



Ramakrishna Mission Vidyamandira
Belur Math, Howrah - 711 202

**Academic Internship
Offered by
Microbiology Department**

1. Structural biology and drug designing

Prerequisite: Students must study at least 2 semesters as Hons/General/Major/Minor courses in Microbiology/ Zoology/ Botany/ Biotechnology/ Physiology/ Life Science.

Mode (Online / Offline / Hybrid): Hybrid

Tentative Timeline: 15th May to 30th June 2025

[Evening 6 pm to 8 pm (Monday to Thursday online) and Saturday 11 am to 2 pm (Offline)]

Number of students: 7

Aims & objectives: Students will learn the concept of Structural biology, how to model a protein from its sequence, Ramchandran Plot of that protein. Also able to know molecular docking and drug designing concepts. Here Students will familiarize with different software and their usages.

Applicable for: Boys only (who satisfies the pre-requisites).

Internship Code: MCBDS1

Possible Instructor: Dr. Diptendu Sarkar, Assistant Professor, Department of Microbiology, Ramakrishna Mission Vidyamandira.

2. Network Biology /Network Pharmacology

Prerequisite: Students must study at least 2 semesters as Hons/General/Major/Minor courses in Microbiology/ Zoology/ Botany/ Biotechnology/ Physiology /Life Science.

Mode (Online / Offline / Hybrid): Hybrid

Tentative Timeline: 15th May to 30th June 2025

[Evening 6 pm to 8 pm (Monday to Thursday online) and Saturday 11 am to 2 pm (Offline)]

Number of students: 5

Aims & objectives: Students will learn the network biology related to disease bioinformatics concept. Here they will learn how to screen phytomolecules for drug discovery. They also will learn SWISS target prediction, gene prediction, toxicity analysis and how to create a gene network.

Applicable for: Boys only (who satisfies the pre-requisites).

Internship Code: MCBDS2

Possible Instructor: Dr. Diptendu Sarkar, Assistant Professor, Department of Microbiology, Ramakrishna Mission Vidyamandira.

3. Microbial Biotechnology

Prerequisite: Students must study at least 2 semesters as Hons/General/Major/Minor courses in Microbiology/ Zoology/ Botany/ Biotechnology/ Physiology/ Life Science.

Mode (Online / Offline / Hybrid): Offline

Tentative Timeline: 15th May -30th June 2025, Monday -Friday (11am-3pm)

Number of students: 3

Aims & objectives: Students will learn the Microbial Biotechnological concept on Bacterial plastic production. Here they will learn screening, isolation and characterization of bioplastic producing organisms. They will be extracting biopolymers from bacteria.

Applicable for: Boys only (who satisfies the pre-requisites).

Internship Code: MCBDS3

Possible Instructor: Dr. Diptendu Sarkar, Assistant Professor, Department of Microbiology, Ramakrishna Mission Vidyamandira.

4. Medical and Environmental Microbiology

Prerequisite: Students must study at least 2 semesters as Hons/General/Major/Minor courses in Microbiology/ Zoology/ Biotechnology / Life Science.

Mode (Online / Offline / Hybrid): Offline

Tentative Timeline: 15 th May to 30 th June 2025

(Monday to Wednesday from 11 am-3 pm and Friday to Saturday from 11 am-2 pm).

Number of students: 5

Aims & objectives: The objective of the study would be the isolation and characterization of microbial flora from electronic devices/ health hygiene kits and study the microbial diversity in urban population with an aim to improve the health and hygienic practice in their lifestyle. As an outcome of the study, it would be possible to figure out the distribution of normal flora and contaminating microbes from the environment. The interns would be able to get ample knowledge and develop their skills in the field of medical and environmental microbiology.

Applicable for: Boys only (who satisfies the pre-requisites).

Internship Code: MCBSDMI

Possible Instructor: Dr. Sudipto Mandal, Assistant Professor, Department of Microbiology, Ramakrishna Mission Vidyamandira.

5. Basics of Bioinformatics

Prerequisite: Students must study at least 2 semesters as Hons/General/Major/Minor courses in Microbiology/

Zoology/ Botany/ Biotechnology/ Life Science.

Mode (Online / Offline / Hybrid): **Online**

Tentative Timeline: 7pm-9pm, for 20 days within 15th May-30th June 2025

Number of students: 3

Aims & objectives: Students would be encouraged to learn about the basics of Bioinformatics in both theoretical and practical, both in online mode. They will learn about the different formats of writing of genetic code, protein databases etc.

Applicable for: Open to all who satisfies the pre-requisites.

Internship Code: **MCBSM1**

Possible Instructor: Dr. Santanu Maitra, Associate Professor, Department of Microbiology, Ramakrishna Mission Vidyamandira.