



The Oxford College of Science

Accredited by NAAC with A+ grade in cycle III

Recognized by the Govt. of Karnataka; Permanently affiliated to Bangalore University & Approved by AICTE, New Delhi
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Supported by DST GoI under FIST program, Supported by DBT GoI under DBT-STAR College

DBT-STAR Scheme 2026

REPORT

DEPARTMENT: Microbiology

TITLE	“Preparation of different types of Buffers and their applications”
ACTIVITY TYPE	Enrichment Programme
YEAR/SEMESTER	2026 / II Semester
DATE OF EVENT	7 th March 2026
VENUE	Microbiology Lab
ORGANISED BY	Department of Microbiology
RESOURCE PERSON	Dr. Deepa V.H. Assistant Professor M.S. Ramaiah college of Arts, Science & Commerce Autonomous
FACULTY INCHARGE/EVENT COORDINATOR	Ms. Ramyashri.O
TARGET AUDIENCE	II Semester B.Sc.
NUMBER OF BENEFICIARIES	16

Objectives of the Programme:

The main objective of the enrichment programme on the preparation of buffers and their applications was to provide students with fundamental knowledge about buffer solutions and their importance in microbiology laboratories. The programme aimed to help students understand the principles behind buffer systems and their role in maintaining a stable pH during biological and chemical reactions. It also focused on training students in the correct methods of preparing commonly used buffers and developing their practical laboratory skills. Additionally, the programme intended to create awareness among students about the various applications of buffers in microbiological, biochemical, and molecular biology experiments.

Highlights of the Programme

The enrichment programme included both theoretical explanations and practical demonstrations on the preparation of different buffer solutions commonly used in laboratories. Students were introduced to the basic concepts of buffer systems and were guided through the step-by-step procedure for preparing buffers and adjusting pH using a pH meter. The session also included a discussion on the Henderson–Hasselbalch equation and its importance in buffer preparation and calculations. Practical examples were provided to explain the role of buffers in laboratory procedures such as media preparation, enzyme reactions, and culture maintenance. The



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programme also included an interactive session where students clarified their doubts and discussed practical challenges in buffer preparation.

Outcome of the Programme:

The programme helped students gain practical knowledge and hands-on experience in preparing buffer solutions accurately. They developed a better understanding of how buffers function to maintain pH stability in biological systems and laboratory experiments. Students also improved their laboratory skills, including measuring and adjusting pH and handling chemicals safely. The programme enhanced their confidence in performing laboratory procedures independently and helped them relate theoretical knowledge to practical applications. Overall, the enrichment programme contributed to strengthening the students' understanding of the importance of buffers in microbiology, biotechnology, and biochemical research.



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Picture:



Inauguration of the Enrichment program



Theory session by Dr. Deepa.V.H



Practical session by Dr. Deepa.V.H

Head of the Department

DBT-STAR Coordinator

Vice Principal

Principal



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