About the Course

The history of man is marked by continuous efforts to make good use of biosphere. The efficiency and success of his endeavours have increased as his knowledge and understanding of the living world has grown. Progress in the biology during the last 60 years has provided the knowledge for utilization of genetic machinery of life for the production of special substances of human utility. Research and development and commercialisation in the field of modern biology and biotechnology have positioned themselves in the driving seat both in the developed and developing countries during the 21st Century. A large number of younger people are attracted towards pursuing biotechnology as a career option. This is because researchers world over are delving more and more deeply into the fundamentals of life's secrets at the cellular and molecular levels. The unravelling of the double helix structure of DNA by James Watson and Francis Crick in 1953 has led to exploration of unending opportunities, especially directed towards the welfare of humankind. Biotechnology is being promoted in the country keeping in view its enormous potential to improve agriculture, food, health, environment and energy requirements of the population. It also aims at creating opportunities for employment generation and adding to the economic progress of the nation through environmentally sustainable industrial development. The priority areas in which there is a need to generate trained human capital include Genomics, molecular medicines and diagnostics, vaccines, drug delivery, bioinstrumentation, bioremediation, biofuels, bioinformatics, pharmaceutics, and industrial processing.

Biotechnology has emerged due to an unique synergy of knowledge of biological sciences with technology with the aim to develop economically feasible processes and products using living organisms. In order to enhance the skilled human resource base, the Patna University has introduced M.Sc. degree course in Biotechnology in the Faculty of Science from the academic session beginning 2007 on self-financing basis. Well equipped laboratory with strong infrastructural base and linkages with a number of university departments and laboratories in India and abroad exist for the course. The research projects funded by different agencies will generate interest among young students joining this course to take-up the global challenges in R & D. The Biotechnology course has the sole aim to impart skill based intensive training through classroom teaching, interactive discussions, acquisition of knowledge of handling sophisticated equipment and data storage/analysis, all of which will pave the way for job avenues in areas of agriculture, environment, pharmaceuticals, bioinformatics, biofuel and other biotech industries.

Faculty

In addition to teachers of Patna University (serving as well as retired), an efficient set of teachers/scientists drawn from various institutions/departments/National laboratories are available to impart teaching on specialized topics.

Location and Infrastructural Facilities

The Biotechnology Course is presently located on the 1st Floor of Biology Block II of the Department of Botany, Patna University. It has well equipped laboratory for microbiology, molecular biology, biochemistry, bioinformatics and tissue culture to conduct

experiments based on course materials as well as research leading to Ph.D. degree. The on-line library facility is being provided by the Department. The Library of the Department and Patna University Central Library will provide library facilities to the students.

Eligibility for Admission

The minimum qualification required for admission to M.Sc. Biotechnology Course is as follows:

Graduate degree in Life Sciences (Botany, Zoology, Biotechnology, Microbiology, Industrial Microbiology) and Environmental Science.

Or

Graduate degree in Biochemistry, Bioinformatics and Chemistry with Life Science subjects as subsidiary

Or

B.Sc.(Ag.), B.V.Sc. Or M.B.B.S. degree

Every candidate must have obtained at least 55% marks in aggregate at the graduate level examination. However, this limit is relaxed to 45% for SC, ST and EBC candidates.

Admission to M.Sc. Degree Course in Biotechnology

Admission to M.Sc. Biotechnology Course shall be made strictly on merit, based on total marks obtained by the candidate at Written Aptitude Test carrying 100 marks and viva-voce of 25 marks taken together.

The Written Aptitude Test shall consist of objective questions carrying 100 marks covering the following disciplines:

Chemistry, biochemistry, plant physiology, cell biology, molecular biology, genetics, microbiology, environmental biology and different areas of biotechnology.

The duration of the Written Aptitude Test shall be of 90 minutes. **Only those who qualify at the Written Aptitude Test shall be called for viva-voce.**

The result of the written test as well as final result shall be notified on Notice Board and **website: www.pubiotech.in**

Number of Seats

The total number of seats available for admission to the Course is 20 (twenty) including both of general and reserved categories.

Reservations

Reservation of seats to SC, ST, EBC and OBC category students, unless specified otherwise, shall be as per the rules of state Government/Patna University applicable at the time of admission.

In case sufficient number of candidates are not available under reserved category, the vacant seats shall be offered to the candidates belonging to general category.

Consolidated fee Structure (Per Semester)

The fee structure for the Course shall be as follows.

(a) Admission Fee	-	100.00
(b) Tution Fee	-	6000.00
(c) Laboratory Fee	-	6000.00
(d) Library Fee	-	4000.00
(e) Development Fee	-	4000.00
(f) Medical Fee	-	50.00
Total Rs.	**-**	**20,150.00**

Medium of Instruction

The medium of instruction shall exclusively be English. In order to develop proficiency in scientific writing extra classes shall be arranged by experts.

Durations of the Course

The M.Sc. Biotechnology course shall be of Four Semester in two academic sessions.

Examination

The M.Sc. examination of Biotechnology shall be conducted as per the Regulations approved by the Hon'ble Chancellor of the Universities of Bihar vide Letter No. PU- 31/2002- 227/GS (I) dated 18.04.2007 and subsequently notified by Patna University vide letter no. Acad-1105 dated 30.04.2007.The amended Admission ordinance & regulation (Semester system) subsequently approved by Hon`ble Chancellor Vide Letter No. PU (Regulation) 31/2013-80/GS (I) dated 10.01.2014.

Only a student registered with the Patna University after admission to this course shall be eligible for appearing in the examination.

Evaluation of each semester shall be done by a Continuous Internal Assessment (CIA) as well as an End Semester Examination (ESE) and will be consolidated at the end of the course.

Discipline and punctuality

Utmost weightage is given to discipline, honesty and commitment. The students admitted to the course are supposed to

inculcate the culture of discipline, punctuality and amicability with a team spirit in order to facilitate smooth functioning.

Attendance

Each student has to register a minimum of 75% attendance in both theory and practical classes separately. No request shall be entertained if the attendance shall be less than 60%. In such cases, the student(s) concerned shall not be allowed to appear at the university examination.

Payment

All payments is to be made by Demand Draft (DD) or Banker's cheque in favour of **"M.Sc. Degree Course in Biotechnology, Patna University",** payable at Patna. Any payment made under the heads 'admission fee', 'tuition fee' and 'examination fee' shall neither be refundable nor transferable under any circumstances.

Course Structure

The M.Sc. Degree Course in Biotechnology shall contain the following papers each carring 100 marks and spread over Four semesters in two academic sessions.

Semester I

BT-M-101	:	Cells & Molecular Biology and Genetics
BT-M-102	:	Microbiology
BT-M-103	:	Biomolecule and Basic Enzymology
BT-M-104	:	Practical-I

Semester II

BT-M-201	:	Biophysics and Instrumentation
BT-M-202	:	Biology of Immune system
BT-M-203	:	Bioprocess Technology
BT-M-204	:	Practical-II

Semester III

BT-M-301	:	Recombinant DNA Technology
BT-M-302	:	Plant and Animal Biotechnology
BT-M-303	:	Biostatistics and Bioinformatics
BT-M-304	:	Practical-III

Semester IV

BT-M-401	:	Environmental Biotechnology
BT-M-402	:	Microbial Biotechnology
BT-M-402	:	Advance Plant & Agriculture Biotechnology
BT-M-403	:	Practical-IV
BT-M-404	:	Project Dissertation and Viva-voce

Prospectus and admission from

Prospectus with application form for admission to M.Sc. Biotechnology Course, Patna University shall be available on payment of Rs. 500/- (Five hundred) only through DD/Banker's cheque in favour **"M.Sc. Degree Course in Biotechnology, Patna University"** of payable at Patna.

Application form and prospectus can also be obtained by **post** or **downloaded** through website **www.pubiotech.in.** Request

for obtaining application form by post or the duly filled in downloaded application form must be accompanied by a DD/Banker's cheque of Rs. 550/- drawn in favour of "M.Sc. Degree Course in biotechnology, Patna University" payable at Patna.

Application completed in all respect should be submitted to the office of Coordinator, M.Sc. Biotechnology course, Biology Block II, Patna Science College Campus, Patna University.

For further details, contact the Department either personally or on following phone numbers during office hours:

0612-2670351 (O); 9431457533 (M)

PATNA UNIVERSITY

Patna-800005

Serial No. .....

ADMISSION FORM

(M.Sc. Biotechnology Course)

Paste Stamp Size Photograph

The Head/Coordinator,
M.Sc. Biotechnology Course
Department of Botany
Patna University, Patna-800 005.

Sir,

I hereby apply for admission to the 1st Semester of the two years M.Sc. Degree Course in Biotechnology.

Date .....

Signature of the Applicant

1. Name.....
   (CAPITAL LETTER)
2. Father's/Mother's Name.....
3. Date of Birth .....
   (as per Matriculation Certificate)
4. Permanent Address.....

   ..... Email ..... Tel. No. .....
4. Local/Postal Address.....

   ..... Tel. No. .....
5. If Applicant belongs to ST/SC/EBC/OBC..... (Attach Certificate)
6. **Examinations Passed :**

Sl. No.	Examinations	Board/University	Name of School/College	Year of Passing	Percentage Marks Obtained	Division	Subject
1.	Matric						
2.	Intermediate (+2)						
3.	Graduation						

*(Attach **self-attested copies** of all the mark-sheet and certificates supporting your statement)*
The details given above are correct to the best of my knowledge.

Signature of the Applicant

ADMIT CARD FOR WRITTEN APTITUDE TEST

(M.Sc. Biotechnology Course)

Serial No. .....

Name.....Roll No.....

Paste Stamp Size Photograph

Venue of Written Examination - Deptt. of Botany, Patna University

Date :..... Time :.....

Receiving Authority