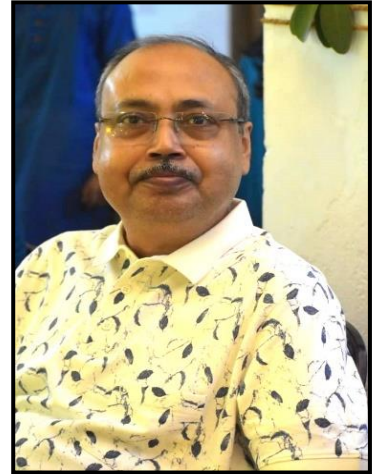


ANSUMAN CHATTOPADHYAY

PROFESSOR



📍 Department of Zoology, Siksha-Bhavana,
Visva-Bharati, Santiniketan, West Bengal, Pin:
731235

✉ chansuman1@gmail.com,
ansuman.chattopadhyay@visva-bharati.ac.in

☎ +91-9547997026/ +91-98834 26675

➤ Personal details:

- **Date of Birth:** 16/12/1968
- **Gender:** Male
- **Category:** General
- **Whether differently abled:** No

➤ Education:

- University of Calcutta, 1989, B. Sc. (Hons.) in Zoology
- University of Calcutta, 1991, M. Sc. in Zoology
- North Eastern Hill University, Shillong; Meghalaya, 1997, Ph.D. in Zoology

➤ Doctoral degree details:

- **Ph.D. thesis title:** Relationship between cellular radio and chemosensitivity and endogenous glutathione in mammalian cells with respect to cytogenetical end points.
- **Guide's Name:** Prof. Anupam Chatterjee
- **University:** North Eastern Hill University; Shillong- 793022
- **Year of Award:** 1997

➤ **Work experience (in chronological order):**

- Visva-Bharati University, Professor, 17.12.2011-continuing
- Visva-Bharati University, Associate Professor, 17.12.2005-16.12.2011
- North Eastern Hill University, Lecturer (Senior Grade), 10.04.2002-14.12.2005
- St. Edmunds College, Lecturer, 15.04.1996-09.04.2002

➤ **Areas of Research:**

- Toxicology of fluoride, arsenic, chromium and nanoparticles (organ and genotoxicity; molecular mechanisms); Nrf2-Keap1 signaling pathway, changes in metal profiling; epigenetic regulation of DNA repair genes.
- Screening of anticancer properties of fungal metabolites and nanoparticles. Investigation of detailed molecular mechanism responsible for cell death.

➤ **Professional Recognitions/ Honors/ Awards/ Prizes/ Certificates/ Fellowships received:**

- National Scholarship in B.Sc. Examination, 1989
- Visiting Fellowship (HBCSE, TIFR), 2004
- UICC Fellowship, Institute of Pathology, Munich, Germany, January-February, 2005
- Fellow of West Bengal Academy of Science & Technology
- **Associate Editor** of the journal “**The Nucleus**” Springer
- Ranked among **Top 2% Scientists** in the field of **Biomedical Research in 2025** by **Stanford University**
- Ranked among **the World’s Top 5% Scientists** in the **2025 SciRank Global Registry**, based on rigorous bibliometric analysis (global rank: 1,053,947)

➤ **Publications:**

- Books: 02
- Book Chapters: 03
- Research Papers: 107

➤ **Accomplishments as a mentor:**

- **Number of students awarded Ph.D. degree: 15**
- **Number of students submitted Ph.D. thesis: 00**
- **Number of students registered for Ph.D. degree: 02**
- **Number of Post-doctoral fellows: 00**

➤ **Reviewer of following Journals:**

- PLOS ONE
- Chemosphere
- Biochimie
- Biological Trace Element Research
- Bulletin of Environmental Contamination and Toxicology
- Chemico-Biological Interaction
- Fluoride
- Journal of Applied Oral Science
- Cell Biology Education
- Proceeding of National Academy of Science (Allahabad)
- Indian Journal of Experimental Biology
- Pharmacologia
- Journal of Clinical and Diagnostic Research
- Journal of Water Resource and Protection
- International Blood Research and Reviews
- Human and Experimental Toxicology
- British Biotechnology Journal
- Ecotoxicology and Environmental Safety
- Science of the Total Environment
- Scientific Reports (Nature Publications)
- Environmental Toxicology

➤ **Publications (List of papers published in SCI Journals, in year wise descending order):**

1. Sarkar, O., Islam, S., Mukherjee, S., & **Chattopadhyay, A.** (2026). Chronic nephrotoxicity and Nrf2-mediated oxidative stress response in zebrafish (*Danio rerio*) kidneys following environmentally relevant co-exposure to lead and chromium. *Environmental Toxicology and Pharmacology*, 105044. <https://doi.org/10.1016/j.etap.2026.105044>
2. Mukherjee, S., Islam, S., Sarkar, O., & **Chattopadhyay, A.** (2026). Developmental Defects in Embryos and Larvae of Zebrafish Exposed to Arsenic and Fluoride Both Individually and in Combination. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.70133>
3. Biswas, T., Mondal, S., Sarkar, O., **Chattopadhyay, A.**, & Sahoo, P. (2025). Carbon Nanodots with Dual Capabilities: Glutamic Acid Sensor and Plant Growth Promoter under LED Stress Conditions. *ACS Applied Bio Materials*. <https://doi.org/10.1021/acsabm.5c01777>
4. Sen, A., Dey Bhowmik, A., Mandal, S., Mondal, P., **Chattopadhyay, A.**, & Rath, J. (2025). Scytonemin extracted from *Lyngbya aestuarii* exhibits anti-cancer activity: involvement of c-Myc pathway inhibition. *Natural Product Research*, 1-8. <https://doi.org/10.1080/14786419.2025.2571860>
5. Jana, S. K., Bhattacharya, R., Mukherjee, S., Gupta, S., Hui, S. P., **Chattopadhyay, A.**, ... & Mandal, S. (2025). *Phytobacter* sp. RSE02 is a rice seed endophytic plant probiotic bacterium

- with human probiotic features and cholesterol-lowering ability. *Scientific Reports*, 15(1), 27865. <https://doi.org/10.1038/s41598-025-11212-6>
6. Sarkar, O., Mukherjee, S., Islam, S., & **Chattopadhyay, A.** (2025). Erythrocytic nuclear abnormalities and apoptotic gene dysregulation in zebrafish organs: Individual and combined genotoxic effects after lead and chromium exposure. *Science of The Total Environment*, 994, 180053. <https://doi.org/10.1016/j.scitotenv.2025.180053>
 7. Mukherjee, S., Sarkar, O., Islam, S., & **Chattopadhyay, A.** (2025). Oxidative Stress in Zebrafish Gut Induced by Individual and Combined Exposure to Amoxicillin, Arsenic and Fluoride: Engagement of Nrf2-Keap1-ARE Pathway. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4842>
 8. Mondal, P., Sen, A., Shaw, P., Dey Bhowmik, A., Mandal, S., **Chattopadhyay, A.**, & Rath, J. (2025). UV-absorbing compound asterina-330 mitigates the cytotoxic effect of arsenic and fluoride in zebrafish hepatocytes. *The Nucleus*, 1-16. <https://doi.org/10.1007/s13237-025-00573-y>
 9. Islam, S., Sarkar, O., Mukherjee, S., & **Chattopadhyay, A.** (2025). Long-Term Impact of Cr (VI) Exposure in Swiss Albino Mice: ROS-Driven Modulation of Autophagy and Cellular Fate. *Biological Trace Element Research*, 1-13. <https://doi.org/10.1007/s12011-025-04599-w>
 10. Sarkar, O., Islam, S., Mukherjee, S., & **Chattopadhyay, A.** (2025). Combined Effects of Lead and Chromium at Environmentally Relevant Concentrations in Zebrafish (Danio rerio) Liver: Role of Nrf2-Keap1-ARE Pathway. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4776>
 11. Islam, S., Mukherjee, S., Sarkar, O., Kamila, S., & **Chattopadhyay, A.** (2025). Prolonged Low-Dose Chromium (VI) Exposure Induces Oxidative Stress, Apoptotic Genes and Epigenetic Modification of DNA Repair Genes in the Brain and Kidney of Swiss Albino Mice. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4769>
 12. Mukherjee, S., Islam, S., Sarkar, O., & **Chattopadhyay, A.** (2025). Oxidative Stress in Kidney of Zebrafish due to Individual and Combined Exposure to Amoxicillin, Arsenic, and Fluoride: Involving Nrf2-Keap1-ARE Pathway. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4763>
 13. Dey, K. K., Kamila, S., Das, T., & **Chattopadhyay, A.** (2025). Chronic Exposure to Lead Causes Neurotoxicity by Generating Oxidative Stress and Inducing DNA Damages in Zebrafish Brain: Involvement of Nrf2-Keap1 Regulation and DNA Repair Pathways. *Biological Trace Element Research*, 1-13. <https://doi.org/10.1007/s12011-025-04534-z>
 14. Kamila, S., Dey, K. K., Das, T., & **Chattopadhyay, A.** (2025). Mixture effects of arsenic and chromium on erythrocytic nuclear abnormalities and expression of DNA repair, tumor suppressor and apoptotic genes in liver of zebrafish. *Environmental Toxicology and Pharmacology*, 114, 104640. <https://doi.org/10.1016/j.etap.2025.104640>
 15. Kamila, S., Dey, K. K., & **Chattopadhyay, A.** (2025). Arsenic and Chromium Induced Toxicity on Zebrafish Kidney: Mixture Effects on Oxidative Stress and Involvement of Nrf2-Keap1-ARE, DNA Repair, and Intrinsic Apoptotic Pathways. *Journal of Applied Toxicology*, 45(3), 387-399. <https://doi.org/10.1002/jat.4709>
 16. Mondal, S., Sarkar, O., Jana, S. K., **Chattopadhyay, A.**, Mandal, S., & Sahoo, P. (2025). Ethephon Contamination in Agricultural Products: Development of a Nanosensor for Quality Control in the Food Industry and Exported Food. *ACS Sustainable Chemistry & Engineering*. <https://doi.org/10.1021/acssuschemeng.4c10221>

17. Mondal, S., Sarkar, O., Mandal, S. M., **Chattopadhyay, A.**, & Sahoo, P. (2025). Monitoring CO as a plant signaling molecule under heavy metal stress using carbon nanodots. *Dalton Transactions*. <https://doi.org/10.1039/D4DT03101F>
18. Mukherjee, S., Bhattacharya, R., Sarkar, O., Islam, S., Biswas, S. R., & **Chattopadhyay, A.** (2024). Gut microbiota perturbation and subsequent oxidative stress in gut and kidney tissues of zebrafish after individual and combined exposure to inorganic arsenic and fluoride. *Science of the Total Environment*, 957, 177519. <https://doi.org/10.1016/j.scitotenv.2024.177519>
19. Ghosh, P., Mandal, S., Mukherjee, S., Mondal, S., **Chattopadhyay, A.**, & Sahoo, P. (2024). Dual sensing of hypochlorite and aluminium in plant tissues by a selective diimine-based chemosensor. *Journal of Photochemistry and Photobiology A: Chemistry*, 116004. <https://doi.org/10.1016/j.jphotochem.2024.116004>
20. Kamila, S., Dey, K. K., Islam, S., & **Chattopadhyay, A.** (2024). Mixture of arsenic and chromium alters antioxidant, DNA repair and tumor suppressor gene expressions in zebrafish brain at environmental concentrations. *Journal of Environmental Sciences*. <https://doi.org/10.1016/j.jes.2024.07.014>
21. Mondal, S., Sarkar, O., Raut, J., Mandal, S. M., **Chattopadhyay, A.**, & Sahoo, P. (2024). Development of a Nanomarker for in Vivo Monitoring of Dopamine in Plants. *ACS Applied Bio Materials*, 7(7), 4690-4701. <https://doi.org/10.1021/acsabm.4c00506>
22. Chatterjee, S., **Chattopadhyay, A.**, & Mandal, N. C. (2024). Antioxidant and anticancer potential of endophytic fungus *Alternaria tenuissima* PE2 isolated from the leaves of *Psidium guajava* L. *Journal of Mycopathological Research*, 62(2): 285-291. <https://doi.org/10.57023/JMycR.62.2.2024.285>
23. Nag, S., Kamila, S., **Chattopadhyay, A.**, & Banerjee, P. (2024). A 'molecular chameleon' mimic ZrIV-consolidated Fluoro-specific coordination complex and arseno-selective supramolecular metallogelator as a phase discriminatory sensing probe: Substantiation of in-vitro and in-silico approaches with the sensing response. *Journal of Photochemistry and Photobiology A: Chemistry*, 454, 115740. <https://doi.org/10.1016/j.jphotochem.2024.115740>
24. Mandal, S., Dey Bhowmik, A., **Chattopadhyay, A.**, & Mandal, N. C. (2024). *Limosilactobacillus fermentum* LAB212 effectively ameliorates toxicity of aflatoxin. *The Nucleus*, 1-10. <https://doi.org/10.1007/s13237-024-00488-0>
25. Islam, S., Sarkar, O., Mukherjee, S., Kamila, S., Bhowmik, A. D., & **Chattopadhyay, A.** (2024). Chronic low-dose chromium VI exposure induces oxidative stress and apoptosis with altered expressions of DNA repair genes and promoter hypermethylation in the liver of Swiss albino mice. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4600>
26. Kamila, S., Dey, K. K., Islam, S., & **Chattopadhyay, A.** (2024). Arsenic and chromium induced hepatotoxicity in zebrafish (*Danio rerio*) at environmentally relevant concentrations: Mixture effects and involvement of Nrf2-Keap1-ARE pathway. *Science of The Total Environment*, 171221. <https://doi.org/10.1016/j.scitotenv.2024.171221>
27. Dey, K. K., Kamila, S., Das, T., & **Chattopadhyay, A.** (2024). Lead induced genotoxicity and hepatotoxicity in zebrafish (*Danio rerio*) at environmentally relevant concentration: Nrf2-Keap1 regulated stress response and expression of biomarker genes. *Environmental Toxicology and Pharmacology*, 104396. <https://doi.org/10.1016/j.etap.2024.104396>
28. Raut, J., Sarkar, O., Das, T., Mandal, S. M., **Chattopadhyay, A.**, & Sahoo, P. (2023). Efficient delivery of methotrexate to MDA-MB-231 breast cancer cells by a pH-responsive ZnO nanocarrier. *Scientific Reports*, 13(1), 21899. <https://doi.org/10.1038/s41598-023->

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30. Ghosh, P., Saha, S., Mukherjee, S., **Chattopadhyay, A.**, & Sahoo, P. (2023). Direct fluorescence labelling of NO inside plant cells. *Organic & Biomolecular Chemistry*, 21(46), 9270-9274. <https://doi.org/10.1039/D3OB01647A>
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32. Dey, K. K., Mondal, P., & **Chattopadhyay, A.** (2023). Environmentally relevant lead alters nuclear integrity in erythrocytes and generates oxidative stress in liver of *Anabas testudineus*: Involvement of Nrf2-Keap1 regulation and expression of biomarker genes. *Journal of Applied Toxicology*. <https://doi.org/10.1002/jat.4537>
33. Dey Bhowmik, A., Das, T., & **Chattopadhyay, A.** (2023). Chronic exposure to environmentally relevant concentration of fluoride impairs osteoblast's collagen synthesis and matrix mineralization: Involvement of epigenetic regulation in skeletal fluorosis. *Environmental Research*, 236, 116845. <https://doi.org/10.1016/j.envres.2023.116845>
34. Ghosh, P., Das, T., **Chattopadhyay, A.**, & Sahoo, P. (2023). Differential detection of aspartic acid in MCF-7 breast cancer cells. *Organic & Biomolecular Chemistry*. <https://doi.org/10.1039/D3OB01072D>
35. Kamila, S., Shaw, P., Islam, S., & **Chattopadhyay, A.** (2023). Ecotoxicology of hexavalent chromium in fish: An updated review. *Science of The Total Environment*, 164395. <https://doi.org/10.1016/j.scitotenv.2023.164395>
36. Ghosh, P., Dey, K. K., **Chattopadhyay, A.**, & Sahoo P. (2023). A facile turn-on luminescence technique to trap hydrazine and its application in button mushroom (*Agaricus bisporus*). *New Journal of Chemistry*, doi.10.1039/D3NJ00504F.
37. Islam, S., Kamila, S., **Chattopadhyay, A.** (2022). Toxic and carcinogenic effects of hexavalent chromium in mammalian cells in vivo and in vitro: a recent update. *Journal of Environmental Science and Health, Part C*, doi. 10.1080/26896583.2022.2158675.
38. Taniya, S., Khanra, S., Dey Bhowmik, A., Bandyopadhyay, A., Chatterjee, S., **Chattopadhyay, A.**, & Debasis Das (2022). A new Fe(III) complex derived from cyclohexane based imine derivative: Studies on H₂PO₄⁻ recognition and anti-cancer activity against MCF7 and MDA-MB-231 human breast cancer cells. *ChemistrySelect*, doi. 10.1002/slct.202203054.
39. Baul, T. S. B., Hlychho, B., Addepalli, M. R., Duthie, A., Sarkar, O., Dey Bhowmik, A., **Chattopadhyay, A.**, ... & Höpfl, H. (2022). Synthesis and structures of diorganotin (IV) Schiff base complexes [R₂Sn (L) Cl₂] and their proliferative responses on breast cancer cells. *Journal of Molecular Structure*, 134827, doi. 10.1016/j.molstruc.2022.134827.
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41. Nag, S., Mondal, A., Hirani H., Dey Bhowmik, A., **Chattopadhyay, A.**, & Banerjee, P. (2022). A dual-responsive bio-amicable fluorophore for trace level recognition of Zn²⁺ and

- Cd²⁺: Prefatory diagnosis of neoplastic disease from urine and ALS from saliva. *Journal of Photochemistry & Photobiology, A: Chemistry*, 433, 114133.
42. Mandal, S., Dey Bhowmik, A., Mukhuty, A., Kundu, S., Truong, K. N., Rissanen, K., **Chattopadhyay, A.**, & Sahoo, P. (2022). Reliable fluorescence technique to detect the antibiotic colistin, a possible environmental threat due to its overuse. *Scientific Reports*, 12, 1-8.
 43. Saha, S., Kamila, S., **Chattopadhyay, A.**, & Sahoo, P. (2022). Easy and rapid chemosensing method for identification of accumulated Tin in algae: A solemn strives to protect marine eco-system. *New Journal of Chemistry*, 46, 4233-4238.
 44. Shaw, P., Mondal, P., Dey Bhowmik, A., Bandyopadhyay, A., Chakraborty, A., Sudarshan, M., & **Chattopadhyay, A.** (2021). Environmentally relevant hexavalent chromium disrupts elemental homeostasis and induces apoptosis in zebrafish liver. *Bulletin of Environmental Contamination and Toxicology*, 108, 716-724.
 45. Banerjee, S., Islam, S., **Chattopadhyay, A.**, Sen, A., & Kar, P. (2021). Synthesis of silver nanoparticles using underutilized fruit *Baccaurea ramiflora* (Latka) juice and its biological and cytotoxic efficacy against MCF-7 and MDA-MB 231 cancer cell lines. *South African Journal of Botany*, 145, 228-235.
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into the phenomenon of acquisition and accumulation of Fe³⁺ in *Hygrophila spinosa* through fluorimetry and fluorescence images. *Tetrahedron Letters*, 61(9), 151520.

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➤ **Books/Reports/Chapters/General articles etc.:**

1. O. Sarkar, K. K. Dey, S. Islam & **A. Chattopadhyay** (2022): “Lead and aquatic ecosystems, biomarkers and implications for humankind.”. Biomarkers in Toxicology, Biomarkers in Disease: Methods, Discoveries and Applications, doi. https://doi.org/10.1007/978-3-030-87225-0_58-1
2. **A. Chattopadhyay** & S. Podder (2014): “Vinyl fluoride.”. Encyclopedia of Toxicology. 3rd ed. Elsevier
3. S. Podder & **A. Chattopadhyay** (2014): “Transgenic animals: new vista in toxicological research.”. Advanced Frontier on Biotechnology. Jaya Publishing House, Delhi, India
4. S. Podder, **A. Chattopadhyay** & S. Bhattacharya (2012): “Genotoxicity of fluoride: modulation of endogenous glutathione level.”. Lambert Academic Publishing. Saarbrucken Germany
5. S. Chatterjee, S. Bhattacharya & **A. Chattopadhyay** (2012): “Molecular mechanisms of functional disorder induced by mercury.”. Lambert Academic Publishing. Saarbrucken Germany

➤ **Completed Research Projects:**

Sl. No.	Title of Project	Funding Agency	Amount (Rs.)	Completion date	Role
1	Assessment of endocrine disruption in fish reproduction	DBT project	32 L	27.12.2022	Co-PI
2	Enhancement of radio-sensitivity in cancer cells by depleting intracellular Nrf2 level	UGC-DAE-CSR collaborative project	7.75 L	31.3.2025	PI
3	Low radiation induced hyper radiosensitivity of mammalian cells	IAUC, New Delhi	6 L	25.12.2009	PI
4	A highly efficient technique for breeding Indian major carps.	West Bengal State Department of Science & Technology	17.5 L	31.3.2012	PI
5	Genotoxicity and apoptosis induction after coexposure to arsenic and fluoride in mammalian cells: effect on radiosensitivity and modulation of stress elements	UGC-DAE-CSR-Kolkata Centre	7.5 L	31.8.2012	PI
6	Isolation, characterization and anticancer properties of endophytic fungal metabolites from north eastern India	DBT (Twinning)	Total: 81 L; VB component: 37.96 L	27.6.2014	PI

7	Polymer supported green silver nanoparticles using plants of North-East India; studies on toxicity and anti-cancer property.	DBT (Twinning)	Total 60 L; VB component 25 L	12.8.2017	PI
8	Studies on anticancer properties of graphene oxide based gold nanoparticles	UGC-DAE-CSR-Kolkata Centre	12 L	30.11.18	PI

➤ **Life Membership:**

- UICC (International Union Against Cancer)
- Indian Society of Cell Biology
- Indian Association for Radiation Biology
- Zoological Society of Calcutta
- Association of Teachers in Biology
- All India Congress of Cytology and Genetics
- DNA Society of India
- International Society for Fluoride Research
- Archana Sharma Foundation of Calcutta (ASFC)

➤ **Seminar/Symposia/Training organized:**

- **Joint convener**

Two days' Workshop cum National Seminar on "Trends in Modern Biology: Techniques and Applications", 23rd and 24th march 2019, organized by Department of Zoology, Visva-Bharati in association with National Institute of Pharmaceutical Education and Research.

- **Chairperson**

- National Seminar on Advancement of Biology in the 21st Century, 28th to 29th February 2020, organized by Department of Zoology, Visva-Bharati in association with The Zoological Society, Kolkata.
- International conference on " Novel Approaches in Life Sciences" held on 8th and 9th April 2022, organized by the Department of Botany, G N Khalsa College, Mumbai.
- National seminar on "Recent Advances in Animal Sciences" held on 7th and 8th March 2024, organized by the Department of Zoology, Visva-Bharati, Santiniketan.

➤ **Other information:**

- **Invited lecture:** “FLUORIDE TOXICITY ASSOCIATED ENVIRONMENTAL HEALTH”
Organized by: Department of Environmental Science, University of Calcutta.
- Awarded with a **Certificate of Participation** for attending **EnviroSustainCon 2024** and presenting a talk titled “Impairment of osteoblast’s collagen synthesis and matrix mineralization effectuates skeletal fluorosis in mice: involvement of epigenetic regulation.”

➤ **Extracurricular activities:**

- **'Sangit Prabhakar'** diploma in 'Tabla' playing from Prayag Sangit Samiti (Allahabad).
Singer of **'Rabindra sangeet'**.
- Member of the National Academic Committee of the **International Biology Olympiad** held in Mumbai, India, 2008.
- Participated as **“Scientific Observer”** from **India** in the **International Biology Olympiad** held in Changwon, South Korea, 2010.
- Performed **“Rabindra sangeet”** in the National Seminar on Recent Advances in Animal Sciences on 07.03.2024 organized by Department of Zoology, Visva-Bharati.
- Performed **“Rabindra sangeet”** in the 16th Reunion of Department of Zoology on 09.03.2024 organized by Department of Zoology, Visva-Bharati.