

# RAJIV GANDHI INSTITUTE OF VETERINARY EDUCATION AND RESEARCH (RIVER)

Kurumbapet, Puducherry – 605009



## M.Sc. DEGREE PROGRAMME IN ANIMAL BIOTECHNOLOGY

*Regulations 2023-24*

*Approved by Pondicherry University*

## ADMISSION PROSPECTUS 2024-25



[www.river.edu.in](http://www.river.edu.in)





## **RAJIV GANDHI INSTITUTE OF VETERINARY EDUCATION AND RESEARCH (RIVER)**

**Kurumbapet, Puducherry - 605 009. INDIA**

(A Government of Puducherry Institution, Affiliated to Pondicherry University)

(ICAR Accreditation, NAAC Accreditation, UGC 2(f) & 12(B) status)

### **M.Sc. Degree Programme in Animal Biotechnology (Self-Supporting)**

Admission Prospectus– Academic year 2024-25

Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry came into existence on 14th October 1994. This institute is wholly funded by the Government of Puducherry and is managed by a Board of Governors with Secretary to the Government of Puducherry (Animal Husbandry) as the Chairman. The institute is affiliated to Pondicherry University. The main campus with 59 acres is set on a picturesque locale adjoining the KVK campus at Kurumbapet, Puducherry. The institute is awarded as 'CM's Best Institute' in 2023

The institute campus is located in three zones. Campus A and B are at Kurumbapet, about 6 km from Puducherry town. The Administrative building, Academic blocks, Central Library, Instructional farm complex, Fodder demonstration farm, Canteen, Student's cooperative stores and aviary cum fish pond are located in Campus A. The student's hostels, gymnasium and Sports complex are located in Campus B. Campus C is located at Mettupalayam, approximately 2 kms from the main campus where the Veterinary Clinical complex functions.

The institute offers an Undergraduate Programme (BVSc & AH), Post-Graduate programme (Master of Veterinary Science – M.V.Sc.) and PhD programme under the Veterinary Science Faculty.

The Pondicherry University approved to start MSc degree in Animal Biotechnology (ABT) (Self Supporting) programme at RIVER and RIVER admits students to the MSc (ABT) Programme from the Academic Year 2024-25.

#### **MoU with other Institutions/Universities**

<b>International Universities</b>	<b>Indian Institutions</b>
1. Purdue University, Indiana, USA	1. ICAR- CIRG, Makhdoom, UP
2. Hajee Mohammad Danesh Science and Technology University, Bangladesh	2. ICAR- NIANP, Bangalore, Karnataka
3. University of Malaysia, Kelantan	3. ICAR – NMRI, Hyderabad
4. University of Melbourne, Australia	4. ICAR- NIFMD, Bhubaneswar, Odisha
5. University of Queensland, Australia	5. Atal Incubation Centre, PTU, Puducherry
6. Charles Sturt University, Australia	
7. University of Tuscia, Italy	
8. University of Foggia, Italy	
9. Federal University of Agriculture, Abeokuta, Nigeria	
10. Cambridge University, UK	
11. University of La Sallae, France	
12. Xavier University, Aruba	
13. University of Connecticut, USA	

## 1. Programme of Study

Master of Science (M.Sc.) degree in Animal Biotechnology (ABT) is a self-supporting, 2-year degree programme as per the Regulations (2023-24 Onwards) approved by Pondicherry University and shall have four semesters. The programme includes 40 credits of coursework, 20 credits of research work and compulsory non-credit courses.

## 2. Scope of the Programme

National Biotechnology Development Strategy (2020-25) provides a strategic road map for the emergence of India as a global biotechnology innovation and manufacturing hub, highlighting the importance of building and strengthening a strong education, research, and translation ecosystem across the Country.

- ❖ Biotechnology contributes to a “knowledge and innovation-driven Bioeconomy”. India will be within the top 5 countries globally and be recognized as a Global Bio manufacturing Hub by 2025, with the Sector growing exponentially to achieve a growth of \$150 Billion.
- ❖ India is among the top 12 biotech destinations in the world and ranks third in the Asia-Pacific region. The biotech industry is expected to grow at 30% every year (Make in India web).
- ❖ Opportunities in animal husbandry seek to improve product quality, production efficiency, and animal health and well-being while reducing the environmental impact of animal production where the candidates specialized in Animal Biotechnology can play a role.
- ❖ India is becoming a popular destination for clinical trial and contract research.
- ❖ India is a country with many national research laboratories and centers of academic excellence in biosciences where research degrees can be pursued.
- ❖ The students with the biotechnology background better qualified to find admission to higher education abroad and this number has been steadily increasing.

## 3. Infrastructure

- ❖ Air-conditioned smart classrooms Wi-Fi enabled.
- ❖ Air-conditioned Spacious Laboratories.
- ❖ Central Instrumentation Facility with state-of-the-art scientific equipment.
  - Real Time PCR and Conventional PCR Equipment
  - Gel Electrophoresis
  - Gel Documentation
  - UV-Visible Spectrophotometer
  - Western Blotting Apparatus
  - High-Speed Refrigerated Centrifuge
  - ELISA Reader
  - Automatic Cell Counter
  - Animal Cell Culture Facility
  - Ultra Water Purification System
  - Gas Chromatography
  - Photomicrography Unit
  - Computer Assisted Sperm Analysis Unit
- ❖ Centre for Translational Research to train the students in Translational research

#### **4. Eligibility for admission**

- 4.1 Academic Qualification: BSc degree in Biotechnology/ Biochemistry/ Microbiology/Zoology/Animal Science from an Institution recognized by the UGC with a minimum OGPA of 6.0 in a 10- point scale (5.0 for SC/ST candidates). In the other grading systems, OGPA/ marks will be appropriately proportioned to the 10-point grading scale.
- 4.2 Entrance Examination: Appearance in MSc (ABT) Entrance Examination, 2024 conducted by the RIVER, Puducherry.
- 4.3 Age Limit: The candidate should not have completed 35 Y as on the last date of receipt of application(relax able up to 5 years for SC/ST category)

#### **5. Number of Intake –2024-25**

The total intake for the M.Sc. (ABT) degree programme is TWENTY (20), of which 10 seats are allotted for the resident candidates of Puducherry and the remaining 10 seats are for the candidates of other States and Union Territories of India. If sufficient applicants are not available in respective categories, the seats will be filled by the candidates from the category where excess eligible applicants are available.

#### **6. Criteria for residence of UT of Puducherry**

A candidate is considered as resident of UT of Puducherry if he/she is an Indian National and satisfies at least one of the following criteria as per the directions of Govt. of UT Puducherry.

- i. Those candidates or whose parents have been residing continuously in Puducherry UT at least for 5 years as on the preceding date of submission of application (Form D).
- ii. Children of Central / State Government Servants / Defense Personnel / Central Paramilitary Forces/ Employees of Public Sector Undertakings / Autonomous Bodies wholly or substantially run either by the Central Government or by the Puducherry UT administration for at least a minimum period of three years to the last date of submission of application (Form D).
- iii. Children of natives of the Puducherry UT who have declared any place in Puducherry UT as their hometown and so certified by their respective Heads of Office. In such case, the Nativity Certificate in the Prescribed Format must be enclosed along with the Admission Application (Form E).
- iv. Children of Defense Personnel who were killed or disabled in action and children of Central Government Servants/Puducherry UT Government Servants/Defense Personnel/ Employees of Public Sector Undertakings as referred in Category (2) who died while in service in Puducherry (Form D).
- v. French nationals residing in Puducherry UT and covered by the terms of the Treaty of Cession shall be treated on par with the candidates who produce the prescribed Puducherry Residence Certificate. Such French Nationals will not be required to produce a Residence Certificate; instead, they should produce a Certificate of Registration issued for this purpose from the French Consulate at Puducherry. Children of these French Nationals shall not be considered for admission under the quota of Non- Residents. For this purpose, the relevant certificate in original has to be enclosed.

## 7. Seat Matrix – 2024-25

The following seat allocation will be followed for the academic year 2024-25

Discipline	UT of Puducherry						Other States						Grand Total
	UR	EWS	OBC*	MBC	SC#	Total	UR	EWS	OBC	SC	ST	Total	
<b>Animal Biotechnology</b>	4	1	1	2	2	10	4	1	3	1	1	10	20

\* Includes OBC/EBC/BCM; # Includes SC/ST/BT

**Note:**

- Unfilled reserved seats (if any) will be converted to unreserved seats in the respective category and filled.
- If enough candidates from U.T. of Puducherry are not available even after the conversion of reserved seats, the seats will be converted to other states' Quota (Unreserved) and filled. Similarly, the vice versa will be followed in the case of other states' quota.

## 8. Application Procedure

The candidates may apply online at [www.river.edu.in](http://www.river.edu.in). Carefully fill in the necessary details along with the essential attachments as stated below and submit the application form on or before 31<sup>st</sup> July 2024. A Non-Refundable Registration Fee of Rs.1000/- (Rupees One Thousand only) to be paid online to the account '**RIVER SNA**', **A/c No.69480100010548, Bank of Baroda, RAGACOVAS Branch, IFSC code: BARB0VJRAJI (Fifth character is 'Zero')**

Candidates who are employed should submit the 'NO OBJECTION CERTIFICATE' from the employer on or before the last date of application. However, *Candidates who are employed have the option of submitting a 'NO OBJECTION CERTIFICATE' from the employer at the time of the Entrance Examination.* If selected for the course he/she will be permitted to join the course only on production of relieving orders from the concerned employer.

### Documents to be submitted along with the Application (Self Attested copies)

- Proof of Date of Birth (Birth Certificate/ X Mark List)
- X- and +2-Mark List
- B.Sc. Degree Certificate\*\*
- Consolidated statement of Marks - B.Sc. Degree
- Nativity/Residence Certificate\*
- Caste Certificate\* If applicable
- EWS certificate\* If applicable
- No objection certificate, if applicable
- Proof of payment of non-refundable registration fee.

\* These certificates need to be recent and issued in the format stipulated by the respective governments by the appropriate authorities; \*\* Provisional Degree Certificate is accepted.

## 9. Selection Procedure for admission

- ❖ All eligible candidates applying for M.Sc. (ABT) Degree Programme will have to appear for MSc(ABT) Entrance Examination (MSc(ABT)EE-2024) to be conducted by RIVER.
- ❖ The candidates will be selected from the merit list drawn based on the aggregate of marks obtained in the qualifying examination (80% weightage) (marks will be derived from OGPA obtained using applicable formula) and entrance examination (20% weightage).
- ❖ The candidate shall secure a minimum of 50% (40% for SC/ST Candidates) of aggregate marks obtained in BSc and MSc (ABT) EE-2024 to be eligible to get admission for M.Sc. Programme.

### 9.1 MSc (ABT) Entrance Examination (MSc (ABT)EE-2024)

MSc (ABT)EE-2024 will be conducted at 10.30 A.M. on 13<sup>th</sup> August 2024 at the Examination Hall of Rajiv Gandhi Institute of Veterinary Education and Research (RIVER), Kurumbapet, Puducherry. All the eligible candidates can appear for the Entrance Examination on the given date at their own risk. No separate intimation will be sent to the candidates for appearing in the Entrance Examination. No TA and DA will be paid to the candidates for appearing in the Examination. The candidates shall collect the admit card by 9.00 A.M. at the Examination Hall, RIVER.

The duration of the MSc(ABT) Entrance Examination is ONE HOUR and THIRTY MINUTES. The Syllabus for the MSc (ABT) Entrance Examination is enclosed in the annexure. The paper will contain 100 Objective Type questions(MCQ), each question carries one mark and no negative marking. The medium of examination shall be English.

### 9.2 Merit List

Among the candidates who secure a minimum of 50% (40% for SC/ST candidates) of aggregate marks obtained in the qualifying degree and entrance examination, the merit list will be drawn and candidates will be admitted. In case of a tie in the merit list i.e. candidates having obtained equal marks in the merit list, the inter-merit will be decided in order of preference as follows:

1. Marks obtained in the MSc (ABT)EE-2024
2. OGPA/ Marks in the Qualifying examinations
3. Age (Candidates older in age are given preference) There is no Provision for Re-evaluation.

### 9.3 Counselling

Counseling for Admission will be held at the Office of the Dean, RIVER, Puducherry. The candidates appearing for counseling are required to pay the entire requisite fee for MSc (ABT) degree programme through online payment ('RIVER SNA', A/c No.69480100010548, Bank of Baroda, RAGACOVAS Branch, IFSC code: BARB0VJRAJI) or Payment Challan issued by Bank of Baroda, RAGACOVAS Branch and deposit all the original certificates. The Admission Letter will be issued to the selected candidates on the same day of receipt of the above.

## 10. Fee Structure

Details of Tuition Fee and Other Fee for the MSc (ABT) Degree Programme is given below

Category	Semester I	Semester II	Semester III	Semester IV
	(Rs.)	(Rs)	(Rs)	(Rs.)
<b>Admission fee</b>	5,000	-		-
<b>Tuition fee</b>	50,000	50,000	50,000	50,000
<b>Special fee</b> (Lab, Comp, Lib)	8,445	8,445	8,445	8,445
<b>Exam fee</b> (internal)	250	250	250	250
<b>Student welfare fee</b>	1,000	-	1,000	-
<b>Sports fee</b>	500	-	500	-
<b>Id card fee</b>	250	-	-	-
<b>Co-op member fee*</b>	110	-	-	-
<b>Student council fee</b>	500	-	500	-
<b>Magazine fee</b>	250	-	250	-
<b>Caution Deposit*</b>	5,000	-	-	-
<b>Total</b>	<b>71,305</b>	<b>58,695</b>	<b>60,945</b>	<b>58,695</b>

\* Refundable after completion of the Course

In addition, Registration Fee, Matriculation Fee, Recognition Fee, University Development Fee, and University Examination Fee shall be paid as prescribed by the Pondicherry University from time to time.

### NOTE:

- All the above fees as indicated should be paid at the time of admission and during subsequent semesters.
- Fee once paid will not be refunded under any circumstances.
- Fee structure is subject to revision from time to time.

## 11. Hostel Accommodation

Hostel accommodation is allotted only on availability. The fee structure for the hostel accommodation is as follows

	Item	Amount (₹)
<b>Annual fee</b> (non-refundable)	Hostel Rent per annum – Type 1 (or) Type 2	7000 (or) 10000
<b>One-time fee payable at the time of admission</b> (non-refundable)	Hostel Admission fee	500
	Hostel inmate welfare fund	500
<b>One-time fee payable at the time of admission</b> (refundable after adjustment, if any, at the time of vacating the hostel)	Hostel Caution Deposit	1000
	Mess deposit (to be paid to the Warden of the Hostel towards boarding Security)	7000
	<b>Total</b>	<b>16000 (or) 19000</b>

Note: If a student discontinues the course completely, only the hostel caution deposit and mess deposit will be refunded, after adjustment, if any.

## 12. Refund of fee paid policy for Post Graduate students

In the event of an admitted student leaving the course, the following refund of fee policy will be followed.

Situation (for both Puducherry and other State students)	Refund Policy
On request received before the start of the academic session & seat could be filled by the Institute before the closure of admission.	The entire fee less than the admission fee will be refunded
If the seat remains vacant on account of withdrawal of admission by the candidate or discontinuance of course any time after the commencement of the course of study	The entire fee paid will not be refunded.

## 13. Registration of course

The registration for the courses and orientation to the programme will be on the next day of admission (*Date will be intimated*).

## 14. Discipline

The Institute aims at maintaining the highest standard of discipline amongst the students. The students shall abide by any General or Special Rules prescribed by the Institute about discipline and conduct, from time to time and shall give a written Undertaking thereof before being admitted.

- i. Students shall not associate themselves with any political party or organization within or outside the Institute campus.
- ii. Use of alcohol and intoxicating drugs inside the Institute and Hostel premises is strictly prohibited.
- iii. Students shall desist from agitations and demonstrations.
- iv. Every student shall carry an Identity Card issued by the Institute.
- v. Any act of disobedience or misconduct will be seriously dealt with.

Ragging: "Ragging is strictly prohibited" by a notification issued by the Ministry of Human Resource Development, Government of India, with a penalty ranging up to 2 years of imprisonment. If any "student indulges in any form of ragging", he/she will be summarily rusticated from the Institute. The decision of the Dean of the Institute shall be final in case of complaints.

## 15. Progress in studies

A student is expected to keep steady progress in their studies. A student found indifferent in studies or has poor attendance, may face expulsion/ rustication from the Institute. The name of the student may be struck off from rolls for unauthorized absence from classes.



## 16. Documents to be submitted at the time of joining

The selected candidate should produce the following certificates in original to the Institute at the time of admission.

1. Recent Passport size colour Photos (2 nos.)
2. Fee payment – DD/Proof for online payment/Challan
3. Birth Certificate / Proof of Date of Birth
4. S.S.L.C mark sheet
5. Higher Secondary (10+2) or Equivalent Examination Mark Sheet
6. BSc Degree /Provisional Certificate
7. Consolidated Statement of Marks - B.Sc. Degree
8. Transfer Certificate, issued by the Head of the Institution last studied
9. Conduct Certificate, issued by the Head of the Institution last studied
10. Migration Certificate, if issued by the Head of the Institution last studied
11. Nativity/Residence Certificate\*
12. Caste Certificate\* If applicable.
13. EWS Certificate\* If applicable.
14. Medical Fitness Certificate\* issued by the Government Medical Officer.
15. Aadhar Card (Photocopy)
16. Relieving order from the employer, if applicable.

*\* These certificates need to be recent and original.*

*All the above documents are mandatory for submission to Pondicherry University and for the Institute's record*

### NOTE:

1. If any admitted candidate discontinues the course at any time/ disqualified by Pondicherry University, the refund of fee policy mentioned in this prospectus will be followed.
2. Candidates failing to adhere to the conditions mentioned in the admission procedure shall forfeit their candidature and the seat will be offered to the next eligible candidate in the Merit List.

### Contact address

Dr. V. Sejian, M.V.Sc., Ph.D. Post.Doc (USA & Australia)  
DEAN  
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### For further clarifications (if any), please contact

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## Important Dates

- Call for Application forms : 10<sup>th</sup> July 2024
- Last date of receipt of application form : 31<sup>st</sup> July 2024
- Display of provisional list of candidates eligible to appear for entrance examination : 7<sup>th</sup> August 2024
- Date of Entrance Examination : 13<sup>th</sup> August 2024
- Declaration of Results of Entrance Examination : 14<sup>th</sup> August 2024

*Note: Date of Admission Counseling and date of commencement of classes will be intimated. Please follow the Institute website ([www.river.edu.in](http://www.river.edu.in)) notification.*

## Published by

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## ANNEXURE

**RAJIV GANDHI INSTITUTE OF VETERINARY EDUCATION AND RESEARCH  
KURUMBAPET, PUDUCHERRY – 605 009**

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**MSc Degree Programme in Animal Biotechnology**

**Syllabus for MSc (ABT) Entrance Examination, 2024 [MSc (ABT) EE, 2024]**

### Undergraduate Level

1. Aqueous Solutions – Different Levels of Expression of Concentration.
2. pH and Buffers – Definition, Types and Mechanism of Action.
3. Biochemistry of Amino Acids and Proteins.
4. Enzymes – Biological Catalyst – Classification – Mechanism of Action.
5. Biochemical techniques – Electrophoresis, Centrifuge, Chromatography.
6. Biochemistry of DNA and RNA - Replication – Transcription – Translation – In Prokaryotes and Eukaryotes.
7. Genetic Code - Regulation of gene expression – In Prokaryotes and Eukaryotes.
8. Recombinant DNA technology.
9. Polymerase Chain Reaction- Real-time PCR.
10. DNA and RNA Probes - Nucleic acid transfer – Southern and Northern Blots – DNA fingerprinting
11. Gene sequencing.
12. Hormones – Mechanism of Action - Endocrine Basis of Reproduction.
13. Genomic organization in Eukaryotes and Prokaryotes
14. Microscopy and Micrometry
15. Bacterial Stains and Staining - Sterilization and disinfection.
16. Culture media- Cultivation of Bacteria - Characterization (biochemical, serological, pathogenicity) of bacteria
17. Basics in virology – Techniques in Virology
18. Immunology – Antigen - Antibodies – Immunodiagnostic techniques - Vaccines.



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