



Centre for Biotechnology
Maharshi Dayanand University Rohtak
(NAAC Accredited 'A' Grade)

Strategic Plan (2018-2023)

About the Centre for Biotechnology

The Centre for Biotechnology was established in 2006 under the Faculty of Life Sciences. It is internationally known for its research in various disciplines of Biotechnology. The Centre has two M.Sc. programmes in Biotechnology and Agricultural Biotechnology, and Ph.D. programme. The Centre received funding from the DST for FIST, UGC for SAP, DRS-1 and DBT for IPLS. There are nine regular teaching faculty members and one UGC-BSR Faculty Fellow.

VISION

The ultimate aim of the Centre for Biotechnology is to provide the best opportunity to students in the field of Biotechnology and to attain the global recognition in education, training and research.

MISSION

The mission of the Centre for Biotechnology is to provide the best education to the students in the different areas of Biotechnology to shape their sustainable future to serve the Nation and Global communities. The Centre will emphasize on excellence in interdisciplinary research to produce highly skilled human resource through:

- Implementing advanced IT techniques for teaching of M.Sc. Biotechnology and Agriculture Biotechnology programs.
- Implementing Experimental Learning, Project Work, field studies and continuous assessment.
- Improving Academic quality of faculty members by timely scientific updating through Faculty Development Programs (Orientation and Refresher Course), Workshops, Seminars and Conferences.
- Strengthening Research quality by bringing the extra-mural grants and research projects to the department.
- Strengthening research quality by bringing the international projects like Indo-Japan and Indo-US to the department.
- Sustaining and enhancing the quality of research by publishing quality research papers and patents, consultancy and facilitate the Dept. by modern research infrastructure and advanced equipments
- Regular updation of the course curriculum to meet out the demand of recent academia and industry.
- Research programs for developing products of research and training including human resources, high impact publications and patents.

SWOC Analysis

Strength

- All the faculty members are well trained, experienced and dedicated towards their teaching and research.
- Regular process of feedback from students, parents and teachers in every session of every year.
- Yearly Academic Audit of the department.

- Regular organization of academic programmes like experimental learning, student's presentation, cultural activities and lectures on different areas of Biotechnology.
- Research promotion among post graduate students through research based Dissertation work.
- Good network connectivity and usage of ICT in teaching and research
- International and National collaborations.
- Research facilities such as Green house, Animal house and Liquid Nitrogen generation plant.
- Sustaining and enhancing the quality of research by publishing quality research papers and patents, consultancy and facilitate the Department by Modern research infrastructure and advanced equipments.

Weakness

- Insufficient grants for maintenance of Instruments present in different research laboratories.
- Centralized purchase system is not present.
- Filling up of vacant posts.
- Lacking power backup to essential instruments like -20°C, -80°C, culture rooms etc.

Opportunities

- Encouraging faculties for improving the research quality by bringing the extra-mural grants and research projects to the department.
- Strengthening research quality by bringing the International projects like Indo-Japan and Indo-US to the department.
- Excellence in Research and teaching.
- Sustaining and enhancing the quality of research by increasing number of research papers and patents.
- Consultancy and facilities in the Department by Modern research infrastructure and updated equipments.
- MoUs at National and International level among different research institutes, Departments and Universities to encourage the development of interdisciplinary and multidisciplinary research partnerships and collaborative seminars and conferences.
- The teachers of the Department will be encouraged to participate in numerous National and International Seminars and Conferences in India and abroad to strengthen the research.
- Active career counseling to enhance the employability including the self employability by enhancing the knowledge and awareness of the students to gain employment.

Challenges

- Attracting more funding from the different funding agencies like DBT, DST, ICMR, CSIR and UGC.
- Finding out dumping ground for wastes disposal especially that generated from the research labs.
- Uninterrupted power supply or power backup in the Centre.

- Incorporate some industrial summer training as a part of M.Sc. curriculum to make the course socially relevant and job-oriented.
- Exhaustive administrative process for project implementation and execution.

Strategic Goals

Centre for Biotechnology has the following strategic goals:

A. Research Excellence

The Centre for Biotechnology is a well-established department in the University having nine faculty members and one UGC-BSR Faculty Fellow. Each faculty member has been awarded projects from different funding agencies like DBT, DST, ICMR, CSIR, UGC, ICAR and DRDO. Each faculty member also has a well-equipped laboratory with the required instruments to carry out research. The Centre has been funded under the DBT-IPLS, DST-FIST and UGC-SAP programs. So the Centre is meant to create opportunities for multi-disciplinary education, training and research in different areas of biotechnology.

Strategies for Research quality improvement

- Strengthening research quality by bringing the extra-mural grants and research projects to the department.
- Strengthening research quality by bringing the international projects like Indo-Japan and Indo-US to the department.
- Motivation and support of the faculty members for conducting valuable research for the benefit of society and participate in numerous National and International Seminars and conferences to strengthen the research.
- Sustaining and enhancing the quality of research by publishing quality research papers and patents, consultancy and facilitate the Department by Modern research infrastructure and advanced equipments.
- More collaboration at National and International levels with different institutes and industries.
- Research will be focused on the thrust areas by using biotechnology as a tool and also promote Interdisciplinary research.

B. Excellent Teaching, Learning and Student Experience

The main objective of the Centre for Biotechnology is to provide higher education with a holistic approach that can be used to conduct research in the interdisciplinary areas of Biotechnology with special emphasis on the thrust areas and for the betterment of the Human health, Agriculture and environment. The Centre also attracts a number of foreign students in M.Sc. programme. The quality of higher education will encourage students to explore their own creativity instead of reproducing received knowledge. The quality of higher education provided will be characterized by outstanding student experience, exceptionally good learning environment, research productivity and committed social responsibility. We will provide an environment that promotes the students towards creativity and new ideas apart from developing a performance oriented culture in students. We will guide and promote the students for different fellowship. We will work towards raising the standard of teaching quality and learning experiences for students.

Strategies for excellent teaching, learning quality Improvement

- Implementing advanced IT techniques for teaching of M.Sc. Biotechnology and Agriculture Biotechnology programs.
- Implementing Experimental Learning, Project work, ICT, skill development, hands-on exercise and some field studies.
- Learning outcomes of the students will be evaluated by continuous assessment in each academic course.
- Regular updation of the course curriculum to meet out the demand of recent academia and industry.
- Improving Academic quality of faculty members by timely scientific updation through Faculty Development Programs (Orientation and Refresher Course), Workshops, Seminars and Conferences.
- Emphasis on recent trends in biotechnology through organization of conferences, symposia, workshops.
- Promote students to take part in extra-curricular activities organized by the Centre to improve their interpersonal skills.

C. Social Responsibility

- The CBT in collaboration with outreach program of University will provide awareness to villagers regarding the health and agriculture issues.
- Every year Centre will open for school and college students and general public.
- Motivate the students to use their education for social welfare and concern for the needs of the society.

Action Plan

Year	Action Plan
2018-19	<ul style="list-style-type: none">• Employment of the advanced IT techniques for teaching of M.Sc. Biotechnology and Agriculture Biotechnology programs.• Centre will promote teachers to interact with students individually to make learning more effective and enjoyable.• To encourage e-learning among students, the centre will purchase some more computers for the Departmental Computer /library.• Regular evaluation of student's performance in a particular course would be carried out by the teachers in each semester.• Generation of knowledgeable, skilled and employable students with high core values.• Improvement in research quality by bringing more grants and research projects to the Department from the different funding agencies like SERB, DBT, UGC, DST and CSIR.• Try to increase the more academic collaboration with many National and International organizations and Universities which allows the exchange of research students and joint research projects.• Sustaining and enhancing the quality of research by increasing number of research papers and patents.• Regular process of feedback from students, parents and teachers in every session.• Centre organizes some short term training course as a part of M.Sc. curriculum to make the course socially relevant and job-oriented.

	<ul style="list-style-type: none"> • The Department will invite the Seed Companies and Industries for placement of students. • Access to online digitized version of Books and Journals for teachers and students. • The Centre will plan the Extension lectures from subject experts regularly. • Regular tours to Biotechnology companies for industrial exposure • Expansion of lab facilities, i.e. to strengthen the labs with modern equipment's so that the theoretical knowledge can be experienced by students practically. • Active engagement of the Department alumni in Academic and Carrier counseling. • Yearly Academic Audit of the department. • Filling up of the vacant academic post in the Centre for Biotechnology.
<p>2019-20</p>	<ul style="list-style-type: none"> • Academic Activities like Seminars, Workshops, Conferences, Symposia and Extension Lectures will be organized in the Centre. • Academic Programme like Short term training Course for students and teachers of different universities and institutes will be organized in the Centre. • Modern teaching aids will be acquired for effective teaching and learning qualities. • Access to online digitized version of books and journals for teachers and students. • Employment of the Experimental Learning, Project work, some field studies and continuous assessment. • Active engagement of department alumni in academic and Career counseling. • The Department is planning to enhance the employability including the self employability by enhancing the knowledge and awareness of the students to gain employment. • The Centre will plan the Extension lectures regularly. • Centre will incorporate some industrial summer training as a part of M.Sc. curriculum to make the course socially relevant and job-oriented. • The quality of research will be improved by publishing quality research papers and patents. • The Centre will be facilitated by Modern research infrastructure and advanced equipments. • Students will be encouraged and motivated towards the biotechnology usage for human health, Environmental awareness and social responsibilities. • Annual departmental monitoring through departmental committee to evaluate the departmental research and academic activities • Regular feedback mechanisms from students, parents and alumni will be employed. • More MoUs at National and International level among different research institutes, Departments and Universities to encourage the development of interdisciplinary and multidisciplinary research partnerships and collaborative Seminars and Conferences.

<p>2020-21</p>	<ul style="list-style-type: none"> • Improvement of research quality by bringing the grants and research projects to the department from the different funding agencies like SERB, DBT, UGC, DST and CSIR. • Regularly change the syllabi and revise the same according to the latest developments in the field of study. • Active engagement of department alumni in academic and Carrier counseling. • Regular process of feedback from students, parents and teachers in every session of every year. • The Department is planning to enhance the employability including the self employability by enhancing the knowledge and awareness of the students to gain employment. • Centre will incorporate some industrial summer training as a part of M.Sc. curriculum to make the course socially relevant and job-oriented. • The Department will invite industries for placement of students. • Inculcating environmental awareness through seminars, extension activities. • Expansion of lab facilities, i.e. to strengthen the labs with modern equipment's so that the theoretical experience can be experienced by student practically. • Active engagement of department alumni in academic and Carrier counseling • Try to increase the more academic collaboration with many national and international organizations and universities which allows the exchange of research students and joint research projects. • Regular feedback mechanisms from students, parents and alumni will be employed. • More MoUs at National International level among different research institutes, Departments and Universities to encourage the development of interdisciplinary and multidisciplinary research partnerships and collaborative seminars and conferences. • Yearly Academic Audit of the department. • Filling up of the vacant academic post in Centre for Biotechnology.
<p>2021-22</p>	<ul style="list-style-type: none"> • Academic Programme like Short term training Course for students and teachers of different universities and institutes will be organized in the Centre. • Academic Activities like Seminars, Workshops, Conferences, Symposia and Extension Lectures will be organized in the Centre. • Besides classroom teaching, employment of the Experimental Learning, Project work, some field studies and continuous assessment will be given to the students which make learning more effective and productive. • Centre will upgrade the Teaching class rooms with necessary audio video facilities. • Academic Audit of the department every year. • Improvising Academic quality of faculty members by timely scientific updation through Faculty Development Programs (Orientation and

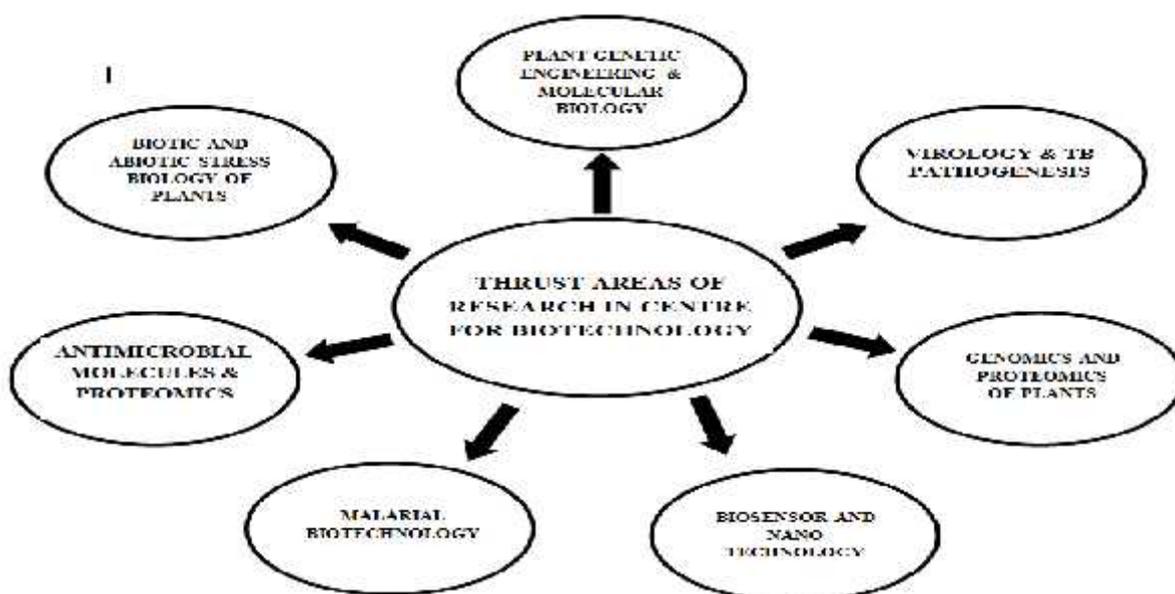
	<p>Refresher Course), Workshops, Seminars and Conferences.</p> <ul style="list-style-type: none"> • Access to online digitized version of books and journals for teachers and students. • We will organize the Academic Activities like Seminars, Workshops, Conferences, Symposia and Extension Lectures in the Centre. • We will organize the Academic Programme like Short term training Course/workshop for students and teachers of different universities and institutes. • The Centre will plan the Extension lectures regularly. • Regularly planning of industrial trips and other extracurricular activities. • We will organize the Academic Programme like Experimental Learning, Students Representation, Cultural Activities and Lectures on Ethics for Personal and Ethical development. • Regular evaluation of student's performance in a particular course would be carried out by the teachers in the same semester • Generation of knowledgeable, skilled and employable students with high core values. • Regular process of feedback from students, parents and teachers in every session of every year.
<p>2022-23</p>	<ul style="list-style-type: none"> • Academic Programme like Short term training Course for students and teachers of different universities and institutes will be organized in the Centre. • Academic Activities like Seminars, Workshops, Conferences, Symposia and Extension Lectures will be organized in the Centre. • The Dept. is planning to enhance the employability including the self employability by enhancing the knowledge and awareness of the students to gain employment. • The research and development cell will also interact with seed companies, industry and government agencies for campus placements of the students. • Centre will organize some short term training course as a part of M.Sc. curriculum to make the course socially relevant and job-oriented. • The Department will invite the Seed Companies and industries for placement of students. • Generation of knowledgeable, skilled and employable students with high core values. • Improvement of research quality by bringing the grants and research projects to the department from the different funding agencies like SERB, DBT, UGC, DST and CSIR. • The students of the Department will be encouraged to participate in national and international seminars/conferences for the presentation of papers. • Sustaining and enhancing the quality of research by Increasing number of patents, consultancy and facilitate the Department by Advance Instrument Research Facilities. • More MoUs at National International level among different research institutes, Departments and Universities to encourage the development of interdisciplinary and multidisciplinary research partnerships.

	<ul style="list-style-type: none"> • Centre will upgrade the Teaching class rooms with necessary audio video facilities. • Improvising Academic quality of faculty members by timely scientific updation through Faculty Development Programs (Orientation and Refresher Course), Workshops, Seminars and Conferences. • Active engagement of department alumni in academic and Carrier counseling • The Centre will plan the Guest and Extension lectures regularly. • Regularly planning of industrial and seed companies trips and other extracurricular activities.
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Achievements of the Department (*Last five years*)

- Publications:122
- Research Project Completed: 17
- Ph. D. Completed:19
- Conference/Workshop Organized: 11
- Books/Chapters/Conference Proceedings : 29

THRUST AREAS OF RESEARCH IN CENTRE FOR BIOTECHNOLOGY



Activity Calendar (2018-19)

Odd Semester begins (First & Third Semester M.Sc. Biotechnology and Agriculture Biotechnology)	21-07-2018
Induction Programme for first year students	After last counselling for admissions
Education Tours	October, 2018/February, 2019
Diwali Break	06-11-2018 to 13-11-2018
Internal Examination	Second week of November
Odd Semester ends (First & Third Sem M.Sc. Biotechnology and Agriculture Biotechnology)	05-11-2018
Semester Examination	22-11-2018 onwards
Winter Break	18-12-2018 to 31-12-2018
Even Semester begins (Second & Fourth Sem M.Sc. Biotechnology and Agriculture Biotechnology)	01-01-2019
Holi Break	18-03-2019 to 24-03-2019
Internal Examination	Second Week of April
Even Semester Ends (Second & Fourth Sem M.Sc. Biotechnology and Agriculture Biotechnology)	30-04-2019
Semester Examination	01-05-2019 onwards
Summer Break	23-05-2019 to 30-06-2019

*** Practical Examinations will be preferably conducted before the theory Exams**