



# "आत्म दीपो भव"

AKS University carries forward the mantle of Aatma deepo bhava meaning 'self-realization' is the path to move on and look ahead for a brighter tomorrow.



The University is dedicated to perform in a unique manner to achieve academic excellence in creative way by using innovative ideas to produce perfect human resources and to act as centre for "Amicable Knowledge Solutions".



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B.P. SONI
Chancellor
AKS University
and Thinker & Initiator of
The World Government for World Peace

Dear Members of the AKS University Community,

As we reflect on the achievements of the academic year 2021-22, I am honored to acknowledge the significant milestones that have defined our journey. This year has reinforced AKS University's unwavering commitment to academic excellence, research-driven innovation, and impactful community engagement.

Our faculty and students have distinguished themselves through exceptional achievements in research, academics, and co-curricular activities. Their success reflects our institution's strategic focus on interdisciplinary collaboration and knowledge creation, fostering a thriving environment for intellectual growth and innovation.

This year, we made substantial advancements in infrastructure development, equipping our campus with state-of-the-art facilities that empower students with the resources needed to excel. In alignment with our long-term sustainability goals, we have incorporated socially responsible practices into various initiatives, reinforcing our commitment to creating value both locally and globally.

As we move forward, we recognize the challenges and opportunities that lie ahead. Our focus will remain on strengthening academic rigor, promoting diversity and inclusion, and fostering innovation. Together, we will uphold the core values that define AKS University—integrity, inclusivity, and excellence—while building an academic ecosystem that prepares our students to become global leaders.

I extend my heartfelt appreciation to every member of our university community for your dedication and contributions. Your efforts have been instrumental in shaping our progress, and I look forward to another year of impactful growth and success.



Dr. R.S Tripathi
Vice-Chancellor,
AKS University, Satna (MP) India



AKS University, Satna, is dedicated to fostering academic excellence and societal development, playing a vital role in nation-building and educational reform. Its extensive initiatives, from advanced research facilities to comprehensive student support programs, underscore this commitment. The university emphasizes holistic education by integrating values and promoting a variety of extracurricular and co-curricular activities. This approach aligns with its mission to cultivate socially aware and responsible citizens. The implementation of the Choice-Based Credit System (CBCS), along with international collaborations and diverse academic offerings, enhances its competitive edge on a global scale. Additionally, AKS University boasts a robust Placement Cell and National Service Scheme, providing students with professional preparation and opportunities for civic engagement. The campus infrastructure, including a well-resourced library and dedicated academic spaces, further enriches the learning environment. These achievements highlight the university's significant educational impact, consistently ranking among the top institutions in India, particularly in the Vindhya region. Overall, AKS University serves as a cornerstone of higher education, driven by a commitment to academic and societal advancement. It is an inviting institution for students who aspire to make meaningful contributions to society and shape a better future.



#### **Executive Summary**

AKS University (AKSU) is a leading University of Madhya Pradesh state established vide by the Govt of Madhya Pradesh Act & Notification no. 44 dated 31.12.2011 (Gazette notification Annx-1) and duly recognized by the UGC under Section (2f) of UGC Act in the year 2014, is committed to nurturing well-rounded individuals equipped to meet the challenges of the future. With a focus on quality education, research and community involvement, the university aims to play a pivotal role in the educational landscape of India. The Campus is spread over approximately 110 acres. The AKS University is situated in the Satna city of Madhya Pradesh, adjacent to NH-75, 4 km from Satna Railway Station and 120 km from world heritage Khajuraho. At present the AKS University is offering 54 courses under 12 faculties and at present total student strength of the University is more than 6000.

A well-established teaching and learning process guided by the best practices and a culture of academic excellence promoting research, innovation & entrepreneurship. AKS University offers a diverse range of undergraduate, postgraduate, and doctoral programs across multiple fields, including Agriculture Science & Technology, Engineering and Technology, Commerce & Management Studies, Social Science and Humanities, Basic Science, Education, Law Pharmacy and Medical Sciences etc. are approved by the respective regulatory bodies like UGC, ICAR, AICTE, BCI, NCTE & PCI.

AKS University has collaborated with the leading universities and Institutions both at global and national level for delivering the best education to its students. It has strong industry connections for the design and delivery of various courses.

The University upgrades its curriculum to keep pace with the latest and relevant trends. It has incorporated courses like Smart Agriculture, Artificial Intelligence, Machine Learning, Data Analysis, Mechatronics, Robotics, Nanotechnology, Financial management, HR Management and many more to



impart training and prepare its students for leadership positions of tomorrow. The academics at AKSU is designed towards providing the students a strong background in fundamentals, an ability to translate it to real-life problems and a capacity to design, build and analyze different products, processes and systems. Guided by international best practices, the teaching-learning process ensures the development of Global Graduate Attributes as recommended by various professional bodies/societies.

As per guidelines of NEP 2020, the academic process is outcome based education system and ensures holistic development of the desired set of skills. Choice Based Credit System provides flexibility to the students to take courses from the areas of their interest. Learner Centric Education with latest pedagogical approaches like active learning, collaborative and cooperative learning, agile methodology ensures holistic development of graduates who understand the impact of their actions/ decisions on the society and environment.

The University envisions developing Sustainable Development as a thrust area of Research and Innovation. The research training provided to our graduate students creates the next generation of leaders well-prepared to advance knowledge and transfer of technology. Several Live Projects are being given by Industry to the students to work on and to come out with innovative solutions. Any new Knowledge created by the Students and Faculty through their research and innovation is disseminated through publishing of books, research papers in the reputed Journals and filing of Patents. The dedication and hard work of the faculties and students is acknowledged in terms of awards & recognition they receive at different forums like, Best Placement in Central India Award by Hon'ble Minister of Higher Education & Technical Education M.P. (Bhopal 29/04/24), Best Placement in Central India Award (New Delhi 02/05/24), Iconic Leader Award 2024 (New Delhi 02/05/24), Soul of India Award 2023 in House of Lords British Parliament.

AKSU continually seek feedback from all our stakeholders, analyze it and take actions wherever required. AKSU conscious of the need to adopt various



measures for quality assurance and have taken suitable measures in that direction. Transparency in all the operations, emphasis on an honest and sincere approach, has gained the respect and hance AKSU is the preferred choice of the faculties and students in Central Region of India.



#### 1. ABOUT THE UNIVERSITY

#### 1.1 Approval of Statutory Bodies

The visionary of AKS University Shri B. P. Soni had started his humble journey to impart quality education in affordable cost by opening a small computer college in the year 1996 at Satna city of Madhya Pradesh, India. The mission was highly appreciated and to fulfill the demand of the Vindhya Region, in the year 2011 the AKS Charitable Trust established the AKS University at Satna, by the Govt of Madhya Pradesh Act & Notification no. 44 dated 31.12.2011 (Gazette notification Annx-1) and duly recognized by the UGC under Section (2f) of UGC Act in the year 2014.

#### 1.2 Vision

The vision of AKS University, Satna is to be globally recognized premier Research University dedicated to "Amicable Knowledge Solutions" with ethical leadership, cooperation, community involvement and research prowess converges to forge innovative solutions for societal challenges and contribute to sustainable future.

#### 1.3 Mission

- 1. Promote Multidisciplinary Research: Enhance sustainable research across all university faculties, aiming to establish our institution as a leading research and teaching university.
- 2. Foster Innovation: Encourage innovation at all levels within the university, focusing on intellectual property rights (IPR), patents, incubation centers, and startups.
- 3. Implement Outcome-Based Education: Adopt updated outcome-based curricula (OBE) to develop graduate attributes and create a student-centric teaching and learning environment.
- 4. Integrate Teaching and Research: Establish a strong correlation between teaching and research by employing innovative approaches and pedagogies.
- 5. Collaborate with Institutions: Build partnerships with premier national and international universities, institutes, and industries.



- 6. Encourage Lifelong Learning: Promote lifelong learning and life skills among students, providing a value-based and culturally enriched education.
- 7. Focus on Quality Education: Ensure high-quality education while emphasizing research related to sustainable development goals (SDGs) and environmental protection.
- 8. Develop Independent Thinkers: Equip students with the capabilities to think critically and work independently.
- 9. Strengthen Industry-Academic Fusion: Foster collaboration between academia and industry through research partnerships, entrepreneurship initiatives, and internships.
- 10. Ensure Good Governance: Cultivate accountability and transparency among all university stakeholders.
- 11. Support Diverse Student Backgrounds: Provide a platform for students from diverse backgrounds, including rural areas, to achieve academic excellence and develop human values, fostering an inclusive culture of equality and responsible citizenship.
- 12. Contribute to Knowledge Society: Play a significant role in developing a holistic knowledge society that benefits local and global communities.

#### 1.4 Core Values of AKS University, Satna

AKS University, Satna, is founded on a set of core values that guide its academic pursuits, administrative practices, and community engagement. These values include:

- Academic Excellence: Striving for the highest standards of education, fostering intellectual curiosity, and promoting critical thinking.
- **Innovation:** Embracing new ideas, technologies, and approaches to address challenges and drive progress.
- **Social Responsibility:** Contributing to the betterment of society through community engagement, research and service.
- **Ethical Conduct:** Upholding the highest ethical standards in all aspects of university life.
- **Respect:** Valuing diversity, inclusivity, and the dignity of all individuals.



- Collaboration: Fostering partnerships and teamwork to achieve common goals.
- Sustainability: Promoting environmental stewardship and sustainable practices.

These core values are integral to the university's mission and inform its decision-making processes. These guided the university's commitment to providing a quality education, fostering a positive learning environment, and making a meaningful impact on the community.

## 1.5 SWOC Analysis of the University

## SWOC Analysis of AKS University, Satna

#### Strength

- Vast and Lush Green Campus.
- Historical background.
- Highly experienced and well qualified faculty.
- Academic Excellence.
- Modern infrastructure.
- Most evolved OBE curriculum.
- Emphasis on Research and Innovation.
- Joint Degree programmes with IBM.
- Strong Industry Partnership.
- Incubation Centre.
- Patents and Technology Transfer.
- Programme offering and affordability.
- Eminent leadership.

#### Weakness

- · Rural University in M.P.
- Lack of financial support from Govt.
- Attracting Qualified faculty and students.
- Lack of residential facility for students on Campus.
- Less number of Ph.D. faculty
- Comprehensive Pan India Presence.
- International Collaboration.
- · Robust effort towards research.
- Fund allocation constraints.

## Opportunities

## **SWOC**

#### Challenges

- Develop Research University.
- Full Implement NEP 2020 .
- Collaborative Research.
- Capacity building of faculty.
- Develop joint degree programmes with offer leading universities & Industries.
- To bring full e-governance at university.
- · Develop online mode of learning.
- · Research on IKS and SDGs.
- Start new multi disciplinary programmes in all faculties.

- Innovative Teaching pedagogy.
- Financial Constraints.
- Fast changing technology and pedagogical innovations.
- Attracting meritorious Students.
- Develop functional start-ups on the Campus.
- · Retention of faculty.
- Implementing Bloom's taxonomy (revised) in assessment and Evaluation.

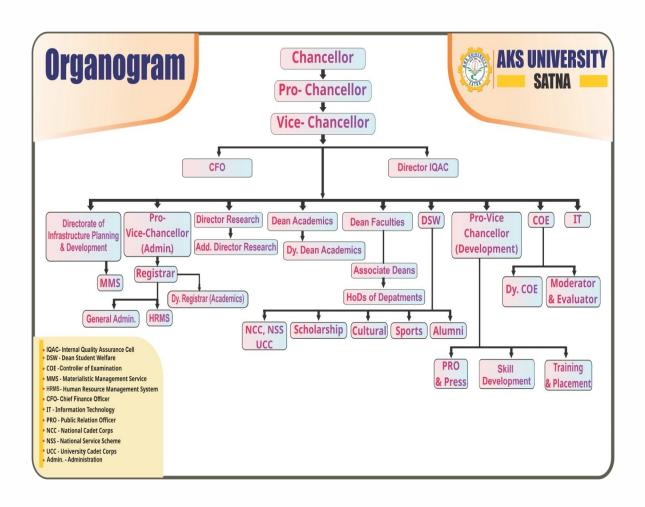
## 1.6 Governance

**University Credential: - List of Awards** 



Over the past over the past years, AKS University has achieved significant milestones and garnered numerous accolades. In 2015, the university was recognized by the Ministry of Human Resource Development, Government of India, as the "Excellent Private University in the Rural Sector." Additionally, in 2014, it received the award for "Excellent Private University in Madhya Pradesh" from the CMAI during the National MP Technical Excellence Education Summit. Furthermore, in 2017, AKS University was ranked 27<sup>th</sup> among private universities in India according to the India Today survey. Most recently, the university was honored as the "Best Private University in the Rural Sector" by Shri Kamal Nath, the Hon'ble Chief Minister of Madhya Pradesh.

AKS University is guided and mentored by a distinguished board of advisors, comprised of experts from various academic, administrative, and financial fields. The boards and committees, their distinguished members and other important details are listed as follows:





#### **Boards and Committees**

#### **Governing Body:**

The Governing body is the highest decision-making authority of the University. All the movable and immovable property of the University vests in it. The Governing Body provides general superintendence and direction to the University and in particular, regulates and controls the functioning of the University in accordance with the provisions of the applicable Acts, Statutes, Ordinances, Rules, Regulations, Notifications and Orders etc. The Governing Body met minimum trice in an academic year.

#### **Board of Management:**

The Board of Management (BoM) is the Chief Executive body of the University and works under the overall directions of the Governing Body. The role of BoM is to establish and monitor the achievement of the University's mission and Objectives. This includes, formulation and monitoring of academic standards, benchmarks and goals; establishment of academic and research units; supervision of the University's finances and budgetary processes; conducting institutional performance evaluations; compliance of the University's statutory and regulatory responsibilities; liaison with external agencies and evaluation of the performance of the senior University functionaries. The BOM met four times in an academic year.

#### **Academic Council:**

The Academic Council is the principal academic body of the University. It exercises general supervision over the academic policies of the University, subject to the provisions of the Act, Statutes, Ordinances of the University, The Academic Council is responsible for evaluation and approval of overall educational policy, academic degree programs, requirements for admission, academic honors and awards etc. at the University. The Academic Council



meeting schedule minimum one times in academic year.

## 1.6 Advisory Board of AKS University Satna

The Advisory Board of AKS University is a group of distinguished individuals from diverse fields, including academia, industry, government, and the community. These members are appointed to provide strategic guidance, expert advice, and valuable insights to the university's leadership.

#### 1.7.1 Functions of the Advisory Board:

- **Strategic Guidance:** The Advisory Board plays a crucial role in shaping the university's long-term strategic direction. They provide advice on academic programs, research initiatives, infrastructure development, and resource allocation.
- **Expert Advice:** Board members offer their expertise and knowledge to inform decision-making processes. They can provide insights into industry trends, emerging technologies, and best practices in higher education.
- Community Engagement: The Advisory Board helps to strengthen the university's connections with the community. They can assist in identifying local needs, fostering partnerships, and promoting the university's role in regional development.
- Fundraising and Resource Development: Board members can contribute to fundraising efforts and help secure resources to support the university's goals. They may have connections to potential donors, foundations, or government agencies.
- External Relations: The Advisory Board can enhance the university's reputation and visibility by building relationships with external stakeholders, such as government officials, industry leaders, and alumni.

Overall, the Advisory Board serves as a valuable resource for the university, providing guidance, expertise, and support to help it achieve its mission and vision.



## 1.8 Other Committees of the University

A well-organized University set up requires a lot to be monitored for smooth functioning and overall excellence. To name a few, such as attendance, feedback, course uploading in this regard. Managing this entire gamut is not a one man show but it requires a collaborative effort from all staff members. University therefore works in a more decentralized manner through its various committees. These committees are empowered, have more autonomy and thus help in quick decision making. All the committees are headed by coordinators with defined roles and responsibilities to perform.

#### 1.8.1 Grievances Redressal Cell

AKS University is unanimously and unequivocally committed to prevent ragging of students in the campus. Several measures are taken by the University to ensure a pleasant and congenial environment for the first-year students. The Academic Counselor for the senior students reinforces the ill effects of ragging of first year students and discourage senior students from doing such acts. Round the clock supervision of first year students in the hostel and classroom activities, educating the students about the avenues available for seeking assistance, in case they are ragged, do's and don'ts in the campus, Guest lecture from experts are some of the measures done to prevent ragging. To make the campus and the hostel ragging free the AKS University constitutes three committee for strict vigilance on any ragging and indesciplenary activities in AKS University. The list of Anti Ragging Committee, Anti Ragging Squad, Disciplinary Committee and Internal Complaint Committee of AKS University to look after, are constituted and yearwise given below: -



## 1.8.1.1 Anti Ragging Committee for the Year 2021 - 22

Sl No	Name	Position
1	Dr. G. K. Pradhan, Dean Faculty of Engineering & Technology	Chairman
2	Prof. R. N. Tripathi, Dean, Faculty of Basic Sciences	Member Secretary
3	Dr. G. P. Richhariya, Dean, Faculty of Life Science & Technology	Member
4	Dr. S. S. Tomar, Dean, Faculty of Agriculture Science & Technology	Member
5	Dr. S. P. Gupta, Head, Department of phamacutical Science & Technology	Member
6	Dr. Neeraj Verma, Head, Department of Agriculture Science & Technology	Member
7	Dr. Pankaj Shrivastava, Head, Department of Mechenical Engineering	Member
8	Dr. Kamlesh Choure, Head, Department of Bio- Technology	Member
10	Ms. Gauri Richhariya, Assistant Professor, Department of Electrical Engineeing	Member

## 1.8.1.2 Disciplinary Committee for the Year 2021-22

Sl No	Name	Position
1	Dr. Harshvardhan, Pro Vice Chancellor (Dev.)	Chairman
2	Prof. G.C. Mishra, Dean Students Welfare	Member Secretary
3	All Head of the Departments/Coordinators	Member
	Member nominated by Hon'ble Vice Chancellor	



4	Shri S. Das Gupta, Asso. Prof., Mining Engg.	Member
5	Dr. Abhishek Singh, Asst. Prof., Agriculture Sci.	Member
6	Dr. Ashwani A Waoo, Asso. Prof., Biotechnology	Member
7	Dr. Sudha Agrawal, Asso. Professor, Mathematics	Member
8	Mr. Pramod Dwivedi, Asst. Prof., Busi. Admin.	Member
9	Ms. Pragya Shrivastava, Asst. Prof., Comp. Sc. & IT	Member
10	Ms. Gauri Richhariya, Asst. Prof., Electrical Engg.	Member

# 1.8.1.3 Internal Complaint Committee (sexual harassment of female student) for the Year 2021-22

Sl No	Name	Position
1	Ms. Reni Nigam, Assistant Professor, Biotechnology	Presiding Officer
2	Ms. Shaila Tiwari, Secretary, Anupama Education Society	Member (NGO)
3	Mrs. Lovely Singh Gaharwar, Assistant Professor, Department of Physics	Member
4	Mrs. Rama Shukla, Head, Department of Electrical Engineering	Member
5	Dr. Rama Sharma, Assistant Professor, Agriculture Science (Extn. No. 314)	Member
6	Mrs. Seema Dwivedi, Teaching Associate, Education	Member
	Male-Member	
1	Prof. R. N. Tripathi, OSD	Member
2	Mr. A. K. Mittal, Director, Mining Training	Member
3	Mr. Brajendra Soni, Administrative Officer	Member
4	Dr. Mahendra Kumar Tiwari, Professor,	Member



neither by the staff nor by the students in the Faculty of Agriculture Science and Technology during the last five years. However, details on Sexual Harassment of women at Workplace (Prevention, Prohibition and Redressal Act, 2013) are clearly explained to the staff and farm workers and students from time to time.

The list of the member of Sexual Harassment Committee for the year 2021-22 of AKS University is given below:

## 1.8.3 Sexual Harassment committee of AKS University

Sl No	Name and post of the member	Responsibility of the member
	Female-Member	
1	Ms. Reni Nigam, Assit Professor, Biotechnology	Presiding Officer
2	Ms. Shaila Tiwari, Secretary, Anupama Education Society (NGO)	Member
3	Mrs. Lovely Singh Gaharwar, Assistant Professor, Department of Physics	Member
4	Mrs. Rama Shukla, Head, Department of Electrical Engineering	Member
5	Mrs. Shikha Tripathi, Teaching Associate, Department of Education	Member
6	Mrs. Seema Dwivedi, Office Assisatnt, General Admn.  Department	Member
	Male-Member	
7	Prof. R. N. Tripathi, OSD	Member
8	Mr. A. K. Mittal, Senior Lecturer	Member
9	Mr. BrajendraSoni, Administrative Officer	Member



10	Dr. Mahendra Kumar Tiwari, Associate Prof., Departmentof Environmental Science	Member
11	Mr. Sunil Pandey, Sports Officer	Member
	Students-Member [In respect of girl student(s) of AKS U	niversity
12	Ms. Mitali Pandey, B.Tech. (Food Technology), 4 <sup>th</sup> Year Student	Member
13	Ms. Shivangi Tripathi, B. Pharma., 4 <sup>th</sup> Year student	Member
14	Ms. Meenakshi Singh Baghel, B.Sc. (Hons.) Agriculture,  4 <sup>th</sup> Year student	Member

There is the provision for any complaints can also be communicated through Email: provc@aksuniversity.com and telephone. In this respect the telephone number and email ID of the members are circulated among the staffs and students of the University to lodge complaint. The case of sexual harassment was reported during the year in university as well as in Faculty of agriculture science and technology.

For smooth running of Faculty of Agriculture Science and Technology the following committee are constitutes for the year 2022-23.

### 1.8.4 Hostel Monitoring Committee

The below Hostel monitoring Committee is advised to take surprise visit to the Hostels registered under AKS University and assess the facility such as accommodation, food, cleanness and congenial study environment of the Hostel at least once in a month and report to the Vice Chancellor.

The Hostel Monitoring Committee for the Year 2021-22

Sl No	<b>Hostel Monitoring Committee</b>	
1	Ms Gauri Richaria	In- Charge
2	Ms Pragya Shrivastav	Member
3	Mr Manish Agarwal	Member
4	Mr Atul deepSoni	Member



5	Mr Abhisek Singh	Member
6	Dr Rama Sharma	Member
7	Ms Madulika Singh	Member
8	Mr Vijay Singh	Member

## 1.8.5 Library committee

With the approval of AKS Management, the below committee is constated to review, procurement of books including e-books and journals for Faculty of Agriculture Science and Technology. The committee will function for three years i.e. upto the year 2024 from the date of this office order.

Sl No	Name of the Official	Committee
1	Dr S STomar	Chairperson
2	Dr K R Maurya	Member
3	Mr Dashrath Patidar	Member
4	Dr T N Singh	Member
5	Dr Rama Sharma	Member
6	Dr Neeraj Verma	Member

#### 1.8.6 Management of Farm Waste:

The University has established Vermicompost Unit (30 Pits) near the Dairy Farm. All crop wastes including crop residues, weed materials Horticulture fruits and vegetable wastes and animal waste from diary unit are used to prepare vermicompost. From the vermicompost unit vermin wash is collected and used for protection of the crops University has created facilities to make nutrient rich vermin compost using rock phosphate. The committee constitute for proper disposal of any waste including biological is as given below: -

### **Waste Disposal Committee of AKS University**

Sl No	Name	Task
1	Dr G P Richhariya, Dean (Life Science)	Chairman
2	Dr Dinesh Mishra, HOD (Chemistry)	Member
3	Dr M K Tiwari, HoD (Env)	Member Secretary
4	Dr Neeraj Verma, HoD, (Agriculture)	Member
5	Dr Akhilesk A waoo, HoD, (Computer	Member
6	Dr S P Gupta, HoD (Pharmacy)	Member
7	Dr Kamlesh Chaure, HoD (Biotech)	Member



## 2 Academics at AKSU

## 2.1 ABOUT THE FACULTIES OF THE AKS UNIVERSITY

At AKS University Satna, has total 10 numbers of the faculties of studying and some of them are unique to Madhya Pradesh in their course structure and curriculum.

## 2.1.1 Faculty of Agriculture Science & Technology (FAST):

The Faculty of Agriculture Science and Technology (FAST) is one of the largest faculties at AKS University, established with a comprehensive integration of teaching, research, and extension programs. The primary mandates of the faculty include:

- Providing quality education in the field of agriculture.
- Advancing learning and conducting research in agricultural science and technology, particularly for rural and marginal farmers.
- Implementing activities related to these objectives through education, research, and extension, in alignment with the requirements of the Faculty and AKS University as a whole.

The educational programs at FAST aim to transform rural unemployed youth into first-rate agricultural entrepreneurs and agri-business managers of tomorrow. The impact of agricultural education is anticipated to be significant, leading to the development of a new generation of entrepreneurs, increased employment opportunities, higher income levels, and improved work environments.

FAST is complemented by a well-equipped agricultural farm spanning 60 acres adjacent to the faculty building, featuring an automatic weather station (AWS), two polyhouses, four nethouses, two mother nurseries, and various experimental fields and laboratories that provide students with hands-on experience. The modern dairy facility houses over 100 cows of different breeds, including Giri, while the poultry section features the rare Kadaknath variety. Additionally, a fishery unit exposes students to diverse agricultural practices and the implementation of innovative crop production techniques.



The faculty also practices organic farming technology, producing approximately 200 tons of vermicompost and Nadep compost annually, which is utilized on the university farm.

FAST is dedicated to maintaining a team of qualified and experienced faculty members who strive to deliver high-quality education and inspire students to embrace their roles as the world's providers of food security.

The Under Graduate and Post Graduate programmes running Under the Faculty of Agriculture Science and Technology of AKS University are as-

<b>UG Level Courses</b>	B. Sc. (Hons) Agriculture
(4 Year Degree Programme)	B. Tech. (Agricultural Engineering)
	B. Tech. (Food Technology)
PG Level Courses	M. Sc. Agriculture (Agronomy)
(2 Year Degree Programme)	M. Sc. Agriculture (Horticulture)
	M. Sc. Agriculture (Soil Science)
	M. Sc. Agriculture (Plant Pathology)
	M. Sc. Agriculture (Genetics & Plant Breeding)



Demonstration to the students by a faculty in Agriculture farm





Agricultural farm of Faculty of Agriculture Science and Technology

## 2.1.2. Faculty of Engineering & Technology:

The engineering programs at AKS University, Satna, offer a dynamic and accessible curriculum designed to help students understand the global and social implications of engineering solutions, as well as contemporary engineering challenges. This comprehensive approach allows students to develop and apply relevant skills for their future careers.

The programs cater to a diverse range of students with varying abilities and educational backgrounds, providing both intellectual and vocational benefits. This inclusive educational environment positions the Faculty of Engineering and Technology as the premier engineering institution in the Vindhya region.

Beginning with foundational engineering principles and professional practices, the programs establish a robust and adaptable framework that prepares graduates for a wide range of engineering roles. Students then have the opportunity to specialize in



specific areas of concentration, enabling them to excel in their chosen engineering positions.

Following programs are offered by the Faculty of Engineering & Technology-

UG Level Courses (4 Year Degree Programme)	B. Tech in (Mechanical Engineering/ Civil Engineering/ Electrical Engineering / Mining Engineering/ Computer Science & Engineering/Cement Technology)
PG Level Courses (2 Year Degree Programme)	M. Tech (Mechanical Engineering/ Civil Engineering/ Mining Engineering/ Cement Technology/ Computer Science & Engineering)

There are numbers of adequate Laboratories and workshops for the hands-on training of the students. The strength of a FET is by its experienced teaching faculty members having equal knowledge.



**Electrical Instrumentation Lab** 



Basic Electrical Engineering Lab







Mechanical Engineering Laboratory

Central Workshop

#### 2.1.3. Faculty of Life Science & Technology

The **Faculty of Life Science & Technology** has been established with the objective of delivering high-quality education and practical research exposure to cultivate skilled and well-trained biotechnologists and entrepreneurs, in alignment with the needs of academia and industry in the fields of Microbiology and Biotechnology.

The faculty is strengthened by the intellectual contributions of a dedicated team of faculty members and students from across the country. It has a solid foundation in Microbial Technology and Plant Biotechnology, with a primary focus on key areas such as Genetics, Molecular Biology, Industrial Microbiology, Immunology, Bioinformatics, Biochemistry, and other contemporary fields related to Microbiology and Biotechnology.

Students receive comprehensive training in Microbiology, Biochemistry, Genetics, Developmental Biology, Genetic Engineering, Biochemical Engineering, as well as aspects of Biophysics, Biostatistics, Environmental Biology, and Bioinformatics. The interdisciplinary nature of Biotechnology integrates Life Sciences, Chemical Engineering, and Bioprocessing, equipping students with knowledge of industrial processes and the application of chemical engineering principles to design process equipment and optimize production efficiency.



The Faculty of Life Science & Technology offers a range of academic programs, including a two-year Master of Science (M.Sc.) in Biotechnology, a three-year Bachelor of Science (B.Sc. Honours) in Biotechnology, a four-year Bachelor of Technology (B. Tech) in Biotechnology, and a two-year Master of Technology (M. Tech) in Biotechnology. Additionally, the department offers a Doctor of Philosophy (Ph.D.) program in Biotechnology.

## 2.1.4. Faculty of Pharmaceutical Science & Technology

The Faculty of Pharmaceutical Science & Technology (FPST) at AKS University, Satna, is a leading institution for pharmaceutical education and research in the Vindhya Region. Originally established in 2006 as the Rajiv Gandhi Institute of Pharmacy, the college was affiliated with Rajiv Gandhi Technological University in Bhopal and became a constituent unit of AKS University in 2012. The Rajiv Gandhi Institute of Pharmacy is approved by the Pharmacy Council of India (PCI), New Delhi.

FPST offers a comprehensive four-year Bachelor of Pharmacy (B. Pharmacy) program, as well as a three-year lateral entry Bachelor of Pharmacy (B. Pharmacy LE) program. Additionally, the department provides a two-year Master of Pharmacy (M. Pharm) program with specializations in Pharmaceutical Chemistry and Pharmaceutics.







Laboratory Facilities at Faculty of Pharmaceutical Science & Technology

## 2.1.5. Faculty of Computer Application & Information Technology

The Faculty of Computer Applications and Information Technology at AKS University, Satna, is dedicated to equipping students with the vision, creativity, and innovation necessary to navigate the challenges of the corporate world. The department is supported by highly qualified and experienced faculty members who play a pivotal role in the university's academic success.

The faculty is committed to providing an updated curriculum that integrates theory with practical applications, projects, and seminars, enabling students to analyze, develop, and monitor computer systems and their diverse applications. Key objectives include enhancing problem-solving abilities, fostering innovative thinking, promoting analytical skills, encouraging teamwork, and developing strong communication skills. The curriculum also emphasizes readiness to embrace emerging technologies such as artificial intelligence, the Internet of Things (IoT), machine learning, cloud computing, and network security.

The Faculty of Computer Applications and Information Technology features well-equipped laboratories with the latest software updates and a proprietary Management Information System (MIS). Additionally, the department boasts a highly competent teaching staff, further ensuring a robust learning environment for students.



#### 2.1.6. Faculty of Basic Sciences

The Faculty of Basic Sciences at AKS University, Satna, is dedicated to promoting collaborative and interdisciplinary research across various fields of Physics, Chemistry, and Mathematics to meet the evolving needs of society. Basic sciences and research are recognized as vital tools for cultivating a new generation of thinkers and leaders in Science and Technology. In India, the importance of basic science and research has increased significantly in higher education, supported by governmental initiatives such as KVPY, NTSE, and the establishment of prestigious institutions like IISER, NPL, ISRO, TIFR, and developments in Solar and Nuclear Power Plants.

This program's uniqueness lies in its interdisciplinary framework, integrating engineering principles with a strong foundation in the basic sciences. Currently, the Faculty of Basic Sciences offers Bachelor's, Master's, and Ph.D. programs in the domains of Physics, Chemistry, and Mathematics.



**Chemistry Lab of Basic Science** 

**Physics Lab of Basic science** 

#### 2.1.7. Faculty of Commerce & Financial Studies

The Faculty of Commerce and Financial Studies at AKS University is renowned for its excellence in teaching within a dynamic academic discipline. Our high-caliber academic programs are underpinned by the belief in the transformative power of ideas.



Our faculty, alongside a diverse student body from various social backgrounds, collaborates to uphold the department's distinguished reputation for education at the forefront of economic, institutional, and organizational aspects of commerce.

We are committed to providing a conducive environment for quality education in Commerce, Entrepreneurship, and Research through innovative practices and a focus on holistic development. The faculty is dedicated to establishing itself as an institute of academic excellence, emphasizing the importance of quality education in Commerce and related fields while fostering a concern for societal improvement. We aim to cultivate social, moral, ethical, and intellectual skills in our students, empowering them to become nation builders and sources of inspiration.

Our courses present rigorous challenges, yet our students embrace them, exemplifying our motto: "We demand a lot, but we also give a lot." The Faculty of Commerce and Financial Studies offers a range of courses with specialized areas designed to equip students with the skills necessary to thrive in today's competitive landscape.

UG Level Courses (3 and 4 Year Degree	Bachelor of Commerce (Hons.)
Programme)	Bachelor of Commerce
PG Level Courses	M.com
(2 Year Degree Programme)	

## 2.8. Faculty of Management Studies

At AKS University, the Faculty of Management Studies is dedicated to delivering excellence in management education. With a robust emphasis on research, innovation, high-quality publications, and corporate consultancy, we have established ourselves as a leading institution in the field.



## **Programs Designed for Success**

Our comprehensive portfolio includes BBA (H), MBA, and Ph.D. programs, all designed to equip students with the skills and knowledge essential for successful careers in the corporate sector. Whether students are embarking on their academic journey or seeking to advance their careers, our programs provide an ideal platform for professional growth.

#### **Proven Track Record of Success**

With a long-standing reputation for educational excellence and a strong placement record, the Faculty of Management Studies at AKS University is the preferred choice for aspiring professionals. Our community of successful alumni has made significant contributions to top companies across various industries, reinforcing our commitment to quality education.

## Flexible Learning Opportunities

We offer a diverse array of programs tailored to accommodate varying interests and career objectives, allowing students the flexibility to select a path that aligns with their aspirations. Whether specializing in a specific area or exploring multiple facets of management, our programs lay a solid foundation for growth and success.

- BBA (Bachelor of Business Administration) (with Two Specializations)
- MBA (Master of Business Administration) (with Five Specializations)
- Ph.D. (Research Programmes)

#### 2.1.9. Faculty of Social Sciences & Humanities

Social work is an interdisciplinary field that explores the lives and experiences of socially vulnerable populations. A central focus is the investigation of the sources and consequences of social problems at micro, meso, and macro levels. The relevance of social work lies particularly in the analysis of various interventions designed to prevent or alleviate these issues. This field encompasses organizational and professional research, examining how social work is structured and implemented.



At the Faculty of Social Sciences & Humanities, we take pride in our student-centered approach, which provides flexibility and support for each student to craft their own educational journey. Students can combine programs and certificates across different disciplines, pursue double-major degree programs, or engage in unique interdisciplinary experiences in areas such as Work and Employment, Indigenous Studies, and Race & Ethnicity.

As part of the AKS University family, students not only receive a high-quality education but also benefit from valuable opportunities to learn beyond the classroom. We emphasize the development of life and employment skills, including competencies in research and leadership, empowering students to address significant societal challenges.

Both undergraduate and postgraduate research opportunities are readily available within our community and abroad, alongside peer mentorship training and practical application, enhancing the overall educational experience.

Faculty of Social Sciences & Humanities also offers courses of Masters Degree in Yoga

2 Yrs	B.A.
2 Yrs	M.A. Yoga
1 Yrs	PG. diploma of yoga
3 Yrs (Minimum)	Ph.D

AKS University is dedicated to upholding the highest standards in the science of yoga as a comprehensive system for personal advancement. Our commitment to the practice of yoga promotes individual growth and well-being.



The yoga program we offer is designed as a holistic approach to harmonious living, catering to the diverse needs of all participants. This comprehensive system addresses various aspects of life, including physical health, mental well-being, emotional behavior, and workplace dynamics.

Central to our philosophy is the concept of awareness; practitioners are encouraged to explore and understand all dimensions of their personality through yoga. This integration of physical, mental, and emotional practices fosters a balanced lifestyle, supporting personal development and overall well-being.

## 2.1.10. Faculty of Education

Established in 2012, the Faculty of Education at AKS University is approved by the National Council for Teacher Education (NCTE). This co-educational institution offers a two-year B.Ed. course designed to instill professional values and enhance the learning skills of teacher educators through the development of the "4Cs": Curiosity, Creativity, Competence, and Compassion.

The Faculty of Education is dedicated to fostering quality and excellence in the training of value-oriented prospective teachers for society, equipping them with the knowledge necessary to navigate emerging areas of education in a technology-driven world.

## 2.2 Teaching Learning Process

#### 2.2.1 Curriculum Components

The curriculum at AKS University is designed as a comprehensive plan that outlines the teaching and learning processes required for students in various academic programs. Serving as a vital foundation of the educational structure, the curriculum encompasses clear objectives, learning outcomes, course content, study schemes, teaching methodologies, and assessment methods. In light of rapid technological advancements and the emergence of new disciplines, it is essential for the curriculum to remain dynamic, undergoing regular reviews and updates.



To fulfill its mission of nurturing the next generation of leaders, AKS University is committed to providing students with the resources necessary to explore and pursue a wide range of academic and recreational interests. The university emphasizes the development of 21st-century skills, including teamwork, problem-solving, research, time management, information synthesis, and the effective use of high-tech tools. This skill set empowers students to take charge of their own learning journey, guided by experienced faculty members.

At AKS University, exploration, creation, learning, and critical thinking are fundamental pillars of our pedagogical approach. We excel in delivering an education grounded in systematic pedagogical principles, which manifest as practical learning experiences. This prepares students to pursue career paths that align with their interests and expertise. Our Project-Based Learning approach integrates real-life contexts and technology into the curriculum, encouraging students to become independent thinkers, critical analysts, and lifelong learners.

Our thoughtfully designed modules aim to produce employable graduates equipped to excel in industries, businesses, and public service sectors. We achieve this by enhancing their skill sets related to the integration and application of technical concepts, interactive development, creative problem-solving, and innovative methodologies.

Additionally, our curriculum emphasizes personality development, fostering a commitment to a sustainable environment through the incorporation of human values, yoga, and meditation. This holistic approach aims to enhance students' employability while building their confidence, innovative skills, and creativity.

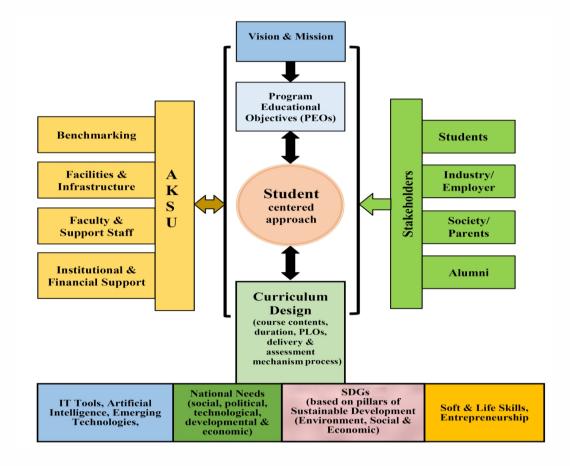
# 2.2.2 Outcome Based Education (OBE) – Curriculum Development Framework

Outcome-Based Education (OBE) is a teaching and learning approach that prioritizes the specific competencies students are expected to achieve by the conclusion of their educational programs. This student-centered framework emphasizes not only



what students should know but also what they should be able to do as a result of their learning experiences.

In the context of OBE, curriculum development involves the integration of program objectives and learning outcomes that reflect feedback from various stakeholders, ensuring alignment with the institution's Vision and Mission. This systematic approach facilitates a more effective educational experience, ultimately equipping students with the skills and knowledge necessary for success in their respective fields.



## 2.3 Teaching-Learning & Evaluation System

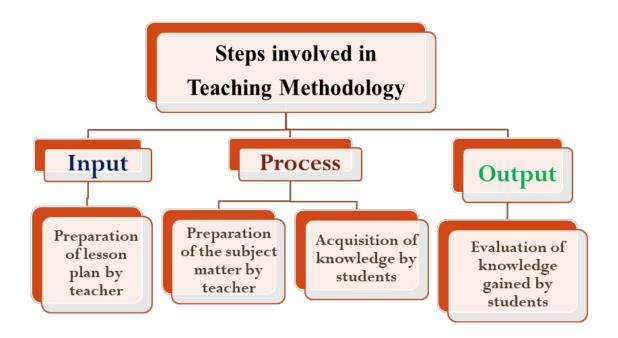
AKS University implements multiple and continuous activity evaluations to ensure a high standard of education and academic integrity. This commitment is



communicated through various information dissemination mechanisms, including the college calendar, which is distributed to all students and faculty members at the beginning of each academic session.

The Controller of Examinations (CoE) oversees all internal examinations and coordinates the logistics for university-wide assessments. To enhance student learning, AKSU has developed an innovative Teaching-Learning and Evaluation process designed to effectively measure the knowledge and skills acquired at different levels of its programs.

The university operates under the premise that evaluation is fundamental to examination and that examinations are critical for comprehensive assessment. As a result, AKSU has instituted a diverse array of evaluation processes that run parallel to curriculum delivery, thereby ensuring a robust framework for academic assessment.

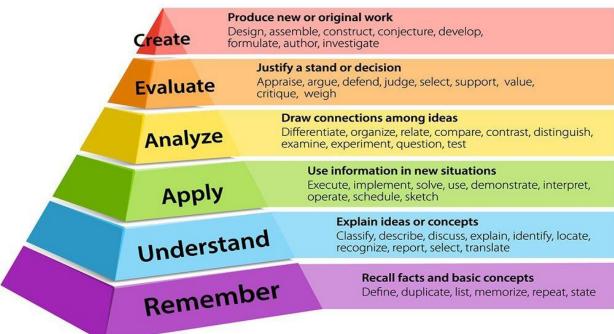


Teaching to students by adopting Bloom's Texonomy helps the students to

- Understand various levels of learning
- Apply the Knowledge to innovate and create
- Meet out the learning objectives



# Bloom's Taxonomy



#### 2.4 Strategies of AKSU

- AKSU has developed an integrated academic support model to enhance the quality of higher education for undergraduate and postgraduate students.
- ➤ The adoption of the Choice-Based Credit System (CBCS) provides a student-centric approach that facilitates diverse learning opportunities and clearly defined learning goals.
- The CBCS curriculum fosters 360-degree student development through Core Courses, Discipline-Specific Courses, Generic Electives, University Fundamental Skills Courses, and non-credited courses focused on Environmental Consciousness, Green Credits, and Yoga & Meditation.
- ➤ We employ Bloom's Taxonomy-Based Evaluation to promote higher-order thinking skills among students, progressing from basic to advanced cognitive abilities.



- Our Team-Centric Exercises and Key Point Pedagogy provide effective learning models for slow learners.
- Project-Based Learning enhances critical thinking, communication, and cooperation skills while fostering innovations in experiential learning through practical study.
- ➤ We emphasize blended and multidisciplinary learning to uncover its transformative potential at AKSU.
- Industry-academia interaction is strengthened through MOUs and collaborations with organizations like Synergy University, Moscow; MUSE Mantra, USA; PRSI, India; Symmetrix; the World Wildlife Fund; Mandideep Industrial Association; IBM; I-Nurture; and Wiley-IIML, with educational tours providing direct industry exposure.
- ➤ We apply SWOT analysis across all educational aspects to address societal expectations and ensure institutional accountability.
- Our methods for generating employability skills, internships, and placements groom students to become highly organized individuals ready for responsible positions.
- We enhance quality through best practices in library services.
- > Our initiatives adhere to the university's vision, mission, and core values.
- Personality development and communication skills training prepare students for roles in reputable organizations, utilizing their knowledge and skills for societal betterment.
- ➤ Technical and professional competency mapping educates students to leverage interpersonal skills for organizational success.
- Through NSS, NCC, and UCC, students engage in social activities that encourage significant contributions to global research efforts.
- Our state-of-the-art infrastructure and laboratories provide students with hands-on experience with the latest technologies.



#### 2.5 Mentorship Model

At AKS University, we believe that mentoring is an invaluable experience that plays a crucial role in the growth and development of all participants. Establishing effective mentor-mentee relationships is fundamental and requires creating a safe, supportive environment that fosters trust, goal-setting, and collaborative problem-solving.

To enhance our students' academic and personal development, we assign a faculty mentor to each student. Each faculty mentor is responsible for guiding a group of 30 students throughout their entire academic tenure at AKSU. This structured mentoring program ensures that students receive consistent support and personalized guidance, empowering them to navigate their educational journey successfully.



At AKS University, we emphasize the collaborative nature of mentoring, where both students and their mentors share the responsibility for fostering productive and rewarding relationships. Each party plays a crucial role in the success of the mentoring process.

For students, mentors serve as invaluable guides throughout their academic journey. They offer both professional and personal advice, providing constructive



feedback on various aspects of career development, including writing, teaching, and overall career design. Mentors assist students in balancing their professional aspirations with personal commitments, offering emotional support and encouragement during challenging times. This partnership is integral to the holistic development of our students, helping them navigate their educational experiences with confidence and resilience.



# 3 Research Development and Innovations

#### 3.1 Brief Summary of Research, Innovations, and Extension

In 2021-22, AKS University Satna made significant strides in research, innovation, and community extension, emphasizing industry collaboration and societal impact. The university established dedicated research centers focusing on biotechnology, renewable energy, and sustainable agriculture, supporting projects with real-world applications and securing grants for cutting-edge studies. Faculty and students contributed to numerous publications in reputed journals, while collaborative projects with industry partners strengthened the relevance and applicability of their research. Innovation was further fueled by the development of prototypes in fields such as water conservation, eco-friendly materials, and AI-driven technologies, showcased in university-led exhibitions. Extension activities were integral to AKS University's mission, with initiatives like rural education programs, health awareness camps, and skill development workshops benefiting surrounding communities. These efforts not only bolstered the university's academic footprint but also instilled a strong sense of social responsibility in students, who actively participated in these outreach programs. Through these efforts in research, innovation, and community service, AKS University underscored its commitment to fostering knowledge, innovation, and societal well-being in 2021-22.

#### 3.2 Research Projects

#### 3.2.1 Internally funded Research Projects

In 2021-22, AKS University Satna promoted a culture of research by internally funding a series of impactful research projects across various disciplines. These projects aimed to advance knowledge and innovation in areas relevant to regional and national development. Key research themes included sustainable agriculture practices, renewable energy solutions, water management, and advanced materials. Faculty and student researchers were encouraged to pursue innovative ideas with practical applications, with funding allocated to support necessary resources, equipment, and fieldwork. This initiative not only fostered an environment



of inquiry and creativity within the university but also provided valuable research experience for students. By prioritizing internally funded projects, AKS University strengthened its commitment to addressing societal challenges through research and positioned itself as a hub for innovation and problem-solving.

#### 3.2.2 Research Papers

Number of research papers published Teacherwise in the Journals as notified on UGC CARE List

Name of Research	Name of	Name of	Name Of
Paper	Author	Department	journal
Isolation and	Virendra	Food	Asian Jr. of
Molecular	Kumar	technology	Microbiol.
Identification of	Pandey and		Biotech. Env.
Strain Exhibiting	Deepak		Sc.
Acidic Pectinase	Mishra		
Activity from Fruit			
Waste			
Qualitative and	R. Nigam, R.	Biotechnology	Journal of
Quantitative	Arnold		scientific
Phytochemical			research
Screening and			
Chemical Fingerprint			
Analysis of Herbal			
Plant Phyllanthus			
niruri using HPTLC			
Characterization of	Monika Soni,	Biotechnology	Journal of
multi-trait plant	Kamlesh	Diotectifiology	Applied and
growth promoting	Choure		Natural Science
Pseudomonas	Choure		Natural Science
aeruginosa from			
chickpea (Cicer			
arietinum)			
rhizosphere			



Comparative	Kamlesh	Biotechnology	Frontiers in
Metagenomic	Choure,	Diotechnology	Genetics 12
Analysis of Two	Shreyansh		Genetics 12
Alkaline Hot Springs	Parsai, Arpit		
of Madhya Pradesh,	Srivastava,		
India and Deciphering	Piyush Kant		
the Extremophiles for	Rai		
Industrial Enzymes	Kai		
maastrar Enzymes			
Media Optimization	Shukla S and	Biotechnology	Journal of
for Production of	Mishra D		Scientific
Recombinant Carrier			Research
Protein (CRM197) in			
Escherichia coli			
Chama mafiling of	Dubov CV	Diotochnologg	Plant Archives
Chemo profiling of Methanolic extract of	Dubey SK,	Biotechnology	
	Mishra D,		(International
Phyllanthus emblica	Khan A, Jha		Journal of Plant
Linn from five	M.		Research)
different localities of			
Vindhya region in			
India			
Optimization of	Shukla S and	Biotechnology	Journal of
Refolding process for	Mishra D,		Advanced
production of			Scientific
recombinant CRM197			Research
Protein from			
Escherichia coli			
Isolation and	Pandey V,	Diotochnologg	Asian Jr. of
Molecular	Gautam S and	Biotechnology	Asian Jr. 01 Microbiol.
Identification of			Biotech. Env.
	Mishra D,		
Strain Exhibiting Acidic Pectinase			Sc.
Activity from Fruit			
Waste			
Synthesis,	Dinesh	Chemistry	International
characterization and	Kumar		Journal of
acoustical parameters	Mishra		Research and
of synthesized cu(ii)			Analytical



metal complexes with 4-chlorobenzylidene.			Reviews (IJRAR)
Eco-friendly Synthesis of Biologically Active Spiro Heterocycles	Dr. Shailendra Yadav	Chemistry	Eco. Env. & Cons
Natural products as environmentally safe and green approach to combat Covid-19	Dr. Shailendra Yadav	Chemistry	Current Research in Green and Sustainable Chemistry.
Development and Validation of RP- HPLC Method for Dissolution Drug Release of Dimethyl Fumarate Delayed Release Capsules.	Dr. Samit Kumar	Chemistry	Analytical Chemistry Letters
Development and validation of a stability-indicating RP-HPLC method for the identification, determination of related substances and assay of dimethyl fumarate in drug substance	Dr. Samit Kumar	Chemistry	In Annales Pharmaceutiques Françaises
Chemometrics in Ascertaining Hydrogeochemical Characteristics of Coal Mine Discharge vis-à-vis Behaviour of Surface and Groundwater Resources of the	Nirmal Kumar, Mahendra Kumar Tiwari, Rambabu Singh and Abhay Kumar	Environmental Science	Mine Water and the Environment



Mahan River Catchment Area, Central India.	Singh		
Net Nitrogen Oxides Reduction By Selective Non Catalytic Reduction (SNCR) Installed At Heidelbergcement India Limited, Narsingarh, Damoh.	Mahendra Kumar Tiwari and Sandeep Kumar Tiwari	Environmental Science	Anvesak
Tree species used as Fodder in Madhya Pradesh.	Sikarwar, R.L.S.; Tiwari, Arjun Prasad; Garg, Arti; Sikarwar, Pooja Singh, Guruprasad, N.M. and Dubey, P.C.	Environmental Science	Jour. Non- Timber Forest Products 27 (3): 178-186.
Studies on Threat Status of tree species of Madhya Pradesh, India.	Khanna, K.K.; Dubey, P.C.; Tiwari, Arjun Prasad and Sikarwar, R.L.S.	Environmental Science	Indian Forester 147(2): 137-140.
Distribution and Conservation of Terminalia coronata (Stapf) Gere & Boatwr., in India.	Singh, Kaushal, Sikarwar, R.L.S. and Mishra, Deepak	Environmental Science	Indian Forester 147 (12): 1204-1207.
Modeling and Optimization of VEAM of 10% B4C/al Metal Matrix	Pankaj K Shrivastava	Mechanical	Engineering Research Express



Composite using			
ANN-SCA Approach			
An overview of Lagerstroemia speciosa	Madhu Gupta, Shikha Singh, Neha Goel, Prabhakar Singh Tiwari, Surya Prakash Gupta	PHARMACY	European Chemical Bulletin
Nanosponge Drug Delivery System in Skin Care Medical Products: A Comprehensivereview	Priya Diwedi, Evneet Kaur Bhatia, Durgesh Kumari Gupta, Surya Prakash Gupta	PHARMACY	Journal of population therapeutic and clinical Pharmacology

# 3.2.3 Books & Book Chapters

Number of books and chapters in edited volumes published Deportment and teacherwise during the year is detailed below.

Name of	Name of Author	Publisher	Name of Book/Book
Department			Chapter
Agri. Engg.	Virendra Pandey	Textbook of	
& Food		Food	
		Microbiology	
Agriculture	R.L.S. Sikarwar, and		Diversity of Climbing
	Arjun Prasad Tiwari,		Plants in Tropical Forests of
			Madhya Pradesh, India.
Agriculture	Ruchi Gupta,		Chrysanthemum
	Ashutosh Gupta,		Production, Viral Diseases
	Shampi Jain, Doomar		and Their Management,
	Singh, and Neeraj		Virus Diseases of
	Verma		Ornamental Plants
BioTech	Ashutosh Pandey		Algal biomass harvesting
			for biofuel production. In



			Algal Biofuel Eds Richa Kothari, VV Pathak, and VV Tyagi.
BioTech	Arpit Srivastava		Serving Life Science with Sublime Leadership of Krishna Consciousness
CSE	Dr. Akhilesh A. Waoo		Performance Analysis of Sigmoid and Relu Activation Functions in Deep Neural Network
Education	Bhagwan deen	Shaley sanskriti netratav evam shikshak vikash	
EVS	Sheelendra upadhyay & kuldeep singh		Effect of Pollution by Cement Industries in Trees and Crop.
GPB	Dr. Bineeta Singh	Practical manual for Genetics & Plant Breeding	

# 3.2.4 Patents & Copyrights

Number of Patents awarded during the years 2023-24

<b>Date</b> of	Name of the Faculty/student	Patent Number	Patenet Awarding Agency
Award	author of the patent		Patenet Awarding Agency
09/01/2023	Sumit Pandey & Dr. Surya	202321040555	Indian Patent Office
	Prakash Gupta		
4/30/2021	Dr. Akhilesh A. Waoo	202121010361	Indian Patent Office
12/8/2021	Dr. Pankaj K Shrivastava	2021106933	Australian Patents
		(Granted)	
11/17/2021	Dr. Pankaj K Shrivastava	2021106599	Australian Patents
		(Granted)	



# 3.2.5 Internal Research Project

Project Title	Name of Faculty (PI)	Department
Descriptive study of retail food marketing in Satna MP	Dr Kausik Mukherjee	Business Admistration
Study of edible oils marketing and it's market research in and around Satna MP	Dr Deepak Chaurasia	Business Admistration
A study of trend of the selection process in the service sector of Satna MP,	Dr Pradeep Chaurasia	Business Admistration
Study of perceptions of consumers towards online Marketing inVindhya region of MP,	Mr Chandan Singh	Business Admistration
A comparison and analysis between institutional Vs non-institutional source of finance for farmers of rural Satna	Sweeta Singh	Business Admistration
Empirical study of manpower management in private schools of Satna MP,	Chandan Singh	Business Admistration
Response of organic manure and age of seedling on growth and yield of Broccoli (brassica all Rasiya variety italica) cv. Besty	Dr. Abhishek Singh	Horticulture
Impact of organic manure on growth yield and quality of Knol Khol (Brassica oleracea Var.gongylodeL.) cv. Green Wonder	Dr. Abhishek Singh	Horticulture
Fect of organic manure and inorganic fertilizer on growth yield and quality of Garlic (Allium sativum L.)	Dr. Abhishek Singh	Horticulture



# 3.2.6 Seed Money

Name of the faculty receipient of Seed Money	Name of the Project
Dr. Reni Nigam	Antimicrobial activity of medicianl plants found in Vindya region
Dr. Deepak Mishra	Pectinase priduction on fruit waste substrates
Pragya Shrivatava	To Develop an Online Examination System for Students and Prepare an Online System for Submitting Tuition and Examination fees
Dr Akhilesh A. Waoo	wireless sensor network implementation for soil moisture monitroning in smart forming
Dr SK Pandey	Coservation and Promotion of Sahiwal and Gir cattle
Dr Pranesh Singh Baghel	Evaluation of egg quality of indigenous chickens
Ms Garima Singh	Evaluation of best practices for increasing milk yield in Sahiwal and Gir cows
Mr. Ayodhya Prasad Pandey	Development of seed testing laboratory for the seed quality assessment.
Mr. Sanjay Lilhare	Contingent crop planning (CCP) for mitigating climate change on crop production
Dr. Balaji vikram (P.I)	High and ultra high-Density planting of Different promising cultivars of Mango under vindhya region of satna M.P.
Dr Rohit Omar	Alternate of River sand fine aggregate for Manufacture of concrete



Dr Sailendra Yadav	Development of Mechanical Grinding Assisted Microwave Sythesizer for Synthesis of organic compounds and Its Application
Dr. Surya Prakash Gupta	Synthesis and Evaluation of Anti-Microbial Activity of Some Schiff's Bases of Indazole
Dr. Surya Prakash Gupta	Analytical method development for estimation of naringin by high performance liquid chromatography
Dr. Surya Prakash Gupta	Development of Phytopharmaceuticals for Neurodegenerative Disorders
Dr. Gopal Garg	Ethnomedicine and Drug Discovery from Tribal Regions
Dr. Madhu Gupta	Isolation and Characterization of Novel Compounds from Endemic Plant Species
Dr. Rama Shukla	A Fault prediction Analysis of 3 phase induction Motor
Dr. Sudha Agarwal	Cosmic acceleration of the Universe in modify theory of gravity via observational constraints
Mr. Virendra Pandey	Development and quality evaluation of lemon Squash
Dr. Anil Kumar Mishra	Physiotherapy management of acute osteoarthritis patient

# 3.3 Conferences/workshop/Conclave/Expo organized at AKS University Satna

List of Conferences Seminars Workshops Attended by the the teaching Faculty Members

Name of Conferences Seminars Workshops	Organising Date	Name of Department
Interactive International Workshop		
on "Research Methodology"	4-8 Apr 2022	Management



Anxiety, Stress Management &		
Image Management	1-Apr-22	All
Plant genetic Engineering	12-16 Jul 2021	BioTech/Pharma
Immunobiological Techniques	26-30 Jul 2021	BioTech/Pharma
Recombinant DNA Technology	2-6 Aug 2021	BioTech/Pharma
Applications on Labour Laws and New Labour's codes in India	12 Jun 2022	Management
A Seminar on World Microbiome Day	27 Jun 2022	
One day Hands-on workshop on "ORGANISING MICROSOFT CAREER PROGRAM"	16 Jun 2022	CSIT
Industry-Academia seminar (Mining)	22 Mar 2022	Mining/Civil/Cement
Online workshop on the topic "Intellectual Property Rights (IPR) Patents and Design Filing "	25 Mar 2022	Engg/Management/BioTech
International Conference on Emerging Trends in Artificial Intelligence and Smart Systems (THEETAS-2022)	16-17 Apr 2022	All Engg
national webinar on the very crucial topic "Personality Development"	19 Feb 2022	All
National Mathematics Day	22 Dec 2021	Basic Sci
•	22 Dec 2021	Basic Sci
"Drugs and Diseases Don't Discriminate"	28 Dec 2021	Pharma
"An Overview of Electroanalytical Carbon-Based Nanosensors: The Current Status and The Future Prospect"	21 Dec 2021	Basic Sci
Ecofriendly Techniques using Hydrotrophy, Mixed Hydrotrophy and Mixed Solvency Concept"	20 Dec 2021	BioTech/Pharma
International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BREEECH 2021),	1-4 Dec 2021	All Ag/ BioTech



A Training Program on *Two- and Three-Dimensional Building Modelling Using Archi CAD And AutoCAD*	29 Nov-5 Dec 2021	Civil
4th International Conference on Recent Trends in Business and Entrepreneurial Ventures'.	27-28 Nov 2021	Management/Commorce
Pharma Orientation Ceremony - 2021'	11 Oct 2021	Pharma
National Seminar on the topic "Implementation of National Education Policy- 2020: Research and Innovations".	19 Oct 2021	Education/Art/Commorce
'International Conference on Bioengineering Solutions for Healthcare, Food, Energy and Environment (BSHFEE 2021)'.	18 Sep 2021	BioTech/Ag
"Opportunities and Challenges in Food Industries".	17 Sep 2021	Food Tech
A workshop on *'Mandala Art'*	16 Sep 2021	Art/Ecducation
7th Workshop on "Recombinant DNA Technology"	6-10 Sep 2021	BioTech/Pharma
National webinar on the topic 'Agribusiness Opportunity for Micro Industries & Youth of Madhya Pradesh' under	26 A 2021	A . (D. f.
"Atmanirbhar Bharat Abhiyan"  "Role of Universities in National Education Policy 2020".	26-Aug 2021 16 Aug 2021	Ag/Management  Art/Ecducation/Basic Sci
6th Workshop on "Immunobiology Techniques"	16-20 Aug 2021	BioTech/Pharma
a national conference on "Indian Startups and Our Economic Development"	29 Aug 2021	Management/Commorce
National Webinar On "Reimagining Education For 21st Century Learners"	7 Aug 2021	Education/Art





Social Science & Management Welfare Association Faculty of Management Studies, AKS University Satna (M.P.), INDIA



#### **National Conference On**

# Indian Startups and Our Economic Development



Date

29 August 2021, Sunday, Time: 11am

Venue AKS University, Panna Khajuraho Road Sher Ganj, Satna (M.P.), INDIA on Google Meet

# Chief Guest & Speakers



Er. Anant Kumar Soni Chairman & Pro Chancellor AKS University Satna (M.P.



Prof. Dr. Harshvardhan Srivastava Pro Vice Chancellor (Development) AKS University, Satna (M.P.)



Prof. Dr. Bikrama Singh Former Head Dept. of Economics & Dean of Social Science & DSW Magadh University, Bodhgaya, Biha



Dr. D. Vishwakarma Secretary - SSMWA President - YEA



Dr. Shauli Mukherjee Director & Dean-Students Affairs, Adamas University, Former Founder Principal Adamas World School & STEM World School Global Thought



Dr. Veerendra V. Shanbhag Principal PU College, Bhatkal, Uttara Kannada, Karnataka



Dr. A. William
Principal, Government Arts &
Science College, TC Cross Road,
Vanur Taluk, Villupuram, Tamil Nadu
Advisory Board Member SSMWA



Dr. Santosh Kumar Arsiya Mahatma Gandhi Chitrakoot Gramodaya University, Chitrakoot, Satna Member SSMWA



Dr. Kausik Mukherjee Associate Professor (HOD Faculty of Management AKS University, Satna (M.P.

# **Best Paper & Presentation Award**

Registration & Last Date of Abstract : 23-08-2021 Last Date of Full Paper : 25-08-2021

Please use font Times New Roman for English and Kruti Dev 010 for Hindi

#### REGISTRATION FEES

Registration Fees - 400/-

International Journal, ISSN: 2454-4655 Peer Reviewed & Impact Factor 5.2

Hard Copy - 800/-

Social Science & Management Welfare Association

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Registration & Paper Submission Date Last Date of Abstract : 23-08-2021 Last Date of Full Paper : 25-08-2021

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MSME DEVELOPMENT INSTITUTE INDORE

In Association With

**Organising Webinar on** 



# AGRIBUSINESS OPPORTUNITY FOR MICRO INDUSTRIES & YOUTH OF MADHYA PRADESH

# UNDER ATMANIRBHAR BHARAT ABHIYAN



JT. Director/HOO

(Admin)



Sh. Anant Kumar Soni



AKS University, Satna



Head, Agricultural Sciences, AKS University, Satna

**Chief Speaker** 

Dr. K.V. Ramana Rao **Principal Scientist** & PI-NAIF-ABI ICAR-CIAE, Bhopal



Mr. Gaurav Goyal Assistant Director MSME-DI, Indore



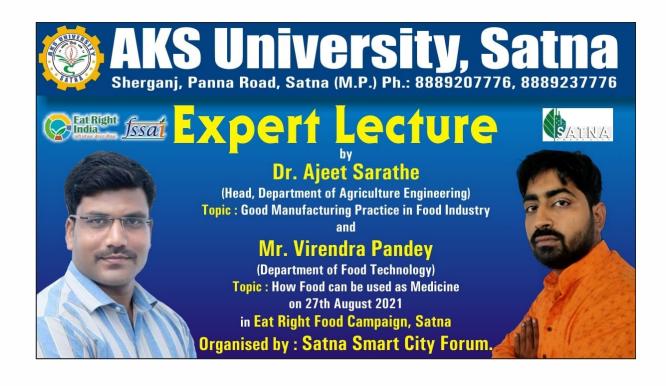
Director, CRIISD



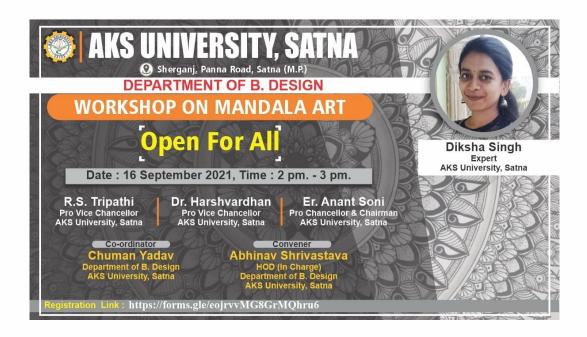
Date: 26/08/2021

Dean, Faculty of Agricultural

Time: 3.00 pm onwards













# AKS University, Satna

Department of Civil Engineering

# **INDUSTRIAL TRAINING**

ON

"Two And Three **Dimensional Building modelling** using Archi CAD and Autocad"

BY



**Vaanahaa Education & Innovation** Labs Private Limited Kolkata (W.B.)

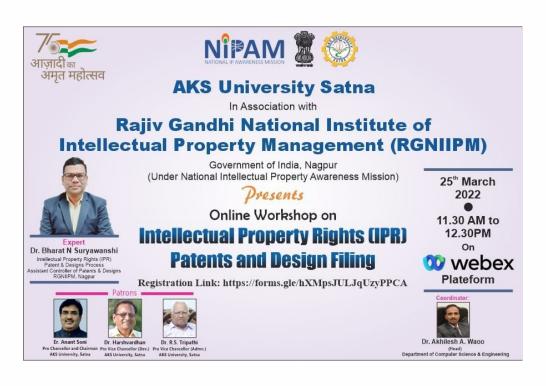
















#### **4 AKS University Achievements**

AKS University is dedicated to fostering quality research that enhances knowledge and develops the capabilities of our faculty and students. We emphasize the importance of creating and sharing knowledge through the publication of research papers and the writing of books and book chapters. Publishing research is crucial for universities and academics for several reasons:

- Accountability: As a publicly funded institution, AKS University is accountable
  to the community. Publishing research ensures that findings are accessible,
  reinforcing the responsibility of academics to contribute meaningfully to their
  fields.
- Career Advancement: A strong publication record is often essential for tenure and academic promotions, opening doors to additional professional opportunities within academia.
- **Knowledge Sharing:** Publication enables researchers to disseminate their findings, engage in peer review, and contribute to the advancement of their disciplines. Published work serves as a valuable resource for future researchers.
- **Funding Opportunities:** Successful publications can enhance the university's visibility, potentially attracting additional funding from various sources.
- **Teaching Positions:** Faculty members with a strong publication record are often favored for teaching positions, highlighting the significance of research in educational roles.
- **Higher Education Access:** Research publications can enhance students' applications to reputable higher education programs, both domestically and internationally.
- **Scholarship Competitiveness:** Published papers in peer-reviewed journals strengthen scholarship applications, particularly for master's and Ph.D. programs.
- Research and Writing Skills Development: The research and writing processes help students deepen their understanding of topics while honing their expertise.



• Employment Differentiation: A strong publication record can distinguish graduates in the competitive job market, providing them with a significant advantage.

Through our commitment to quality research and publication, AKS University aims to empower our faculty and students to contribute to their fields and advance their careers while enhancing the academic reputation of the university.

#### 4.1 Faculty Development Program

Faculty Development Programs (FDPs) play a crucial role in enhancing the teaching-learning process and promoting academic excellence. These programs provide faculty members with opportunities to update their knowledge on the latest advancements in their fields, learn innovative teaching methodologies, and explore new pedagogical strategies. By facilitating networking among educators from various institutions, FDPs foster the exchange of ideas and experiences, creating a collaborative academic environment. Topics typically covered include curriculum development, research methodologies, and technology-integrated learning, ensuring that faculty are equipped to engage students effectively and enhance their educational experience. Led by experts from renowned institutions and industry professionals, these programs focus on developing research skills and capabilities, further contributing to the academic growth of both faculty and students. By participating in FDPs, faculty members at AKS University are empowered to deliver high-quality education, which significantly impacts the institution's reputation and the overall development of its student body. This commitment to continuous professional development underscores the university's mission to achieve excellence in education, preparing faculty to meet the evolving demands of the academic landscape. The scenario due to Covide-19, there are many thinghs going to change continuously in teaching and learning processes are chiged. Through these initiatives, AKS University reinforces its dedication to fostering a culture of lifelong learning and innovation.



Department	Title	Date
IQAC	Faculty development program on virtual lab	03-08-2022 to 07-08-2022
IQAC	Faculty development program on research methodology	18-04-2022 to 22-04-2022



Faculty development program on Virtual Lab





Important Dates: Last date for receipt of applications: 17-April-2022

#### Chief-Patron:

Er. Anant Kumar Soni Chairman & Pro Chancellor AKS University, Satna (M.P.)

#### Patrons:

Dr. R.S. Tripathi InCharge VC & Pro VC (Administration) AKS University, Satna (M.P.)

Dr. Harshvardhan Shrivastava Dean & Pro VC (Development) AKS University, Satna (M.P.)

#### Co-Ordinators & Moderator:

Dr. Pradeep Chaurasia Assistant Professor Faculty of Management Studies AKS University, Satna (M.P.)

Mr. Pramod Kumar Dwivedi Assistant Professor Faculty of Management Studies AKS University, Satna (M.P.)

Mr. Anurag Singh Parihar Assistant Professor Faculty of Management Studies AKS University, Satna (M.P.)

Er. Prakash Kumar Sen Assistant Professor Faculty of Management Studies AKS University, Satna (M.P.)



### AKS University, Satna (M.P.)

One Week Faculty Development Programme

#### "Research Methodology"

To be held on 18-April-2022 to 22-April-2022

Organized By Faculty of Management Studies



#### Convener

Dr. Kausik Mukherjee Associate Professor & Head Faculty of Management Studies AKS University, Satna (M.P.)

#### About the AKS University:

AKS University , is primed to fulfill its mission of developing & arming human resources with modern applied knowledge & competencies, harnessing knowledge for addressing multifarious local, regional & national challenges including creating skilled manpower to support the leapfrogging economic growth of India. enhancing engineering competitiveness through technology-development & technology-induction, enhancing agricultural productivity through Biotechnology & other innovations, environmental conservation through innovative technology & approaches. AKS University considers the paradigm of Think Global & Act Local as a key enabler in furtherance of its mission, vision and objectives, and towards this end, AKS is keenly exploring linkages with selected national & global Universities and Institutions of repute so as to maximize knowledge-exchange, joint research, faculty & student exchange, twinning programs, sharing best practices in higher education space; and thereby emerge as a globally-relevant institution in this interconnected world of today &future.

With emergence of many private Universities in India, a hope in the form of AKS University Satna emerged in the year 2011.



## 4.2 Academic-Industrial Partnerships (MoU)

The MoUs signed by AKS University in 2021-22 reflect its dedication to fostering academic excellence, enhancing research capabilities, and contributing to community welfare. These partnerships are instrumental in achieving the university's vision of creating a holistic educational environment and promoting innovation and sustainability.

<b>N</b> T 0.3	1	Τ	T
Name of the			
organization	Duration	Purpose of	List the actual activities
(MOU/Collabor		MOU/Collaboration	under each MOU year-
ation signed)			wise
Union Yoga	03 Years	Skill Development Training	Skill Development and
Ayurveda			Training, Faculty
			Development, Internships
			and Projects
Aegis I-Net Pvt.	Valid Until	AKS is RedHat Academy	90 students from the BCA
Ltd	Terminated	for Skill Development and	and B. Tech CSE
		Training, Faculty Development, Internships	programs. The workshop
		and Projects, Research and	aimed to provide students with a comprehensive
		Innovation, Career Support	understanding of computer
		and Placement, Community	networking concepts,
		and Outreach Programs,	practical skills, and the
		Monitoring and Evaluation	latest industry trends
Merck High End	01 Year	Hand on training of	virtual training of the
Skill		students	selected candidates
Development			
Centre			
IP Intellect	01 Year	Intellectual Property Rights	5 candidates selected for
Services (IPIS)		activities, including	the 3 months training and
		patents, trademarks,	internship
		copyrights, and design	
		registration.	
Mprex	05 Years	Internship in CRO	6 student internship and



Healthcare Pvt			hands on training
Ltd			
Grinson	02 Years	Student Internship and	6 student internship and
Phytoherb Pvt		training related to food and	hands on training for 3
Limited		nutraceutical products	months
Molechem	01 Year	Internship in	6 student internship and
Lifesciences Pvt		Pharmaceutical marketing	hands on training
Ltd		company	
Invitox R and D	02 Years	Preclinical laboratory work	4 student internship and
Institute		and the offering of student	hands on training
		internships	
Aster Analytical	02 Years	Work related to analytical	8 student internship and
Research		instruments and the	hands on training for 3
Institute		provision of student internships are key	months
		components in fostering	
		hands-on experience and	
		skill development for	
		students.	
IIT Delhi -	Valid Until	Virtual Lab for Engineering	FDP
Virtual Lab	Terminated	Students of Many subject	Student Lab Work in each
			semester

#### 4.3 Infrastructure & Resource Development

In the academic year 2021-22, AKS University continued to make strategic investments in infrastructure and resource development to enhance the quality of education and research. The university provided students and faculty with state-of-the-art laboratories across various disciplines, such as biotechnology, engineering, and environmental science. These advanced labs enabled hands-on learning and facilitated research in critical areas, including agriculture, renewable energy, and water management.



The university further expanded its library resources to support academic pursuits and research activities. Students and faculty had access to an extensive collection of books, journals, and e-resources, along with departmental libraries and an evolving e-library system. This enriched learning environment has been instrumental in fostering a robust research culture and academic excellence.

To support a technology-driven learning approach, AKS University invested in ICT-enabled classrooms and modern teaching aids, promoting interactive learning experiences. For the agriculture faculty, experimental fields and polyhouses were established, offering practical exposure to crop production and soil management techniques essential for students in agriculture studies.

Adapting to the challenges posed by COVID-19, AKS University developed an inhouse system to conduct online classes, internal assessments, and end-semester examinations.

Through these infrastructure enhancements and resource expansions, AKS University reaffirmed its commitment to providing an innovative, hands-on educational environment that supports both academic and professional growth, positioning itself as a modern, student-focused institution.

#### 4.4 Student Support and Progression

In 2021-22, AKS University maintained a comprehensive range of student support services to foster academic success, personal development, and career readiness. The university's initiatives included mentorship programs, counseling services, and skill development activities aimed at guiding students throughout their academic journey. Faculty mentors provided personalized support in course selection, research opportunities, and career advice, ensuring students had a clear pathway to achieve their goals.

The university continued to prioritize mental health and well-being, offering counseling services to help students manage academic stress and personal challenges. To enhance employability, AKS University organized workshops and training sessions on



communication skills, interview techniques, and resume building. Industry-aligned internships and placement programs connected students with top companies, increasing their job prospects after graduation.

Additionally, AKS University supported holistic development through extracurricular activities, such as sports, cultural events, and student clubs, creating a well-rounded university experience. These efforts underscored the university's commitment to student success, providing students with the resources, guidance, and support necessary to excel academically and prepare for professional careers. The 2021-22 academic year highlighted AKS University's dedication to nurturing skilled, confident, and socially responsible graduates.

#### 4.4.1 Value Added and Skill Development Course

Department	Mode of the Course-	Contact	No. Of
	offered by the HEI or	hours of	Students
	Online	course	
B Tech. Electrical Engineering	offline	30	23
Electrical AUTOCAD			
B Tech. Electrical Engineering	offline	30	23
Electrical Machnine Maintenance and			
Testing			
B. Tech. Mining Engineering	offline	30	61
Geostatistical Tools Application in			
Mine Design			
B Tech Civil Engineering Repair and	offline	30	31
Rehabilitation of Structures			
Master of Business Application Indian	online	30	71
Startups and Economic Development			
B Tech Biotechnology Bioformulation	offline	30	72
of Fungal and Bacterial Bio-Control			
Agents			



B Tech Biotechnology Immunological	offline	30	72
Techniques			
B Tech Biotechnology Recombinant	offline	30	72
DNA Technology			
B Tech Biotechnology Plant Genetic	offline	30	72
Engineering			
Environmental Science Environmental	offline	30	14
Quality & Management			



#### **5 Institutional Values**

#### 5.1 Brief Summary of Institutional Values and Best Practices

AKS University is committed to fostering an environment that upholds values of integrity, inclusiveness, excellence, and social responsibility. The university's core values reflect a dedication to holistic education that balances academic rigor with character-building, preparing students to contribute positively to society. AKS University places a strong emphasis on sustainability, innovation, and community engagement, ensuring that students and faculty are not only gaining knowledge but also applying it in ways that benefit their communities and the environment.

- 1. **Ethics and Integrity**: AKS University promotes ethical conduct and integrity across all levels. This includes policies that discourage academic malpractices and encourage transparency in academic and administrative processes.
- 2. **Environmental Sustainability**: The university implements green practices, including water conservation, waste management, and energy-saving initiatives. The establishment of experimental fields and polyhouses supports sustainable agricultural practices, emphasizing environmental responsibility.
- 3. **Community Engagement**: Through extension and outreach activities, AKS University fosters a culture of social responsibility. Programs that reach out to local communities, such as agricultural workshops, health camps, and educational support initiatives, allow students and faculty to address real-world challenges.
- 4. **Skill Development and Employability**: Recognizing the importance of preparing students for the workforce, AKS University offers regular workshops, internships, and industry collaborations. These activities focus on building practical skills, communication, and leadership qualities essential for professional success.
- 5. **Inclusive and Supportive Campus Environment**: The university promotes inclusivity through various support services, including counseling, mentorship programs, and dedicated support for differently-abled students. It also fosters a culture of diversity, respect, and tolerance, ensuring a welcoming environment for students from various backgrounds.



6. **ICT and Digital Resources**: AKS University emphasizes the integration of ICT in education, providing digital classrooms, e-libraries, and online learning platforms to facilitate modern, accessible education.

#### **5.2 Institutional Distinctiveness**

AKS University stands out for its commitment to practical, hands-on education, especially in agriculture and engineering. As a university located in a region with a strong agricultural foundation, it leverages its expertise to address the needs of rural and agrarian communities through research, extension activities, and community support. The following distinct features highlight AKS University's unique approach to education and community service:

- 1. **Focus on Agriculture and Sustainable Development**: AKS University's programs in agriculture, soil and water conservation, and renewable energy are tailored to address the challenges of sustainable development in rural areas. The university's experimental fields, polyhouses, and research in sustainable farming practices position it as a leader in agricultural education.
- 2. **Integration of Traditional and Modern Knowledge**: The university combines traditional knowledge systems, especially in agriculture, with modern scientific approaches. This unique blend helps students understand sustainable practices that are relevant to local communities while staying updated with global technological advances.
- 3. **Community-Centric Approach**: AKS University prioritizes community welfare by offering various training programs and extension activities in agriculture, health, and education. This approach ensures that knowledge generated within the university has a direct, positive impact on surrounding communities.
- 4. **Innovative Learning Environment**: The university's emphasis on experiential learning, combined with ICT-enabled classrooms and an extensive digital library, creates an innovative learning environment. Students are encouraged to engage in practical problem-solving, research projects, and internships, preparing them to face real-world challenges effectively.



# **6Achievements of AKS University Satna**

# 6.1 Award & Recognition

Number of awards received for research/innovations by the institution/teachers/research scholars/students

Name of the awardee	Name of the award	Name of the awarding body	Category of award (innovation/techology transfer etc)
Dr. Ashwini A Waoo	Star Performer Award	Career College Bhopal, FDP Under, ugc paramarsh scheme	Innovation
Dr. B. K. Mishra	Dr. P. N. Bose Award	The Indian Minning and Engineering Journal Dimond Jubilee Award Function (2021)	Innovation
Virendra Kumar pandey	MP Young Scientist award	MPCST Bhopal	Innovation
Sheelendra Kumar Upadhyay	Scientist associate award	Astha Foundation Meerut (U.P)	Innovation
Sheelendra Kumar Upadhyay	Innovative Environmentalist Award	Asian Biological Research Foundation (ABRF), Prayagraj (India)	Innovation
Sheelendra Kumar Upadhyay	Lal Bahadur Shastri glocal award for Biodiversity	Global Environment social Association	Innovation







# **6.2** Faculty invited as an External Expert

# i. Department of Environment

Faculty Name: Dr. R.L. Shikarvar

Year	Name of	Activities
	University/Company	
February,	CSIR- National Botanical	Received "Pushpangadan Biodiversity Access
2021	Research Institute, Lucknow	and Benefit Sharing Award-2020" given by Dr.
2021	(Uttar Pradesh)	P. Pushpangadan Charitable Society& CSIR-
		National Botanical Research Institute,
		Lucknow
March, 2021	CSIR- National Botanical	Chaired Session in XLIII All India Botanical
	Research Institute, Lucknow	Conference of Indian Botanical Society
	(Uttar Pradesh)	Delivered Lecture on "Plant Science, Plants,
		Plantations and Conservation of Biodiversity in
		Ancient Indian Scriptures"
October,	Department of Botany, Jai	Chaired Session in XLIV All India Botanical
2021	Narain Vyas University,	Conference of Indian Botanical Society
	Jodhpur (Rajasthan)	Delivered Invited Lecture on "Conservation of
		Biodiversity in Ancient Indian Scriptures"
November,	Chhattisgarh State	As Resource Person in Conservation



2021	Biodiversity Board, New	Assessment and Management Prioritization
	Raipur (Chhattisgarh)	Workshop on Medicinal Plants of Chhattisgarh
		State.

# ii. Department of Biotechnology

Faculty Name: Dr. Ashwini A. Waoo, Professor, Department of Biotechnology

Year	Name of	Activities
	University/Company	
2021	AKSU Satna,	Coordinator and Organizing Member Panel Discussion
	Mahakaushal Vigyan	on Science Technology and Innovation (STIP) 2020
	Parishad, Jabalpur	Policy

# iii. Department of Computer Science Engineering

Faculty Name: Dr. Akhilesh A. Waoo, Associate Professor

Name of Expert	Designation	Objective of visit and his contribution
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Expert Session	"Characteristics of Successful Entrepreneurs" - 17 Feb 2021, 4-Week "Women Entrepreneurship Development Program (WEDP), by MANIT-ROLTA Incubation Centre, Sponsored by NSTEDB DST, Govt. of India. National 15th Feb – 13th March 2021
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Expert Session	"Who is an Entrepreneur & Charms of Being an entrepreneur" - 18 Feb 2021,  4-Week "Women Entrepreneurship Development Program (WEDP), by MANIT-ROLTA Incubation Centre, Sponsored by NSTEDB DST, Govt. of India. National



		15th Feb – 13th March 2021
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Expert Session	"Soft Skill Development & Information Seeking" on 24 Feb 2021.  4-Week "Women Entrepreneurship Development Program (WEDP), by MANIT-ROLTA Incubation Centre, Sponsored by NSTEDB DST, Govt. of India. National  15th Feb – 13th March 2021
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Invited Talk	Delivered an expert session on "Exploring Research Horizons in Computer Science and Application "as a Guest Speaker under the SAGE Talk series, On 22nd October 2021
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Expert Session	Deliver an expert session on "Computer Networking ", Government Polytechnique College, Satna on 4-2-21
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Member of Technical Programme Committee (TPC)	Member of Technical Programme Committee (TPC)in the IEEE International Conference on Technology, Research & Innovation for Betterment of Society (TRIBES-2021) held during December 17th-19th, 2021 at IIIT Naya Raipur, Chhattisgarh, India.
Dr. Akhilesh A. Waoo, Associate Professor, Associate Dean and Head CS/IT	Programme Committee Member	Virtual, 8 <sup>th</sup> International conference on signal and image processing (SIPRO 2022), March 20-22, Sydney, Australia







#### iv. Department of Mining Engineering,

Faculty Name: Dr. B. K. Mishra

Name of university/college/ Research institute	Activities
Jajang iron ore mine, Odisha	GET, Technical Training, Resource person

Faculty Name: Prof AK Mittal

Year	Name of	Activities
	University/Company	
August, 2021	JSW, Odisha	For six days Induction course of
		New entrants as engineer
September,2021	NMDC, Bacheli, Bastar	Six days Refresher course of
		Technical Staff
December,2021	NCL, Singrauli, MP	Paper presentation in ICOMS 2021



# 6.3 List of Experts Visited/Associated with The University Department of

#### i. Pharmaceutical Sciense

Name of	Designation	Objective of visit and
Expert		his contribution
Dr. Hardeep S. Saluja	Professor, Southwestern Oklahoma state University weatherford, Oklahoma, United States	Expert Talk
Dr. Satyam Tripathi	Director, Union Yoga, Ayurveda Pvt. Ltd. Singapore	Expert Talk

# ii. Department of Agriculture Science & Technology

Name of Expert	Designation	Objective of visit and his contribution
Prof. T. Singh	Professor Agronomy & Horticulture	As Expert Pablic Selection commrity

# iii. Department of Biotechnology

Name of Expert	Designation	Objective of visit and his contribution
Prof. P. S.	Professor Emeritus, Jiwaji	Expert Lecture
Bisen	University, Gwalior, India	



# **6.4 STUDENTS ACHIEVEMENTS**

**6.4.1** Students qualifying in state national international level examinations during the last year

Name of the qualifying student	Level of Exam	Name of comptetetive examination
Sai suman chintham	National	GATE
Shivam singh	National	GATE
Barrenkala mahesh	National	GATE
Vijay kumar	National	GATE
Girish kumar kariya	National	GATE
Murali krishna kuchanpally	National	GATE
Vijjagiri prudhvi teja	National	GATE
Ankit tiwari	National	GPAT

# 5.4.2 Soft Skill, LCS, Life Skill, Awareness

Name of the	Name of the	Date of	Team /	inter-	Position
student	event	Event	Individual	University /	secured
				state /	
				National/	
				International	
Tulsi Tripathi	Solo Song /	13/11/2021	Individual	Inter	Certificate
	Swar Sarita			University	of
	Sangeet			:	Appreciation
	Samaroh				

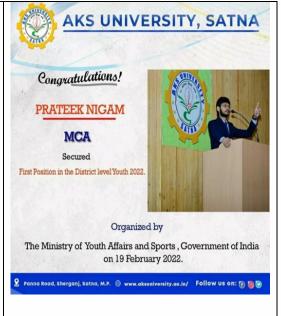


Naincy	Wall Painiting	04/10/2021	Team	Inter	Third Rank
Namdeo	Competition at			University	
Marshan Canto	Maharaja				
Muskan Gupta	Martand				
Pranshu Sen	Singh Judev				
	White Tigar				
	Safari and				
	Zoo				
	Mukundpur				
Protock Nicom	Debate	17/12/2021	Team	National	Dunnanun
Prateek Nigam		1 //12/2021	Team	National	Runner up
Ashutosh	Competition / II The India				
Singh					
	Debate				
	Competition				
	2021				
Prateek Nigam	AIU National	23/09/2021	Individual	National	Represented
	Level 11th	-			Madhya
	Indian	28/09/2021			Pradesh
	Student				State as Top
	Parliament				Five
	(Bhartiya				Speaker at
	Chhatra				National
	Sansad)				Level
Prateek Nigam	Intercollege	19/10/2021	Individual	National	Third Rank
Tracek Nigaiii	Lecture	1 <i>9</i> /10/2021 	individual	ranonai	Timu Kank
		23/10/2021			
	(Speech)	25/10/2021			
	Competition /				
	15th National				



	Science				
	Popularization				
	Workshop				
	"JIGYASA -				
	2021"				
Prateek Nigam	Speech	22/12/2021	Individual	National	First Rank
	Competition/	-			
	National	23/12/2021			
	Youth				
	Parliament				
	2021-22				
	organized by				
	on 2021-22				







# 6.4.3 Number of awards/medals won by students for outstanding performance in cultural activities at inter-university/state/national/international events, award for a team event should be counted as one)

Name of the award/ Medal	Team / Individual	Inter-university / State / National / International	Name of the event
Winner	Individual	Inter University	Singing Competiton/ Independence Day Talent Show 2021 organized by R.P. Square Dance Studio, Satna on 15 August 2021
First Rank	Individual	National	Speech Competition/ National Youth Parliament 2021-22 organized By Neharu Yuva Kendra, Satna (M.P.) Ministry of Youth Affairs and Sports, Government of India) on 2021- 22
Third Rank	Team	Inter University	Wall Painiting Competiton at Maharaja Martand Singh Judev White Tigar Safari and Zoo Mukundpur Organized By M.P. Tigar Foundation Society Bhopal and Forest Department Govt. of Madhya Pradesh on 04 October 2021
Third Rank	Individual	National	Intercollege Lecture (Speech) Competition / 15th National



			Science Popularization
			Workshop "JIGYASA -2021"
			ORGANIZED BY MP Council
			of Science and Technology,
			Mahakaushal Vigyan Parishad
			and Rani Durgavati University
			Jabalpur from 19-23 October
			2021
Centificate of	Individual	Inter University	Solo Song / Swar Sarita Sangeet
Appreciation			Samaroh organizeb by Anubhuti
			Samiti Nagoud, Satna (M.P.) on
			13 November 2021
Centificate of	Individual	Inter University	International Women's Day
Appreciation			organized by Office Collector
			and Mahila Bal Vikas
			Department Satna (MP.) on 08
			March 2021
Runnerup	Team	National	Debate Competition / CII The
			India We Want Debate
			Competition 2021 organized by
			Confederation of Indian
			Industry (CII) under the aegis of
			Association of Indian
			Universities (AIU) New Delhi,
			on 17 December 2021
Represented	Individual	National	AIU National Level 11th Indian
Madhya			Student Parliament (Bhartiya
Pradesh State			Chhatra Sansad) Organized by
as Top Five			MIT School of Government,



Speaker at		Pune under the aegis of
National Level		Association of Indian
		Universities (AIU) New Delhi,
		from September 23 - 28, 2021

# 6.5 Remark of Eminent personality visited to AKS University

Date	Visitors	Designation	Feedback
	Name		
12/02/2021	Susmita Mukherjee  Dharmguru Dr. Dinesh Pandit	MS, FICS	It was a wonderful visit to AKSU. I loved the interaction with the young people. I also visited the bio chemistry lab.  Wish all success to AKS University  I am very much pleased and surprised to visit this AKS University, Satna and see its Bioligical lab having certain research
			product. I am sure under confidential vision the university provide great education contribution.
16/08/2021	Prof. Bharat Sharan Singh	Chairman  M.P. Private University,  Regulatory Commission, Bhopal	Today on 16/08/2021, visited AKS University. What role can Private Universities can play in the effective implementation of the National Education Policy have been discussed in detail and a plan have been made.
01/11/2021	Pukhraj Nenival	Regional Controller of Mines Indian Bureau of Mines,	Privileged to visit the Campos on National Mining Day. Very glad to observe the blend of eminent faculties of



01/11/2021	Robert Simen	Assistant Controller of Mines, Indian Bureau of Mines, Jabalpur	is growing very fast. I wish all the best in all its future endeavor.  It is a great pleasure to the part of the National Mining Day. The faculty were well experienced kind & friendly. Overall, a memorable experience of visiting this great university.
18/12/2021	Prabhat Kumar	DG, DGMS, Dhanbad, Govt. of India, MoLE	AKS University Appeared to me to be an excellent centre of knowledge and study, specially, I appreciate the mining engineering department for its efforts to groom the students or good engineers and persons. I congratulate the faculty and the establishment for their enormous contribution to the development of this region and country and wish them all the best. May God bless them and provide all the resources for the endeavor
18/12/2021	Prof FN Singh	Director, Indian Institute of Technology, Patna	AKS University is unique in the sense of educational ecosystem having more than 8000 students from graduate to Ph.D. I am happy to see the progress of students for learning the lab/ library all is nicely planned and executed. The dedication and devotion of faculty members are excellent. I am sure this university will rise to highest level of academic excellence in terms of teaching and research. I wish all success.



#### 7 Extension Outreach Activity

Extension and outreach activities at AKS University, Satna, aim to bridge the gap between academic knowledge and practical, community-centered applications. These activities foster community engagement, provide real-world learning experiences for students, and contribute to the socio-economic development of the surrounding regions. Here's an overview of how AKS University approaches extension and outreach activities:

#### 7.1 NCC, NSS, and UCC Activities

Engaging in NCC and NSS inspires students to actively contribute to the advancement of the nation while nurturing a deep sense of patriotic dedication. The NCC/NSS initiatives cultivate a profound respect for the myriad differences in religion, language, culture, ethnicity, lifestyle, and habitat, fostering a strong sentiment of national solidarity and communal harmony. These undertakings enhance students' capacity to actively engage in community development and various other social initiatives.

AKS University has initiated the National Cadet Corps (NCC) program with the authorization of the relevant authority, utilizing its internal resources. Currently, NCC cadets are engaged in mandatory institutional training and are also required to participate in a minimum of two annual Combined Annual Training Camps (CATC) held off-campus.

During these camps, cadets receive comprehensive training in drill exercises, weapon handling, physical fitness routines, yoga practice, as well as engaging in sports and competitive games. The training also includes firing practice and participation in cultural activities. Furthermore, students attend theory sessions focusing on cultivating leadership skills, fostering personal development, and learning about health and hygiene. These sessions are conducted by experts from various fields.

NCC cadets actively participate in community service, such as organizing blood donation drives, facilitating tree plantation initiatives, promoting awareness campaigns like "Clean India



Undertaking campus cleanup drives, and contributing to nearby orphanages and elderly care homes through donations and visits.

The NSS division at AKS University commenced its operations with independent funding in the year 2018. Currently, the AKS University NSS boasts a membership of 210 volunteers, comprising 115 male and 95 female students. The overarching goal of the NSS remains the "Holistic enhancement of student personalities through active community engagement." An esteemed senior professor leads this NSS unit, responsible for the voluntary selection of students to partake in NSS activities.

AKS University's NSS volunteers actively engaged in routine social service endeavors, encompassing initiatives such as organizing blood donation camps, conducting health and environmental awareness campaigns, planting trees, advocating for the Clean India campaign, undertaking campus cleanliness drives, facilitating self-employment programs, and extending support to local orphanages and mental health facilities. Here is a glimpse of the various activities accomplished by the NSS students at AKS University:

AKS University Cadet Corps (UCC): In accordance with regulatory guidelines, the availability of seats for participation in the National Cadet Corps (NCC) and National Service Scheme (NSS) at the university is limited. In order to expand the opportunities for students to engage in such enriching activities, AKS University has introduced the University Cadet Corps (UCC) Unit. This initiative was launched in the year 2018

The primary objective, vision, and mission of UCC align closely with those of the NCC. The UCC Unit is generously funded by the university, ensuring that student participation comes at no cost. The leadership of this unit is entrusted to a retired captain from the Indian defense services.

As of now, a total of 60 students have enthusiastically enrolled in the AKS UCC. These students actively partake in activities akin to those of the NCC and NSS. The range of activities .



Name of the activity	Organising unit/ Forum/ collaborating agency	Date	Number of students participated in such activities
Awareness on traffic rules and Traffic Control Duty	AKS university (NCC) and Satna Traffic Police	27-04-2022	7
Awareness program on NCC and Annual Training Camp (ATC)	AKS university (NCC) and 3 MP BN NCC Rewa	27-04-2022	13
NCC awarness program	AKS university (NCC) and AKS University	04-04-2022	17
Swachha Bharatb Abhiyan	AKS university (NCC) and 3 MP BN NCC Rewa	23-02-2022	10
Awareness program on NCC	AKS university (NCC) and 3 MP BN NCC Rewa	27-11-2021	5
Covid 19 Awareness programme	National Academy of Sciences, Bhopal and AKS University Satna	10-08-2021	45
Independents Day Camp (IDC)	AKS university (NCC) and MoD New Delhi	01-08-2021	1
Social Distancing App for Public by AKS University Satna	AKS university (NSS) and AKS University	18-07-2021	15
COMBINED ANNUAL TRAINING Camp	AKS university (NCC) and 3 MP BN NCC Rewa	03-07-2021	17
Awareness of Plantation Program	AKS university (NCC) and 3 MP BN NCC Rewa	05-06-2021	17
Awareness Programe about Corona	AKS university (NSS) and AKS University	23-05-2021	65
Corona Medicine Distribution	AKS university (NSS) and District Hospital Satna	17-05-2021	95
Vaccination & Mask Distribution	AKS university (NSS) and District Hospital Satna	12-05-2021	155
Food and Water Distribution during Cornoa Time	AKS university (NSS) and AKS University	10-04-2021	160



#### 7.1.1 CAMPS ATTENDED BY AKS UNIVERSITY NCC SW CADETS

Year	Date	Place	Name Of Bataliyan	No. Of Participants
2021	4-6/02/2021	Aks University	3 Mp Bn Ncc Rewa	17



### 7.1.2 TRAKKING CAMP

Date	Place	Name Of Bataliyan	No. Of Participants
16-22/11/2021	Sikkim	By Ncc Darjeeling And Sikkim Group	05

# 7.1.3 ALL INDIA GIRLS TREKKING CAMP (AIGT CAMP)

Date	Place	Name Of Bataliyan	No. of
			Participants
17-24/11/2021	Ajmer	11 Raj Bn Ncc, Ajmer (Raj) Under the	02
		Aegis of Ncc Group Headquaters, Udaipur	
		&7 Ncc Director Ate Rajasthan at Ajmer	



# 7.1.4 REPUBLIC DAY PARED

NCC Cadets Sw of Aks University Participated on Republic Day Pared As Detailed Below

Date	Place	Name Of Bataliyan	No. Of Participants
26/01/2021	Distric Police Parade Ground	Aksu Ncc	24









# 7.1.5 NCC DAY CELEBRATION

Year	Date	Place	Name of Bataliyan	No. Of Participants
2021	27/11/2021	Aks University	Ncc Cadets Sw	23





	STATUE CLEANING of Satna Sity					
2021	25/09/2021	Madhavagarh Fort	NCC Cadets Sd&Sw of AKS University	14		

	AHID DIVASH PROGRAM					
2021	30/01/2021	AKS	NCC CADETS SD & SW OF AKS	18		
		UNIVERSITY	UNIVERSITY			







#### 7.2 . NSS Club

#### NSS (National Service Scheme) Unit at AKS University, Satna

The NSS (National Service Scheme) Unit at AKS University, Satna, stands as a beacon of community engagement and social responsibility. Through its diverse range of extension activities, the NSS Unit embodies the university's commitment to fostering holistic development among students while making tangible contributions to society.

Extension activities organized by the NSS Unit serve as bridges between the university and the local community, addressing pressing social issues, promoting sustainable development, and empowering individuals through education and awareness. These activities encompass a wide spectrum, including environmental conservation efforts like tree plantation drives, cleanliness campaigns to promote hygiene, health awareness programs focusing on diseases like breast cancer or AIDS, and educational initiatives aimed at enhancing literacy and vocational skills among underprivileged communities.

The NSS Unit at AKS University Satna not only encourages active participation from students but also collaborates closely with faculty members, local NGOs, government agencies, and community leaders to maximize the impact of its initiatives. By nurturing



a spirit of volunteerism and civic duty, these extension activities not only enrich the learning experience of students but also nurture responsible citizenship and empathy towards societal needs.

Date	Name of	Place of	No. of	Detail of Activity
	Activity	activity	students	
08.03.2021	Women's day Celebration	Collectrate Satna	27	NSS cadet has participated in program organized by Mahila Bal Vikash and Anupma foundation. There is need of geneder equality ant saving girls child to maintain the proper ratio. Womens protection and drive against women violence in socity must be looked.
13.04.2021	Dr. Bhim Rao Ambedkar Jayanti	AKSU campus C- Block	23	In the occasion of Dr. Bhim Rao Ambedkar Jayanti, student of NSS organized awareness program about constitution and fundamental duties and rights to citizen.
15.07.2021	स्वतंत्रता दिवस की परेड	AKSU campus	25	NSS cadet has participated in Independece day pared as AKSU ground and parcipated in different activities like sports and cultural act.
14.09.2021	विश्व हिंदी दिवस	AKSU campus	12	A sangothi was organized in the occasion of Vishav Hindi Divash, in which NSS students Participated and expressed their views and also being motivated by many eminent persons.
22.09.2021	NSS Day Celebration	AKSU campus	40	NSS Day Celebration was organized in cental hall of AKSU in Chairman ship of Pro chancellor of university in which NSS officer Incharage presented annual report of NSS and motivated to student to take part in National building activity. During this many event like cleanness ant plantation activity was also organized.



#### 7.3. Cultural Club - Cultural Activities at the University

The Cultural Directorate at AKS University in Satna stands as: -

A pivotal hub for the preservation and enrichment of cultural and archaeological heritage in the local and surrounding areas. This directorate is committed to fostering the cultural development of students through diverse avenues such as workshops, training programs, and competitions. Its primary dedication lies in preparing students for diverse realms of arts and culture.

In pursuit of this goal, the Cultural Directorate emphasizes the development of practical skills and the acquisition of a comprehensive knowledge base. The central objective is to nurture creativity and its expressive manifestation within the collaborative context of a group. Actively engaged, the Cultural Directorate promotes various genres of performing arts, including Classical, Traditional, Folk, and Tribal forms in the fields of Music, Dance, Drama, and Fine Arts.

To further support student artists, different clubs have been established, and selected individuals are offered stipends, reinforcing the commitment to cultivate and encourageartistic talents.





Students Practicing in Cultural Directorate of AKS University



Within AKS University cultural directorate thrives with the sole purpose of delving into and preparing students for a diverse range of cultural engagements. This hub orchestrates a multitude of events through its distinct centres, each designed to foster cultural exploration and expression.

- Society for Dramatic Art
- Centre for Fine Arts, Music, and Short Films
- Club for Photography

The Dramatic Society is dedicated to arranging cultural events for students at both the intercollegiate and intercollegiate levels. Annually, the society hosts intercollegiate cultural competition aimed at promoting creative expression among students. Additionally, students are actively motivated to engage in intercollegiate cultural programs such as "Spondan." Notably, our students consistently take part in interuniversity zonal cultural festivals and youth festivals, showcasing their talents and enthusiasm. The below photographs showing some of the cultural activities performing by the AKS University students.



#### 8. Best Practices at AKS University

#### 8.1. Research and Innovation

To leverage the expertise of our faculty, AKS University has launched a comprehensive Research and Development (R&D) program that integrates scientific and industrial consultancy. This initiative underscores the university's commitment to fostering innovation through collaborative research across diverse domains, including engineering, basic and applied sciences, and management, to develop holistic solutions for industrial challenges.

Within a short span, AKS University has successfully undertaken and completed several consultancy projects for Central Public Sector Undertakings (CPSUs) and private sector companies. To further strengthen our research ecosystem, the university is introducing a support program aimed at empowering young researchers. Under this initiative, each researcher will receive financial assistance, enabling them to make significant contributions to their respective fields.

Below is a summary of the research activities carried out by our faculty, organized by department. These efforts reflect the university's focus on advancing knowledge and providing practical solutions that address real-world challenges.

#### 8.1.1. Faculty of Basic Science

• The Department of Chemistry at AKS University has achieved significant breakthroughs through its Green Chemistry Lab, developing two innovative products from waste materials. Patents have been filed for these exceptional technologies. Below is an overview of these products:

#### • Eco-Friendly Paint from Agricultural Waste:

The lab has formulated an environmentally sustainable paint using discarded plant leaves and other agricultural by-products. This paint is completely free from hazardous chemicals, ensuring safety for users and the environment. In addition to being durable and cost-effective, it is suitable for both indoor and outdoor applications, making it a versatile and



sustainable alternative to conventional paints.

#### • Plastic Waste-to-Fuel Converter:

Another remarkable innovation is a converter capable of transforming waste plastic into liquid fuel oil. The process yields **900 milliliters of liquid fuel** from every **1 kilogram of plastic waste**. This fuel can be blended with diesel at a **70:30 ratio (diesel to plastic oil)** and used effectively in diesel engines and vehicles. This technology not only offers a sustainable solution for plastic waste management but also contributes to the circular economy by producing an alternative fuel source.

• These developments highlight AKS University's commitment to green technology, sustainability, and innovation, further reinforcing its mission to address environmental challenges through research and applied science.



Preparation of Eco-Friendly Paint and Extraction of Fuel
Oil in Green Chemistry Lab

#### 8.2.2. Faculty of Agriculture Science and Technology

#### i. Instructional Farm/ Research Farm

The university has developed a well-equipped instructional farm spanning over 100 acres, featuring advanced facilities and modern irrigation systems, including sprinkler and drip irrigation integrated with fertigation for horticultural crops. To enhance handson learning, several instructional units have been established, such as the Seed



Production Unit, Crop Cafeteria, Hi-Tech Horticulture, Integrated Farming System, Instructional Dairy Farm, Vermicomposting Unit, Mushroom Cultivation, and Horticulture Nursery Management. These units provide students with practical exposure and foster innovation in agricultural practices.

#### i. Seed Production Programme

Under the Experiential Learning Program (ELP), the university has launched a seed production initiative, where students are allocated land to cultivate key **Kharif and Rabi crops** using advanced agricultural practices. For the past four years, this program has successfully focused on producing high-quality seeds of improved crop varieties across both seasons.

The seeds produced during the **Kharif and Rabi seasons** are distributed to **adopted farmers** in Rural Agricultural Work Experience (RAWE) villages. Any surplus seeds are supplied to **farmers from neighboring villages**, ensuring access to high-quality seeds for those in need. This initiative not only enhances students' practical knowledge but also contributes to the agricultural productivity of the local community.

#### **Seed Production Program (Agronomy)**

#### iii. Crop Cafeteria

University has separate crop cafeteria of Kharif, Rabi and Horticulture crops in which improved high yielding varieties of Kharif and Rabi crops were grown in AKS University Research Farm since last 11 years. The purpose of crop cafeteria is to teach the UG and PG students about the important characteristics of various high yielding varieties of kharif and rabi crops including horticultural crops. Farmers of surrounding areas, RAWE village adopted farmers and extension workers have also visited crop cafeteria site and appreciated very much



#### Academic year 2021-22

Year	Season	Name of Crop
2021-22	Kharif	Soybean, Green gram, Black gram, Niger, Sesame, Maize, Pigeon pea, Intercropping, Paddy
	Rabi	Linseed, Chick pea, Barley, Lenti, Wheat

#### iv. Hitech Horticulture

Under Faculty of Agriculture Science and Technology, University has developed two poly houses i.e. poly house-I (80m x 45m) and small (23mx14m) poly house-II for conducting Hands- on-training Horticulture crop research including M.Sc. (Ag) Horticulture research experiments, (Roses, Gerbera, Carnation) and exotic vegetable crops (Broccoli, Red cabbage, Chinese cabbage, Lettuce, Cucumber, Sponge guard etc.). These poly houses have also been used for, training of extension workers and Farmers. entrepreneurship development among the rural unemployed youth and also increasing income of farmers. Students have grown successfully Broccoli, Roses, Capsicum (Green, yellow and red) and bottle gourd.





View of Exotic Vegetable crops floriculture growing in Poly House of Faculty of Agriculture Science and Technology



#### Organic Farming

Beside imparting the teaching and practicals among the students Department of Animal Science and Fisheries through its trainings and demonstrations to visitors it has its concerns to enhance farmers' skills and knowledge, promote sustainable agriculture practices, increase productivity and efficiency, improve livelihoods and income opportunities, and support national food security and self-sufficiency goals. Dairy farming is a significant contributor to India's rural economy, with over 70% of dairy producers being small-scale farmers. AKS Instructional dairy farms is focused on breed improvement (e.g., Gir, Sahiwal), nutrition and feeding management, milking and milk processing techniques, animal health and hygiene and entrepreneurship and business management.



A view of milk processing in Animal Science Lab



A View of Fisheries Tank at Integrated Farming System unit



#### • Fish Farm -

Fishery sector occupies an important place in the socio-economic development of the country. It is a fast-growing sector in India, which provides nutrition and food security to a large population of the country besides providing income and employment to a large population of our country.

There are three main phases of fish farming: Fingerling, Rearing and Fattening. Each of these phases is composed of its peculiarities, requiring special handling and care for each of them.

AKS University fish fond is established with a length of 20-meter length, 15-meter width and 5-meter depth with the total water held at 3-meter level. The pond is spread over 0.03-hectare land with the tarpoline sheet placed at bottom and raised over borders to top to prevent water percolation.

#### Organic Farm

University has demarcated 15 acres of land for performing organic farming (Organic farming block). All the crop residue, cattle wastes, Horticultural crops waste cromandi wastes (vegetables and fruit wastes) are used in preparing compost. Organic insecticides, neembased kernals (neem oil and neem cakes), fasal sanjivani, Amrat pani are being successfully produced and are being used in growing of rice, Mung bean, wheat gram fodder crops urad and all vegetables in kharif and rabi season. Organic insecticides developed in the dairy unit are used in organic farming unit of AKS University and also supplied to the RAWE adopted farmers who are performing organic farming.

#### Vermi Compost unit

University has established Vermin compost unit nearby dairy farm. This unit has more than 30 pits equipped also with vermin wash unit producing more than 150 ton of vermin compost and same is used in M.Sc thesis experiments of Agronomy and Horticulture poly houses and also in organic farming unit.





Vermi-compost unit Faculty of Agriculture Science and Technology

#### • Organic insecticides

Organic Farming unit is also preparing organic insecticides i.e. Fasal sanjivani using cow urine and other materials which is successfully used in all crops (Horticulture and Field crops) for protecting from insects/ pests and diseases. University has also supplied these materials to

the interested farmers of RAWE adopted villages for protecting their crops from insect/ pestand diseases.

#### b. Mushroom Cultivation and Training center

Faculty of Agriculture Science and Technology along with Faculty of Life Science Biotechnology Department develop a Mushroom cultivation and training center in the AKS University. The objective of this center is to develop new and cost affective techniques for mushroom cultivation, which will help farmer and unemployed youth for self employment and develop new entrepreneurship in rural area of Satna district. Faculty has decided to run a 7 days Training program including hands-on training related to mushroom cultivation and spawn production for different species mushroom (Oyster and Button mushroom). Interested farmers and young unemployed youth will be trained to start their own business.





**Student Activities in Mushroom cultivation Unit** 

#### 8.2.4. Other Research activities for Condition of Satna

The Faculty of Agricultural Science and Technology initiated research programs tailored to the specific local conditions of Satna. These programs encompass technology development in agriculture and related domains. The overarching goal is to create and disseminate adaptable technologies that can enhance agricultural production and productivity across all crop types cultivated in the Satna district.

#### i. Collection and Assessment of Germplasm:

A diverse range of germplasm from various horticultural field crops such as turmeric, ginger, cowpea, brinjal, chillies, tomato, bottle gourd, smooth gourd, ridge gourd, amaranthus, as well as staple crops like wheat, rice, maize, moong bean, urd bean, pea, soybean, mustard, chickpea, and arhar has been gathered from State Agriculture



Universities and ICAR Institutes. These germplasm samples are currently being cultivated in the fields for the purpose of evaluation and screening. The ultimate aim is to identify and develop high-yielding varieties of these crops specifically suited for the Vindhya region.

#### ii. Introducing Novel Crops to Enrich Crop Variety

The Vindhya region has conventionally focused on cultivating a limited set of traditional kharif crops including paddy, moong bean, urid beans, pigeon pea, sesame, soybean, and maize, as well as rabi crops such as wheat, barley, mustard, chickpea, and lentil. Recognizing the need to expand crop diversity and improve farmers' profitability in the Vindhya region, AKS University launched a research initiative titled "Enhancing Crop Diversity through the Introduction of New Crops in the Vindhya Region" spanning from 2013 to 2022.

#### iii. Creation of Fruit Progeny Orchard (Parent Orchard)

The Faculty of Agricultural Science and Technology has successfully initiated progeny orchards for a variety of fruits including mango, litchi, guava, beal, Aonla, and olive. This endeavor involves the cultivation of grafts and root cuttings aimed at producing disease-free planting materials. These materials will not only be supplied to farmers for commercial cultivation but will also be used in educational instruction for student.

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#### 8.2.6 Herbal gardens of AKS University

The utilization of plants for medicinal purposes dates back to periods long before recorded history. India, recognized as a rich repository of medicinal plants, relies heavily on its vast forests, which serve as the primary source of numerous medicinal and aromatic flora. The use of medicinal plants for treatment is valued for its safety, often accompanied by little to no side effects. The beauty lies in the alignment of these remedies with nature, presenting a significant advantage.

Herbal gardens, designated spaces within larger gardens dedicated to cultivating medicinal plants, serve as vital resources. Recognizing the importance of medicinal plants in various academic disciplines such as Agriculture, Pharmacy, and Life Science, AKS University has established an herbal garden on its campus. Beyond academic considerations, the herbal garden aims to raise awareness about the conservation and traditional applications of herbs and medicinal plants. It serves as an educational space for students, farmers, and other enthusiasts to learn how to identify, appreciate, and preserve these invaluable plants.

Thre are more than 90 species are found in herbal garden of AKS University. Some important plants are Abroma agusta (L.) L.f., Abrus precatorius L., Aloe vera (L.) Burm.f., Artemisia annua L., Aristolochia indica L., Asparagus racemosus Willd., Cloleus amboinicus Lour., Commiphora wightii (Arn.) Bhandari, Curcuma caesia



Roxb., Cymbopogan flexuous (Nees ex Steud.) W. Watson, Cynanchum acidum (Roxb.) Oken, Gymnema sylvestre (Retz.) R.Br. ex Sm., Hellenia, speciosa (J. Koenig) S.R. Dutta, Hydrocotyle sibthorpioides Lam., Alpinia galangal (L.) Wild., Mentha piperita L., Ocimum gratissimum L., Ocimum tenuiflorum L., Paederia foetida L., Amomum subulatum Roxb., Tinospora cordifolia (Willd.) Hook.f. & Thomson, Vincetoxicum indicum (Burm.f.) Mabb., Withania somnifera (L.) Dunal etc.







#### 8.2.7. Medicinal and Aromatic Plants Demonstrative Unit

The connection between plants and human's dates back to the dawn of civilization. Ancient texts such as the Vedas, Puranas, and Samhitas mention the use of medicinal plants to treat various ailments, highlighting India's rich heritage in this field. The Traditional Knowledge Digital Library, under the Government of India, has documented around 8,000 medicinal plants. According to the World Health Organization (WHO), approximately 80 percent of the global population relies on herbal medicines for their primary health care needs. India boasts diverse indigenous medicinal systems, including Ayurveda, Unani, Siddha, and Folk (tribal) medicines. Recognizing the significance of these practices, a demonstrative unit focused on medicinal and aromatic plants has been established in the Horticulture farm of A.K.S. University. The primary goal is to foster awareness among students and farmers about the invaluable role of these plants in healthcare and traditional medicine.





#### 8.2.8. Nakshtra Vatika of AKS University

In the Vedic religion, the concept of natal constellations plays a pivotal role. Each person is affiliated with specific zodiac symbols and is born under a particular constellation. This designated constellation is considered the individual's natal constellation, functioning as their guardian. These constellations are intricately linked to specific trees on Earth and are known as Nakshatra Vriksha.

Various Sanskrit treatises such as Narada Purana, Narada Samhita, and Raj Nighantu provide lists of 27 trees that are to be revered in accordance with one's natal constellation. The tree associated with a person's constellation is treated with the reverence reserved for a deity. It is expected that individuals born under a particular constellation not only plant and protect these trees wholeheartedly but also engage in their worship, recognizing the profound spiritual connection between themselves and their designated tree. These plants are Ashwini- Kuchla (Strychnos nux-vomica L.), Bharani-Aonla (Phyllanthus emblica L.), Kritika- Gular (Ficus racemosa L.), Rohini-Jamun (Syzygium cumini (L.) Skeels), Mrigshira- Khair (Senegalia catechu (L.f.) P.J.H. Hurter & Mabb.), Ardra- Tendu (Diospyros melanoxylon Roxb.), Punarvasu-Bans (Dendrocalamus strictus Nees.), Pushya- Pipal (Ficus religiosa L.), Ashlesha-Nagkesar (Mesua ferrea L.), Magha-Bat (Ficus benghalensis L.), PurvaPhalguni-Palash (Butea monosperma (Lam.) Kuntze), UttaraPhalguni- Pakar (Ficus virens Aiton), Hasta-Reetha (Sapindus mukorossi Gaertn.), Chitra-Bel (Aegle marmelos (Terminalia arjuna (Roxb. ex DC.) Wight & Arn.), (L.) Correa), Swati- Arjun Vishakha- Kaitha (*Limonia acidissima* L.), Anuradha- Molshri (*Mimusops elengi* L.), Jyeshtha- Semal (Bombax ceiba L.), Mula- Sal (Shorea robusta C.F. Gaertn.), Purvashada- Bent Calamus rotung L.), Uttarashada- Kathal (Artocarpus heterophyllus Lam.), Shravan- Aak (Calotropis procera (Ait.) W.T. Aiton), Dhanishtha- Shami (Prosopis cineraria (L.) Druce), Shatvisha- Kadamb (Neolamackia cadamba (Roxb.) Bosser), PurvaBhadrapad-Aam (Mangifera indica L.), UttaraBhadrapad- Neem (Azadirachta indica A. Juss) and Rewati- Mahua (Madhuca longifolia (J.Koenig ex L.) J.F.Macbr.).







AKS University has developed a Nakhetra Vatika in the University Herbal Garden

#### 8.2.9. Navagraha Vatika

In the Herbal Garden of AKS University, a special area called the Navagraha Vatika has been established. The term "Navagraha Vatika" refers to a garden representing the forces of the nine planets through plants, trees, bushes, or grasses. Each plant associated with a specific planet is strategically planted in a particular direction to harness the beneficial energies of the nine celestial bodies, creating a harmonious Navagraha Vatika or Nine Planets Garden. The plants corresponding to the nine planets are as follows:



- 1. Surya (Sun): Aak (Calotropis procera (Aiton) W.T. Aiton)
- 2. Chandra (Moon): Palash (Butea monosperma (Lam.) Kuntze)
- 3. Mangal (Mars): Khair (Senegalia catechu (L. f.) P.J.H. Hurter & Mabb.)
- 4. Budh (Mercury): Apamarga (Achyranthes aspera L.)
- 5. Brihaspati (Jupiter): Pipal (Ficus religiosa L.)
- 6. Shukra (Venus): Gular (Ficus racemosa L.)
- 7. Shani (Saturn): Shami (Prosopis cineraria (L.) Druce)
- 8. Rahu: Dub (Cynodon dactylon (L.) Pers.)
- 9. Ketu: Kusha (Desmostachya bipinnata (L.) Stapf)

This carefully curated garden serves as a symbolic and spiritual representation of the cosmic influence of the planets, emphasizing the connection between nature and celestial forces.



Navagraha Vatika at AKS University



#### 9. Conclusion

As reflect on the academic year 2021-22, it is evident that the journey has been one of resilience, adaptation, and growth in the wake of the unprecedented challenges posed by the COVID-19 pandemic. We have emerged from this global crisis with renewed vigour and a commitment to enhancing our educational practices while prioritizing the health and well-being of our students, faculty, and staff.

This year, we implemented innovative teaching methods and harnessed technology to ensure a seamless blend of in-person and virtual learning. Our faculty demonstrated remarkable dedication, adapting curricula and pedagogies to meet the needs of our students. The robust response to the pandemic has not only enriched the learning experience but also fostered a sense of community and connection that transcended physical limitations.

Infrastructure development has been a key focus, with the modernization of classrooms, laboratories, and digital resources, ensuring that students and faculty have access to state-of-the-art facilities. The university's efforts in community engagement and industry partnerships have strengthened its ties with local communities and industry stakeholders, providing students with valuable real-world experience and contributing to regional development. The university has made significant strides in research and development, focusing on issues relevant to our society and the ongoing recovery from the pandemic. Our students have actively engaged in various extracurricular initiatives, showcasing their talents and contributing positively to the community, embodying the spirit of resilience.

Looking forward, we remain committed to fostering an inclusive and innovative learning environment that prepares our students to face future challenges. The lessons learned during this period will inform our strategies as we continue to evolve, ensuring that AKS University stands at the forefront of higher education in our region.

Overall, the collective efforts of the dedicated faculty, staff, and students have propelled AKS University Satna towards its mission of academic excellence, innovation, and holistic development. As we look forward to the future, we remain committed to continuous improvement, ensuring that AKS University Satna continues to be a leading institution in education and research, making a positive impact on society and the world at large.



Established by MP Legislature Act no. 44 of 2011 and duly recognised by UGC under section 2 (f)

# **AKS University, Satna (M.P.)**

THE UNIVERSITY WITH DEFFERENCE