gloves & lab coat etc.), action to be taken during any kind of emergency and safety measures. These instructions are also displayed in the labs.

Laboratory Manuals: Each subject's lab manual is exercise-specific, and facilities are provided accordingly to conduct the practical. These manuals help students use resources more efficiently and develop their conceptual knowledge. The lab manuals provide crucial information about the practical and its learning objectives. Besides, lab manual makes available

the systematic representation of the Theory/Principle/Background of the experiment, outline of procedure, guidelines, and references of books for additional reading and links of websites for virtual labs/significant information. For better understanding these manuals act as ready reference to students and makes easy for students handle the to apparatus/chemicals/equipment's, while conducting any practical in laboratory. A worksheet or exercise book or to do inventory of each practical is further prepared and included in this manual together with the above-mentioned information. This helps students in documentation of their observations and can record their analysis, calculations, outcome etc.

We have a well-structured lab manual for each course, which contains information about each experiment that is required for performing scientific procedures/lab work. It also contains a student worksheet, which is to be filled by the student on the respective experiment date and includes the experiment observations, results, conclusions, and remarks of the corresponding faculty.

Orientation of Lab Classes: In the very first class, the students are elaborated about contents of different practical exercises, common precautions and safety measures in the laboratory and assessment of the practical examinations as per weightage of different parameters. Concerned faculty member monitor or guide the students during experimentation and based on their observation, suggest students to incorporate improvements. As soon as student completes the experiment, his/her work is checked, queries and doubts are cleared and are briefed about the next practical. In each laboratory, a lab technician is available to assist the instructor with the experiment work by preparing the lab, arranging the apparatus, chemicals, and so on before the practical class begins, ensuring the smooth operation of the practical. In addition, a faculty in charge of each lab has been designated to supervise and support the delivery of practical lessons.

S.No.	Name of Laboratory	Major Experiment
1.	Agronomy and Agro- forestry	Identification of crops, seeds, fertilizers, pesticides, tillage implements, the effect of sowing depth on germination and seedling vigour, study of yield contributing characters, yield estimation, seed germination.
2.	Soil Science	Collection of soil sample, analysis of soil physico- chemical parameters (pH, EC, C, N, P, K, density, moisture content, texture, analysis of soil biological

Table 6.4.5.1: List of Major Experiments

		parameters, sterilization techniques, microbial counts, enzymatic activities.	
3.	Plant Pathology	Acquaintance with various lab equipments, isolation and identification of plant diseases, preparation of media.	
4.	Horticulture and Food Science & Technology	Different methods of propagation, training and pruning practices in fruit crops, post-harvest processing of fruits and vegetables and value addition.	
5.	Genetics & Plant Breeding and Seed Science Technology	Floral biology of crops, different breeding methods, seed sampling, preparation of seed sample, cleaning and grading of seed lot, study of physical purity, moisture, germination, seed vigour, viability and heath test.	
6.	Animal Science and Dairy	Management of livestock in relation to breeding, health and feeding, forage cultivation and management.	
7.	Agro-meteorology	neteorology Weather data recording, measurement of sunshine duration, rainfall, maximum and minimum ain temperatures, relative humidity, wind speed and wind direction.	
8.	Basic Sciences	Preparation of solution, pH & buffers, qualitative test of carbohydrates, protein, quantitative estimation of glucose and proteins, titration methods for estimation of amino acids, effect of pH, temperature and substrate concentration on enzyme action.	
9.	Social Sciences	Effectiveness of dissemination of agricultural information, improving communication skills, preparation of extension literature materials, news, radio talk, marketing strategies, analysis of cost of cultivation and preparation of balance sheet and income statement.	
10.	Agricultural Engineering and Farm Management	Different parts of tractors and farm machinery, use of farm equipment such as Mould Board Plough, Disc Plough, Rotavator, multiple crop thresher, Harrow, and Cultivator.	
11.	Entomology	Methods of collection and preservation of insects including immature stages, identification of insect body parts, method of insecticides sprays.	
12.	Central Instrumentation Laboratory	Demonstrate the advanced technology used in agriculture like molecular work, DNA study and PCR work.	



B) Hands-on Training: Hands-on-Training (HOT) is a component of student READY (Rural and Entrepreneurship Awareness Development Yojana) which is accomplished under the ELP, aiming to 'learning while doing'. The students are engaged with the various facilities available at FAS, where they learn activities related to input or resource management and marketing of the products to evaluate the benefit-cost ratio. Thus, this activity develops

confidence among students for the initiation of agro-based business. The facilities available to the students for Hands-on-Training in the FAS are given below:

i. Beekeeping Unit

Beekeeping unit at FAS teaches students about modern beekeeping. Its important objective is to develop entrepreneurial skills among the student in beekeeping. This experience helps the students, who are willing to make their career in the beekeeping sector.



Picture 6.4.5.2: Student Activities Under Beekeeping Unit

ii. Mushroom Unit

Mushroom cultivation is one of the most significant agribusiness ventures in the field of agriculture. Mushroom cultivation is an upcoming source of alternative income for many farmers in India. Keeping this in mind, FAS have established mushroom unit at GLA University. Its main objective is to provide hands-on training for the preparation of bed for mushroom cultivation and its harvesting, pests and diseases control and post harvesting management.



Picture 6.4.5.3: Mushroom Cultivation Unit

iii. Vermicompost Unit

The vermicompost unit has been established to efficiently produce compost from various waste materials utilizing earthworms. The process commences with the collection of crop residues, agricultural by-products, vegetable scraps, cow dung, and other organic waste. Our vermicompost unit is strategically located near a Dairy Farm to ensure convenient access to raw materials.



iv. Fruit Orchard

At the FAS farms, there is a fruit orchard with a variety of crops to help students learn how to plant and maintain an orchard. Students receives hands on- training in horticultural skills including grafting, pruning and training in a fruit orchard.

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

A combination of formal surveys and informal interactions gathers continuous feedback from students, parents, faculty, industry/employers, and farmers. This diverse approach helps understand various perspectives and promotes ongoing improvement.

Students Feedback

Regular feedback is taken from the students on a course curriculum (*Annexure 12*) and all aspects related to the quality of the teaching-learning processes through online/offline questionnaires. These feedbacks are reviewed and analyzed by the FAS and are considered for academic enrichment.

The average degree of student satisfaction with the curriculum of programs is depicted in the Figure 6.4.7.1. Feedback of students is taken on a five-point scale where 5 shows the highest level of satisfaction and 1 shows the lowest level of satisfaction. The curriculum has received

encouraging reviews from the students, with an average score of 4.01, 4.04, 4.09, 4.11, and 4.11, in academic sessions 2019-20, 2020-21, 2021-22, 2022-23, and 2023-24, respectively.



Figure 6.4.7.1: Student Satisfaction on Curriculum

A) Parents Feedback

The feedback from parents is collected through multiple modes- personal visits, telephonically (regular interaction by the student's advisor), and online. A structured questionnaire is used to collect feedback and suggestions from parents on various aspects of campus life, including the campus ambience, physical security, library facilities, classroom environment, experiential learning activities, assessment and evaluation methods, personality development, career orientation initiatives, and available learning resources for students. Efforts are being made to motivate parents and increase the response rate through targeted outreach and engagement strategies (*Annexure 13*).

B) Employers/Industry Feedback

Employers look for graduates who are not only knowledgeable but also adaptable, technologically savvy, and capable of contributing to both the scientific and business aspects of agriculture. Feedback is gathered from employers to assess the curriculum's alignment with the latest industry needs and its effectiveness in imparting relevant knowledge and skills to graduates (*Annexure 14*).

C) Farmers Feedback

The farmers from nearby villages visit our agricultural farm and various labs. The FAS assigns a team of faculty members to accompany the farmers during their tour of the agricultural farm and laboratories. The FAS then collects feedback from the farmers after their visit, which is

recorded on feedback forms provided to them (*Annexure 15*). Additionally, to strengthen the relationship with the farming community and address agricultural challenges, FAS conducts regular visits to nearby villages such as Ajhai, Jait, Chhata, Kosi Kalan, and others. These visits facilitate direct interaction with farmers, allowing FAS to identify specific challenges and areas requiring improvement. FAS provides guidance and technology on various aspects of agriculture, including crop production, beekeeping, mushroom cultivation, poultry farming, and integrated farming systems. Furthermore, FAS organizes Kisan Pathshala and Kisan Gosthi sessions periodically to further support farmers. After each visit, faculty members actively seek feedback from farmers to assess the effectiveness of the services provided and offer personalized solutions to address their concerns.

The quality assurance committee of the FAS analyses feedback and suggestions provided by various stakeholders. Table 6.4.7.1 outlines some of the actions taken in response to stakeholders' feedback.

Year	Feedback	Suggestion Action taken		
	• Parents have raised concerns	• Procured new textbooks, reference books,		
	regarding the library facilities,	and digital resources to address the		
	highlighting issues such as	diverse needs of students more		
	inadequate resources and	effectively.		
	restricted study hours.	• Extended library hours into the night to		
		accommodate students' schedules and		
		provide additional study opportunities		
		during exams.		
2023-2024				
	• Industry experts suggested to	• Dairy Unit was established.		
	setup dairy unit in the			
	university.			
	• Farmers did not get proper	• Special information on animal husbandry		
	profit from the information	and cow products was provided by the		
	provided to them related to	scientists of the FAS. Along with this,		
	animal husbandry.	manufacturing of milk products was also		

 Table 6.4.7.1: Action Taken Report on Feedback

		shown and proper information was given		
		about the market of cow products.		
	• Parents expressed concerns	• Preparatory classes started for III and IV		
	regarding the upgradation of	year students for guiding them toward		
	technical and professional	various career opportunities.		
	skills of their wards and raised	• Organized workshops seminars and		
	concern preparing students for	guest lectures featuring industry		
	future career opportunities	practitioners to expose students to real-		
	future cureer opportunities.	world challenges		
		world chanenges.		
2022 2022	• Industry experts suggested to	• Now poultry production unit was		
2022-2023	explore practical and hands on	• New pounty production unit was		
	training on livestock and other	established as an experiential learning		
	learning modules related to			
	food processing	• Food processing course was implemented		
	lood processing.	as ELP module.		
• Farmers were not satisfied with		• The FAS elucidated techniques related to		
	the information provided on	crop residue management and conducted		
	crop residue management.	field demonstrations on it.		
	• Students raised concern for	• Additional books and laboratory		
	procurement of new textbooks	equipment were procured as per the		
	and upgradation of the	students' strength and the need of current		
	laboratories.	course curriculum.		
	• Parents expressed concerns	• Expanded number of canteens and		
2021-2022	about inadequacy of canteen	introduced GD subway (shopping		
	and refreshment facilities.	complex).		
	• Farmers did not benefit from	• The FAS provided information about		
	the information provided on	market trends and fair pricing.		
	medicinal farming because	Additionally, they conducted mutual		
		discussions with progressive farmers		

	they were not aware about its	engaged in medicinal farming, which		
	proper market.	sparked increased curiosity among other		
		farmers about medicinal farming.		
	• Parents expressed concerns	• The university procured the Zoom		
	about slow internet speeds and	platform with high bandwidth to ensure		
2020 2021	ineffective communication	the smooth operation of classes.		
2020-2021	during online classes.			
	• Students requested extra	• A new non-gradial soft skill course was		
	career-oriented courses.	introduced.		
	• Students requested for the	• Elective courses with emphasis on		
	introduction of job oriented	job/skill development introduced.		
	courses.	• Value-added courses were organized.		
	• Students requested extra			
	learning courses.			
	• Parents expressed a preference	• Implemented interactive teaching		
	for bilingual teaching methods	strategies, such as bilingual mode of		
	during class lectures for better	teaching, debates, and group activities, to		
2019-2020	understanding of the subjects.	encourage active participation of the		
		students.		
	• Farmers expressed lack of	• The faculty of FAS and scientists from		
	awareness regarding	Krishi Vigyan Kendra interacted with		
	government agricultural	farmers. They provided detailed		
	schemes.	information on how to avail the benefits		
1				
		of government schemes on agriculture		

6.4.8 Student Intake and Attrition in the B.Sc. (Hons.) Agriculture Programme for Last Five Years

FAS started B.Sc. (Hons.) Agriculture degree program in the year 2019. Year-wise information on sanctioned strength (intake capacity), students admitted, and attrition of the students in the last five years of B.Sc. (Hons.) Agriculture degree program has been specified in Table 6.4.8.1.

S. No.	Degree Program	Batch/Year	Sanctioned Intake	Students Admitted	Current Total	Attrition %
1	B.Sc. (Hons.) Agriculture	2023-24	50	50	48	4.00
2	B.Sc. (Hons.) Agriculture	2022-23	80	60	53	11.67
3	B.Sc. (Hons.) Agriculture	2021-22	100	75	71	5.33
4	B.Sc. (Hons.) Agriculture	2020-21	120	115	104	9.56
5	B.Sc. (Hons.) Agriculture	2019-20	120	104	95	8.65

 Table 6.4.8.1: Student Intake and Attrition during the Last 5 Years

6.4.9 ICT Application in Curricula Delivery

The FAS uses various tools to strengthen the quality of education for students. In this context, it is extremely important to use modern information and communication systems for delivering curricula. To achieve this, some important steps taken in this direction are:

- IT Infrastructure and Network Facilities: Information and Communication Technology (ICT), important and useful tool for effective curricula delivery is extensively used in the class. The internet facility is available through 8 Gbps bandwidth. The students and teachers of FAS are well conversant with the digital technology which is being widely used. Thus, teachers deliver quality lectures by the usage of both off line as well as online resources. Recording facilities are available, which enable faculty members to record and evaluate their recorded lectures and identify areas for selfimprovement. The English Language Learning Lab is equipped with ICT facilities to develop faster learning abilities in English. A variety of ICT tools are being used by instructors and students in classrooms and laboratories to support efficient teachinglearning environment.
- Smart Class Room: For effective content delivery, all the classrooms in the FAS are ICT enabled with interactive smart board coupled with availability of Wi-Fi and LAN facilities. Audio visual aids like multimedia LCD projectors and videos are used to make teaching and learning more relevant, interesting, and understandable. Each instructor uses the GLA University mobile app to record attendance in class, and students can cross-check their attendance through university applications. PPTs are designed and

updated regularly to teach the syllabus content in a way to makes the students understand better.

- Use of Learning Management System in Curricula Delivery: GLA University extensively uses the digital platform Learning Management System (LMS) and all authentic ICT tools to transfer lots of updated information directly to the students. LMS has several uses including question banks, online tests, quizzes, exchanging educational materials with students, monitoring attendance, exams, results announcements, and more.
- Media Center: Real-time communication is made possible by the use of media, which enables farmers and students to swiftly and economically communicate with stakeholders. Farmers and students can build networks and social capital using social media, which includes trust, participation, and community involvement. Some of the videos developed by the faculty of FAS and uploaded on YouTube are given below.

S.No.	Faculty Name	Topic Name	Link
1	Dr. Bhavya Mishra	Raised beds for vegetable	https://youtu.be/A_TDE_
		production	O8L00
2	Dr. Bhavya Mishra	Advantage of raised beds	https://youtu.be/Cqh1PA
		nursery	<u>xvzUY</u>
3	Dr. Kshitij Parmar	Crop Cafeteria	https://youtu.be/N2Gn7N
			<u>s61K4</u>
4	Dr. Bhavya Mishra	Advantage of pro tray nursery	https://youtu.be/15e1oUh
			<u>kHWk</u>
5	Dr. Bhavya Mishra	How to make raised beds	https://youtu.be/cDe2drsa
		nursery	<u>Ojo</u>

 Table 6.4.9.1: Reference Link of Recorded Video Lectures

Mobile Application: The GLA University Mobile App is a mobile application prepared by the University, which allows users to access most of the modules available in the LMS, more expediently and comfortably. This app allows the students, staff, and parents (multiuser) to access required information at their hands. On the GLA Mobile app, faculty members directly mark students' attendance in the class.

The Mobile App can be used for:

- **Transcript**: Students can use the GLA University mobile application to view their grades for each subject and semester.
- Attendance: Students can use the GLA University Mobile app to check their registration and attendance straight away.
- **Grievances:** Students are able to lodge any grievances through the app and they can also view the status of those lodged complaints and vice-versa.
- Announcements: They can easily view the most recent announcements on this app.
- **Time Table:** Staff members and students can conveniently monitor the daily lecture schedule via the mobile app.
- **Placement Result.** Through the GLA University mobile application, students can view job recruiters, scheduled interview and placement outcomes.
 - Fee Status: Using the GLA University mobile application, students can make direct payments and monitor the status of their fees.





