

SK RAKIBUL HOSSAIN

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PROFESSIONAL SUMMARY

Bioprocess Engineering postgraduate (M.E., Jadavpur University) with a B.Tech in Biotechnology and hands-on research experience in environmental biotechnology and pharmacological DNA repair studies. Trilingual communicator (English, Bengali, and Hindi) with a strong interest in industrial biotechnology, bioprocessing, food safety, and public health. Seeking to begin my career in the biotechnology, biopharmaceutical, food, or allied industries, where I can apply my scientific knowledge in a practical industrial environment, gain hands-on experience with modern technologies and manufacturing processes, and contribute effectively to organizational growth. Committed to continuous learning, skill development, and professional excellence while building a strong foundation for a long-term career in the biotechnology industry.

EDUCATION

M.E. – Bioprocess Engineering	2023 – 2026
<i>Jadavpur University, Kolkata, West Bengal CGPA: 8.11 / 10</i>	
B.Tech – Biotechnology	2019 – 2023
<i>Techno India University, West Bengal CGPA: 8.25 / 10</i>	
Class XII – ISC	2019
<i>Vidyasagar Shishu Niketan 70%</i>	
Class X – ICSE	2017
<i>Vidyasagar Shishu Niketan 80%</i>	

RESEARCH PROJECTS

Heavy Metal Pollution Study via Plant Biomonitoring	2024 – 2025
- Assessed heavy metal accumulation in selected plant species from polluted sites in West Bengal - Identified 2 plant species as effective bioindicators with measurably elevated metal uptake compared to control sites - Applied spectrophotometric and digestion-based analytical techniques for metal quantification - Findings contributed to understanding low-cost phytoremediation strategies for environmental restoration	
Effect of Atorvastatin & Mannitol on Fructose-Induced DNA Damage	2022 – 2023
- Investigated pharmacological modulation of oxidative DNA damage induced by fructose in model systems - Evaluated repair mechanisms using comet assay and biochemical oxidative stress markers (MDA, SOD, catalase) - Demonstrated statistically significant reduction in DNA strand breaks with Atorvastatin treatment - Outcomes relevant to metabolic syndrome research and drug repurposing studies	

TECHNICAL SKILLS

Bioprocess & Engineering
Bioreactor design and operation (batch, fed-batch, continuous modes); upstream/downstream process theoretical knowledge
Laboratory Techniques
Analytical: UV-Vis spectrophotometry, ICP-OES (heavy metal quantification), titration, pH/Electrical conductivity monitoring

- Sample preparation: acid digestion (HNO₃/HClO₄ wet digestion for metal analysis), centrifugation (differential and density gradient)
- Molecular biology: DNA isolation, (gel electrophoresis (SDS-PAGE, agarose), PCR fundamentals)
- Heavy metal analysis: ICP-OES quantification, acid digestion protocols, bioaccumulation factor calculation, plant tissue preparation

Environmental & Regulatory

- Plant biomonitoring, phytoremediation assessment, heavy metal analysis
- Familiarity with GMP principles, SOPs, laboratory safety, and regulatory documentation

Computing

- MS Excel (data analysis, graphing), MS Word, basic scientific report writing

AREAS OF INTEREST

- Industrial Biotechnology & Fermentation Scale-Up
- Food Safety, Quality Control & Regulatory Affairs
- Environmental Pollution Studies & Bioremediation

LANGUAGES

- English – Professional proficiency (spoken and written)
- Bengali – Native fluency
- Hindi – Fluent