

MICROBIOLOGY INSIGHTS

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About the Department

The Department of Microbiology was established in 1999, offers a wide range of undergraduate and postgraduate courses, ensuring comprehensive education and research opportunities in this field. The department boasts a faculty of highly qualified experts who bring with them vast experience and expertise in various domains of Microbiology. Their commitment to teaching and research is reflected in their active involvement in cutting-edge research projects and their contributions to scientific publications and conferences. The department is equipped with state-of-the-art infrastructural facilities, including modern laboratories and research equipment, creating an ideal environment for teaching, experimentation, and innovation. Additionally, the department maintains strong collaborations with industry partners, providing students with valuable industry exposure and internship opportunities. The emphasis on research, professional development workshops, and a collaborative atmosphere nurtures the overall growth of students, preparing them for successful careers in academia, research, or the industry.



Objectives of Department:

- To provide skill based scientific and technical knowledge to students
- To train students in the field of microbiology, provide value-based education with innovative research
- To undertake research activities relevant to present day needs

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Guest Lecture on “A Molecular Perspective on Transcription: Prokaryotic and Eukaryotic Transcription”

The Department of Microbiology, MSRCASC, in association with GR Biosciences, Bengaluru, and the Sukshmanika Club, organized a guest lecture titled “A Molecular Perspective on Transcription: Prokaryotic and Eukaryotic Transcription” on 27th October 2025. Coordinated by Dr. Vishal, M. and Dr. Yashaswini, M. S., the session was delivered by Dr. Aditya Rao, S. J., Managing Director of GR Biosciences, and attended by 120 students from B.Sc. and M.Sc. Microbiology and Biotechnology. The lecture covered core concepts of transcription, regulatory mechanisms, and current research and industrial applications.



The interactive session enabled students to clarify concepts related to RNA polymerases, promoter regions, transcription factors, and post-transcriptional modifications, effectively linking theory with real-world relevance. Students shared highly positive feedback and expressed interest in longer sessions in the future. The department extends sincere appreciation to Dr. Aditya Rao, S. J., for an engaging and enriching talk, and to the coordinators for successfully organising an academically impactful event.

Industrial visit to University of Agricultural Sciences, GKVK, Bengaluru

An industrial/educational visit was organized on 10th November 2025 for 48 M.Sc. Microbiology I & II Year students to the University of Agricultural Sciences, GKVK, Bengaluru, accompanied by Dr. Snehalatha V and Dr. Nimita Venugopal C, with the objective of linking classroom learning to real-world agricultural and biotechnological applications. The visit provided comprehensive exposure to applied microbiology, biotechnology, and sericulture through interactions with scientists and demonstrations across departments. Students gained practical insights into biofertilizer production involving microbial inoculants such as *Rhizobium*, *Azotobacter*, *Azospirillum*, and Phosphate solubilizing bacteria, including large-scale fermentation, quality control, packaging, and field application.



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The mushroom production unit familiarized students with commercial cultivation techniques of Oyster and Button mushrooms, emphasizing substrate preparation, spawn production, sterile practices, and environmental control. The biotechnology department showcased advanced facilities for molecular biology, tissue culture, genomics, proteomics, and greenhouse-based crop evaluation, highlighting research aimed at crop improvement and stress tolerance. The sericulture department introduced the biology and economic importance of silkworm rearing, mulberry cultivation, disease management, cocoon harvesting, and silk processing. Overall, the visit significantly enhanced students' practical knowledge, research orientation, and career awareness by demonstrating the vital role of microbiology and biotechnology in sustainable agriculture and allied industries.



Awareness Program On 'Know Your Diet: Diabetes Awareness for Educators'

The awareness campaign titled "Know Your Diet: Diabetes Awareness for Educators" was conducted on 15th November 2025 at MSRCASC, with active participation from M.Sc. Microbiology students and faculty members across various departments. The primary aim of the initiative was to enhance educators' scientific understanding of diabetes and equip them with evidence-based dietary and lifestyle knowledge that could be effectively disseminated within academic and community settings.



The program included comprehensive and interactive discussions on the etiology and classification of diabetes, its clinical manifestations and the physiological basis of glycaemic regulation. Participants were introduced to dietary strategies, including the consumption of whole grains, fibre rich fruits and vegetables, minimizing refined sugars, controlling high glycaemic foods and adopting health-promoting cooking practices. Visual aids such as dietary charts were used to demonstrate the concept of the glycaemic index (GI) and its impact on blood glucose levels and metabolic health.

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Beyond nutrition-focused education, the session highlighted the importance of regular physical activity, periodic health checkups and stress-management interventions in reducing diabetes risk and improving long-term outcomes. Facilitators demonstrated practical skills such as interpreting nutritional labels, identifying hidden /added sugars and formulating balanced meal plans suitable for diverse age groups and physiological needs. Active participation from educators through questions, discussions and experience sharing contributed to a collaborative and engaging learning environment.



An industrial and educational field trip - Udupi and Murudeshwar

An industrial and educational field trip was organized for M. Sc. Microbiology (III Semester) students from 23rd to 27th November 2025, with 31 students accompanied by Dr. Snehalatha, V., to provide practical exposure to industrial, research, cultural, and ecological aspects of microbiology and biotechnology. The trip included academic visits to the Manipal Museum of Anatomy & Pathology (MAP), where students observed preserved anatomical and pathological specimens enhancing their understanding of human physiology and disease documentation, and the Manipal Institute of Virology, where they gained firsthand knowledge of virology research infrastructure, including PCR machines, CO₂ incubators, -80 °C freezers, cell culture laboratories, and stringent sterilization and biosafety protocols.



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Industrial exposure was further strengthened through visits to Aqua Blue Pure Water Packaging Industry, Honnavar, and Sri Ganesh Cashew Industry, Kumta Taluk, helping students relate theoretical concepts to real-time applications in water purification, food processing, hygiene, and quality control. In addition, visits to cultural, historical, and ecological sites such as temples, beaches, mangroves, forts, islands, and geological formations enriched students' awareness of biodiversity, conservation, heritage, and sustainable practices. Overall, the trip effectively integrated academic learning with practical, cultural, and environmental exposure, contributing significantly to the holistic development of the students.



Awareness Program on HIV and AIDS Infection Commemorating “World Aids Day”

The Department of Microbiology, M S Ramaiah College of Arts, Science and Commerce – Autonomous, Bangalore, in association with NSS and Microbiologists Society, India, organized an awareness campaign on 1st December 2025. Seventeen Ist year M. Sc. students participated actively in the event and created awareness on HIV transmission, prevention, importance of testing, and breaking social stigma.



Accompanied by faculty members, the student groups conducted a brief outreach drive around BEL Road, where they divided into smaller teams and visited shops, restaurants, and local vendors. They interacted with shopkeepers and the general public, spreading awareness about safe practices, the importance of regular HIV testing, and the need for early diagnosis. Posters were displayed in prominent locations to reach passersby and enhance community understanding. The students also emphasized safe sex education, the use of protection, and the importance of ending stigma and discrimination against HIV-positive individuals.

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Faculty Achievements

Dr. Deepa V.H., Assistant Professor, Department of Microbiology, has been selected as a Fellow Member and honoured with the **RAAST Young Associate Fellowship Award 2025** by the Western Ghat Researcher Association of Agricultural Sciences and Technology (RAAST India). This recognition celebrates her distinguished contribution, research excellence, and continued commitment to the field of Life Sciences, specifically Microbiology. The fellowship is awarded to young researchers demonstrating exceptional potential and leadership in their respective disciplines. Dr. Deepa V.H.'s dedication to quality research, her scholarly achievements, and her consistent efforts toward promoting scientific inquiry have earned her this notable honour.



Dr. Deepa V.H. has been honoured with the Excellent Educationist & Researcher Award 2025 by Rifacimento International. The award was presented on October 18, 2025, in recognition of her remarkable academic achievements, significant research contributions, and dedicated service to the field of higher education. Dr. Deepa V.H. has been consistently contributing to quality teaching, mentoring, and impactful research in the areas of marine algal studies, bioactive compounds, and sustainable science. Dr. Deepa V.H. on this well-deserved recognition and extends best wishes for her continued success in research and academic leadership.

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Dr. Prashanti, Department of Microbiology, M.S. Ramaiah College of Arts, Science and Commerce (MSRCASC), has published a **research paper** titled "**Synthesis of Iron(III) Oxide-Coated Xanthan Gum Nanospheres as an Antibacterial and High-Efficiency Dye Sensor**" in the reputed Q1 journal *ACS Biomaterials Science and Engineering*. In addition to this scholarly achievement, she has also been granted a **patent** titled "**Apparatus for Predicting Anti-Inflammatory and Antioxidant Activity of Plant Extract**." These accomplishments highlight her significant contributions to advanced research in biomaterials and biotechnology, reflecting the institution's strong focus on innovation, research excellence, and societal relevance.

Student Achievement – KSET Qualified

Miss Lavanya and Miss Syeda Nargis Mehdi, Department of Microbiology, M.S. Ramaiah College of Arts, Science and Commerce, have successfully qualified the Karnataka State Eligibility Test (KSET). This notable achievement reflects their academic excellence, perseverance, and dedication to higher education. The institution proudly congratulates them on this accomplishment and wishes them continued success in their academic and professional pursuits.

