



# Department of Biotechnology

## Jai Hind College - Autonomous



# DEPARTMENT OF BIOTECHNOLOGY OFFERS BACHELOR OF SCIENCE IN BIOTECHNOLOGY



# Scope of Biotechnology

**The Bachelor of Science in Biotechnology is an interdisciplinary, comprehensive course comprised of various subjects like**

- **Genetics**
- **Molecular Biology**
- **Biochemistry**
- **Immunology**
- **Microbiology**
- **Genetic Engineering**
- **Cell Biology**
- **Bioinformatics**
- **Nanotechnology**
- **Medical Biotechnology**
- **Virology**
- **Neurobiology**
- **Developmental Biology**
- **Endocrinology**
- **Plant Tissue Culture**
- **Animal Cell Culture**
- **Fermentation Technology**
- **Environmental Science**
- **IPR and Patents**
- **Biosafety and Bioethics**
- **Quality Assurance**
- **Food Technology**

# Biotechnology



**Under the flagship of Autonomy the Department of Biotechnology, Jai Hind College strives to impart in depth knowledge, training and holistic development environment to aspiring Biotechnologists.**

# Faculty Profile

<b>Faculty</b>	<b>Designation</b>	<b>Qualifications</b>
<b>Dr. Kruti Pandya</b>	Joint Coordinator	Ph.D Biochemistry
<b>Dr. Nissey Sunil</b>	Joint Coordinator	Ph.D Bioanalytical Science
<b>Dr. Monalisa Chakraborty</b>	Assistant Professor	Ph.D Biotechnology
<b>Dr. Hiral Pandya</b>	Assistant Professor	Ph.D Biotechnology
<b>Mr. Nikhil Bardeskar</b>	Visiting faculty	Pursuing Ph.D (NIRRH)
<b>Ms. Ruquayya Manasawala</b>	Visiting faculty	MSc. Biotechnology

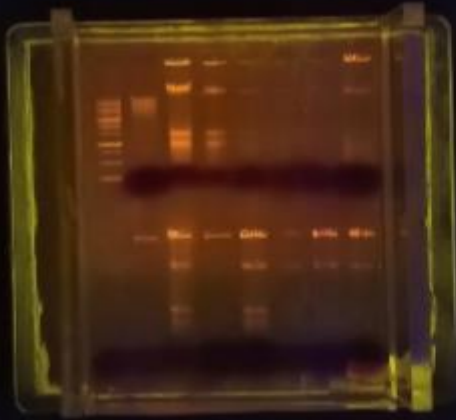
5/25/2020 DEPARTMENT OF BIOTECHNOLOGY

# SPECIAL FEATURES

- **A Large and well equipped Laboratory for undergraduate practical class.**
- **Plant tissue culture laboratory with Laminar air flow cabinet.**
- **Departmental library.**
- **Teachers have received recognition for M.Sc in Biotechnology.**
- **Teachers have completed minor research projects funded by Mumbai University and University Grants Commission.**
- **Teachers actively involved in guiding students for various activities such as research projects, competitive entrance exams.**
- **Many students have won prizes at Inter Collegiate Research meets and National level Competitions.**



# Practical In Progress



AGAROSE GELL ELECTROPHORESIS OF DNA



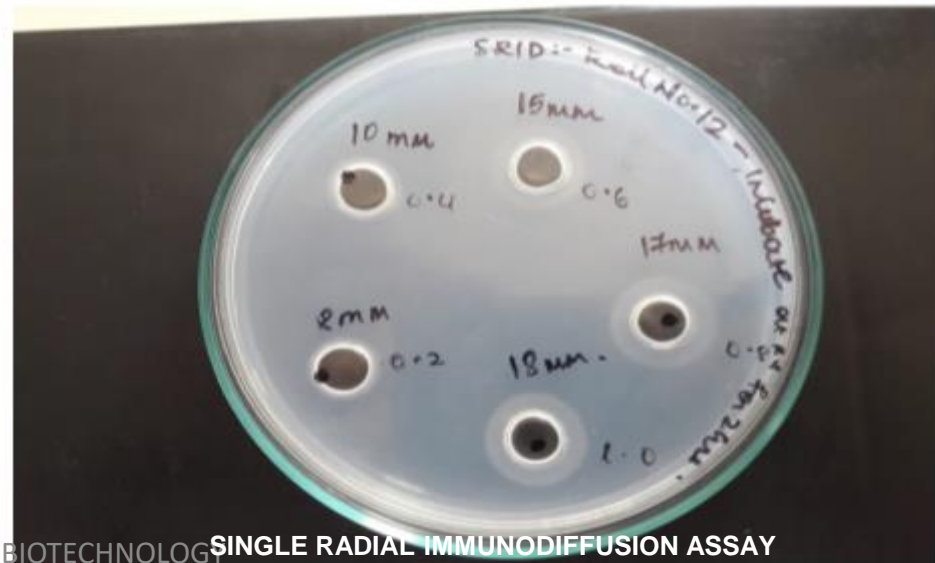
EXTRACTION OF GENOMIC DNA



PLANT TISSUE CULTURE

5/25/2020

DEPARTMENT OF BIOTECHNOLOGY



SINGLE RADIAL IMMUNODIFFUSION ASSAY

# Courses offered-B.Sc Biotechnology

## FYBSC-SEMESTER I

<b>Course 1</b> <b>SBT101</b>	Introduction to Biotechnology	<b>Course 2</b> <b>SBT102</b>	Genetics
<b>Course 3</b> <b>SBT103</b>	Biodiversity, Experimental Models and Ecology	<b>Course 4</b> <b>SBT104</b>	Techniques in Biological Sciences
<b>Course 5</b> <b>SBT105</b>	Fundamentals in Chemistry-I	<b>Course 6</b> <b>SBT106</b>	Fundamentals in Chemistry-II

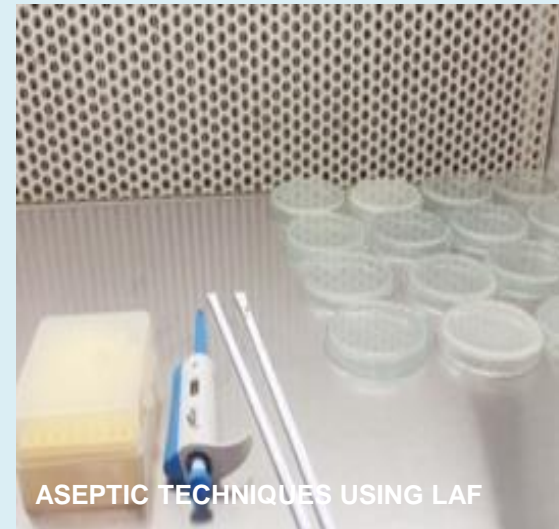


# Courses offered-B.Sc Biotechnology

## FYBSC-SEMESTER II

<b>Course 1 SBT201</b>	<b>Cell Biology and Physiology</b>	<b>Course 2 SBT202</b>	<b>Molecular Biology and Genetics</b>
<b>Course 3 SBT203</b>	<b>Enzymology, Vitamins and Immunology</b>	<b>Course 4 SBT204</b>	<b>Tissue Culture and Biostatistics</b>
<b>Course 5 SBT205</b>	<b>Macromolecular Chemistry</b>	<b>Course 6 SBT206</b>	<b>Physical and Analytical Chemistry</b>

# Practical In Progress



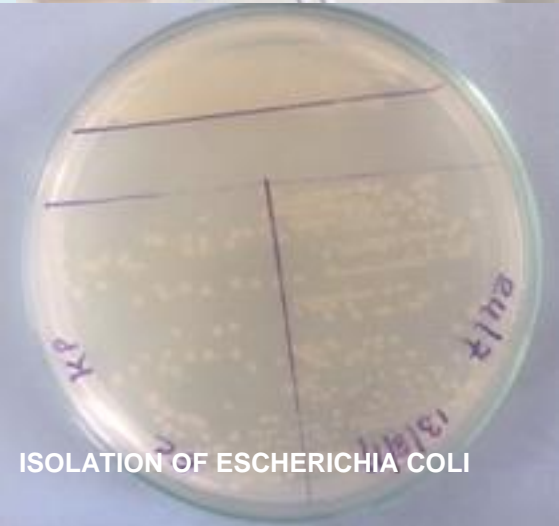
ASEPTIC TECHNIQUES USING LAF



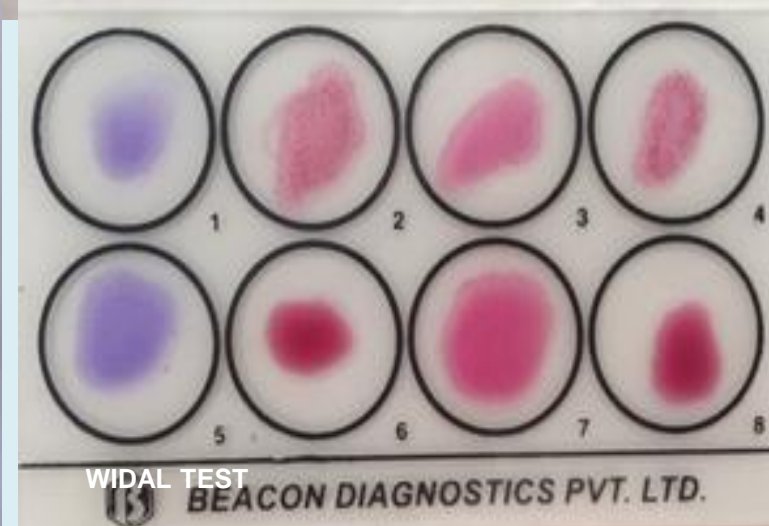
ENZYME LINKED IMMUNOSORBENT ASSAY -  
READER



POLYACRYLAMIDE GELL  
ELECTROPHORESIS



ISOLATION OF ESCHERICHIA COLI



WIDAL TEST  
BEACON DIAGNOSTICS PVT. LTD.

# Courses offered-B.Sc Biotechnology

## SYBSC-SEMESTER III

<b>Course 1 SBT301</b>	<b>Cell Biology and Immunology</b>	<b>Course 2 SBT302</b>	<b>Molecular Biology</b>
<b>Course 3 SBT303</b>	<b>Food and Fermentation Technology</b>	<b>Course 4 SBT304</b>	<b>Environmental Biotechnology</b>
<b>Course 5 SBT305</b>	<b>Bio-organic Chemistry</b>	<b>Course 6 SBT306</b>	<b>Methods in Analytical Chemistry</b>
<b>Course 7 SBT307</b>	<b>Scientific Research Methodology</b>		

# Courses offered-B.Sc Biotechnology



## **SYBSC-SEMESTER IV**

<b>Course 1 SBT401</b>	<b>Molecular Immunology and Cytoskeleton</b>	<b>Course2 SBT402</b>	<b>Gene Regulation and Cloning Tools</b>
<b>Course 3 SBT403</b>	<b>Medical Microbiology</b>	<b>Course4 SBT404</b>	<b>Eukaryotic Genetics and Biostatistics</b>
<b>Course 5 SBT405</b>	<b>Applied Chemistry – I</b>	<b>Course6 SBT406</b>	<b>Applied Chemistry – II</b>
<b>Course 7 SBT407</b>	<b>Entrepreneurship and IPR</b>		

# Innovative Techniques- Teaching, Learning and Assessment

<b>Research based approach</b> <b>Abstract writing</b> <b>Scientific Poster making</b>	<b>Market Survey</b> <b>Data analysis</b>
<b>Debate</b> <b>Class discussions</b>	<b>Case studies</b> <b>Monologues</b>
<b>Model making</b> <b>Prototypes and working models</b>	<b>Infographics</b> <b>Animation</b> <b>Video presentation</b>
<b>Field trips</b> <b>Report writing</b>	<b>Skit</b> <b>Role play</b>
<b>Quiz based assessment</b>	<b>Audio-visual tools</b> <b>Presentation</b>

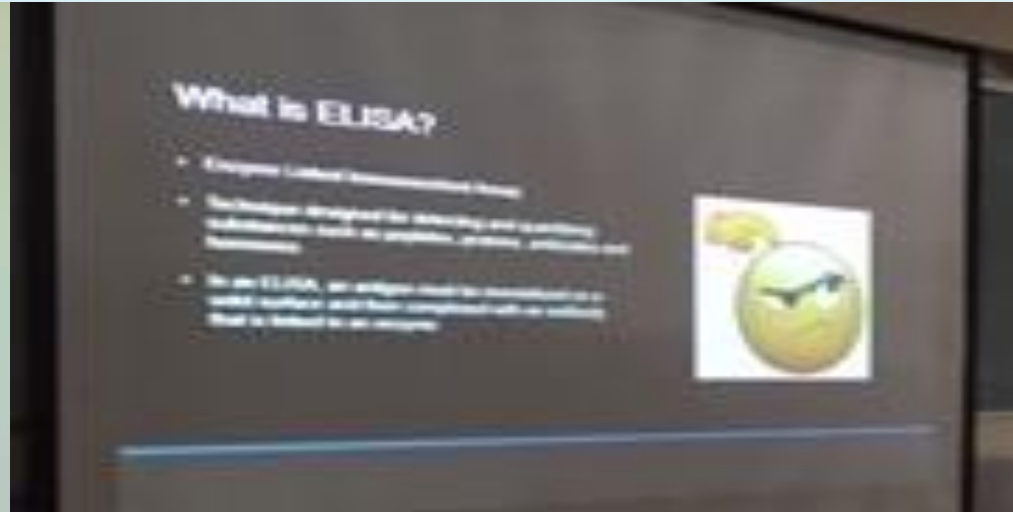
# Workshops and Seminars



**DEPARTMENT OF BIOTECHNOLOGY**  
**JAI HIND COLLEGE – AUTONOMOUS**  
in collaboration with HIMEDIA

**PRESENTS**

Under the aegis of RUSA  
TWO-DAY WORKSHOP  
**IMMUNODIAGNOSTICS USING ELISA**



**AUTONOMOUS**

**DEPARTMENT OF BIOTECHNOLOGY**  
**PRESENTS**

**TWO DAYS HANDS ON WORKSHOP ON**  
**IMMUNODIAGNOSTICS USING ELISA**  
**IN COLLABORATION WITH HIMEDIA**

5/25/2020  
**A RUSA INITIATIVE**



DEPARTMENT OF BIOTECHNOLOGY



# Workshop- December 2019

## Immunodiagnosics using ELISA





# Workshop 2019-20

## Nutrition, Health and Wellness

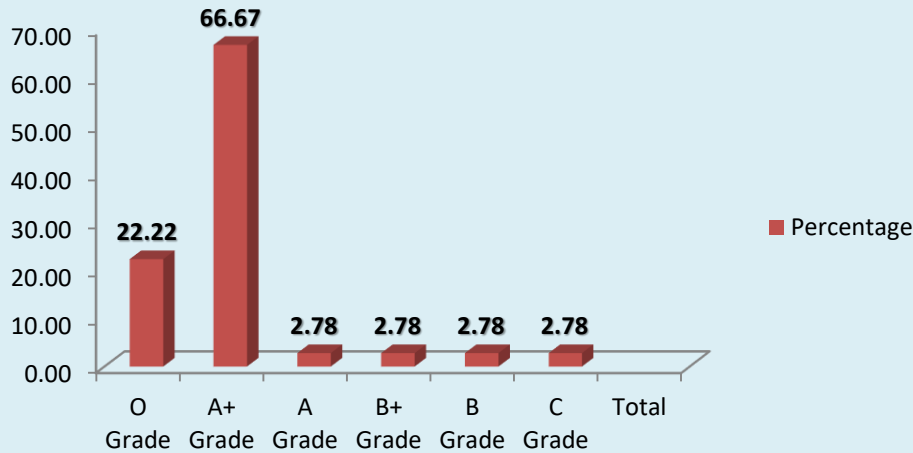


# Activities of the Department

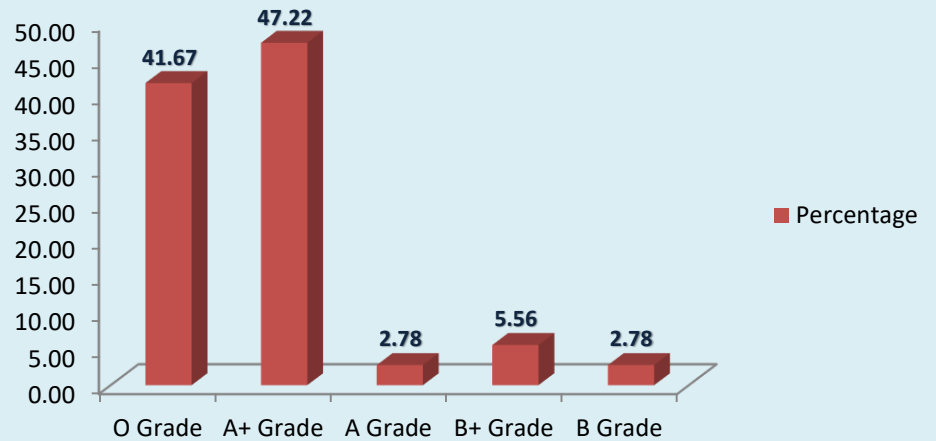
ACADEMIC	COCURRICULAR	EXTRACURRICULAR
<ul style="list-style-type: none"> <li>• WORKSHOPS</li> <li>• RESEARCH PROJECTS</li> <li>• SEMINARS</li> <li>• BIODEBATES</li> <li>• BIOEXPRESSIONS</li> <li>• PRESENTATIONS</li> <li>• FLIM MAKING AND SCREENING</li> <li>• ENTREPRENEURIAL DEVELOPMENT</li> <li>• RESEARCH PAPER/ POSTER PRESENTATION</li> </ul>	<ul style="list-style-type: none"> <li>• INTERNSHIPS</li> <li>• XPLORE (Annual science exhibition)</li> <li>• INVITED GUEST SPEAKERS</li> <li>• ALUMNI TALK AND INTERACTION</li> <li>• GROUP DISCUSSIONS</li> <li>• VISITS (Research institutes and Industry)</li> </ul>	<ul style="list-style-type: none"> <li>• GENACES (Intercollegiate Departmental festival)</li> </ul>

# Glimpses of Biotech Results

## Semester I Results 2018-19



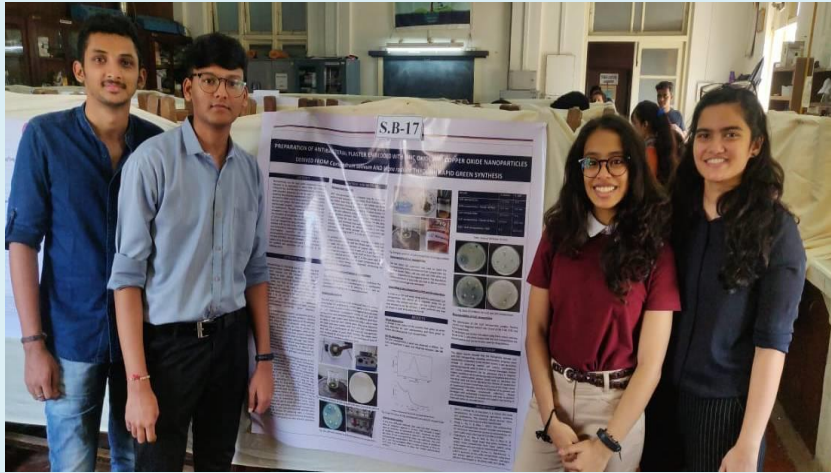
## Semester II Results 2018-19





# STUDENT ACHIEVEMENTS –X'PLORE Research meet 2020

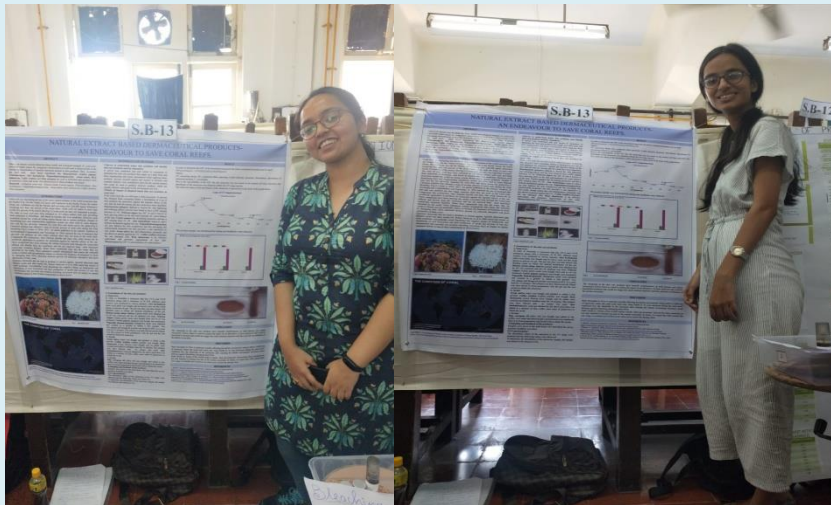
## ALL THE SY LEVEL PRIZES WON BY BIOTECHNOLOGY STUDENTS



SY First Prize



SY Second Prize



5/25/2020

SY Third Prize



DEPARTMENT OF BIOTECHNOLOGY

FY First Prize

## Internships

- **Bhatia hospital**
- **Bombay hospital**
- **NMIMS School of Biological Sciences**
- **Jaslok Hospital & Research Center**
- **Haffkins Institute**
- **C B Patel Research centre**
- **NCBS Bangalore**
- **KEM Hospital**
- **ACTREC**
- **P.H.Medical**
- **Biocon, Bangalore**
- **Nature Magazine, London**

# STUDENT ACHIEVEMENTS



**Three students of SY Biotechnology won second prize at the NATIONAL LEVEL Microbiolympiad held at the Government Institute of Science, Aurangabad, on 15<sup>th</sup> February, 2020.**



# Genaces – Biotech Department Festival



- *Annual*
- *Only Science festival offered by Jai Hind College*
- *Intercollegiate*
- *Most sought after*
- *Quiz*
- *Forensics*
- *Debate*
- *Meme ..... And more!!*



# Visits to Research Institutes and Industries

- **Biocon : Bangalore**
- **Wockhardt : Aurangabad**
- **NCBS : Bangalore**
- **CCMB : Hyderabad**
- **NDDDB: Anand , Gujarat**
- **Amul - Anand**
- **NCCS- Pune**
- **Serum Institute of India - Pune**
- **ICGEB-Delhi**
- **IIT, Delhi**
- **National Institute of Immunology: Delhi**
- **National institute of Oceanography, Panaji : Goa**
- **CPRI-Shimla**
- **NBPGR-Shimla**
- **Mushroom Factory and Medicine factory, Baddi : H.P**
- **Tulip Group of Companies: Goa**
- **Coca Cola: Goa**
- **UB Group: Goa**
- **Institute for Genetics : Hyderabad**
- **Mother Dairy : Hyderabad**
- **United Spirits : Hyderabad**
- **Sula Vineyards : Nashik**
- **ACTREC : Navi Mumbai (Annual Open-Day)**
- **TIFR, Mumbai**
- **ICT, Mumbai**
- **NMIMS, Mumbai**
- **SGNP, Mumbai**

# Visits to Research Institutes and Industries



**ICAR, GOA**



**NIO, GOA**



**TIFR, MUMBAI**



5/25/2020

**ICT, MUMBAI**



**DEPARTMENT OF BIOTECHNOLOGY**

**NMIMS, MUMBAI**

# Alumni Profile

- **Research Associate in NYU Medical Centre, New York**
- **Marketing Manager at Zuventus, Department of Oncology**
- **Ph. Ds and Jobs in USA/ UK/ Australia/ Singapore/ Canada**
- **Quality assurance/ Quality control**
- **Regulatory affairs**
- **Law firms/ IPR**
- **Manager Marketing Life Cell**
- **Nature Magazine- Junior editor**
- **Lecturer in Biotechnology in Colleges of repute**
- **Project Manager in a reputed Pharmaceutical firm**
- **Manager in Varda Biotech**
- **Dietitian in India, Canada and UK**
- **Research Officer in Bharat Serum and Vaccines**
- **PR Consultant for Genesis Burson Marsteller.**
- **Ph.D. in Biomedical Sciences, University of Toledo**
- **Medical Underwriter in ICICI Prudential**
- **Working for CPC Diagnostics**
- **Manager, Sula wines**
- **Entrepreneur in diverse fields**
- **Voice and Accent Trainer In JP Morgan**
- **Investment Banker in ICICI Bank**
- **Mol diagnosis at Sir H.N. Reliance Foundation Hospital, Girgaum**