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# Research Digest

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Chief Editor:  
Dr. P. Muhamed Ilyas

Editors:  
V.K. Muneer  
Asfar Sadath K.



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Sullamussalam Science College, Areekode

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# **Research Digest**

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## **Preface**

It is with immense pride and enthusiasm that we present the 2023 Research Digest, an annual compilation of scholarly endeavors that reflect the intellectual rigor and research excellence of the faculty at Sullamussalam Science College. This publication represents the dedication and commitment of our academic community to advancing knowledge and contributing to the global discourse in various domains. By highlighting high-quality research contributions published in Scopus and UGC CARE-indexed journals, this digest serves as a testament to our faculty's pursuit of academic distinction.

Research is the cornerstone of progress, and this digest is a manifestation of our institution's relentless efforts to foster a vibrant research culture. The selected articles not only underscore the depth and breadth of academic inquiry undertaken by our faculty but also demonstrate their engagement with contemporary issues and challenges. Through this compilation, we aim to inspire a spirit of curiosity, innovation, and collaboration among our readers, encouraging them to embrace research as a powerful tool for societal transformation.

The 2023 Research Digest also reflects the collective ethos of Sullamussalam Science College, where academic excellence is harmonized with a commitment to nurturing the next generation of researchers and innovators. It is our belief that sharing research achievements creates opportunities for interdisciplinary dialogue, broadens perspectives, and strengthens the academic fabric of our institution. By documenting and disseminating these works, we hope to extend their impact beyond our campus and into the broader academic fraternity.

We extend our heartfelt gratitude to the contributors whose exemplary research forms the core of this publication. We also acknowledge the unwavering support of the college management, whose vision and encouragement have been instrumental in shaping our research ecosystem. As you explore the pages of this digest, we invite you to celebrate the spirit of inquiry that drives us and to join us in our mission of advancing knowledge for a better future.

Sincerely,

Editors