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# PHYSICAL CHEMISTRY

## PROF. DR. SAYAN ROYCHOWDHURY

B.Sc. (St. Pauls C.M. College), B.Tech. (Gold medallist, CU), M. TECH (Gold medallist, IIT Kharagpur project)  
Ph.D. (Calcutta University) GATE (IIT) Qualified.

Associate Vice president & Faculty, ACHIVERS CIRCLE Pvt. Ltd.

Senior research associate, University of Calcutta

Associate with Dept of Chemical Technology, University of Calcutta

Research expert

Thermodynamics, High temperature diffusion kinetics, membrane technology, Mathematical modelling and optimization study.



## FROM THE DESK OF TEACHER

*“The best way to predict your future is to create it”*  
..... Abraham Lincoln

Over the last ten years, Achievers' has been a leading centre of learning for students of our society. The key objective of our elite organization is to provide quality academic environment and continuously motivate every student to become socially committed citizens. A successful learning environment can be achieved through high expectations, clear goals and collaboration with learner and teacher. We (Me, SRC and AD) believe that every student has unique potential to excel in numerous ways. Our foundation course to post graduate programmes offer specialized education required to achieve students' future endeavour. The organization has an excellent online infrastructure as well as offline mode of teaching. As physical chemistry teacher I believe that my primary job for every student to enhance their interest about the subject. If their depth about the subject grows stronger then definitely after few years, they will succeed to achieve their position. The example of my aforementioned statement has been proved by the students of Achievers year after year. They are not only producing All India rank and achieve top positions in Universities but also well established in life. Between entire course period of my subject I want to develop a strong feeling within each of my student that he or she believes “I can do it to I must do it to achieve my dream”

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## SOME OF INTERNATIONAL PAPERS

1. SEPARATION OF PHENANTHRENE/N-TETRADECANE MIXTURES (MODEL DIESEL) VIA PERVAPORATION USING AN AROMATIC POLYIMIDE MEMBRANE SAYAN ROYCHOWDHURY, DEBARATI MITRA. POLYMER ENGINEERING AND SCIENCE 2016.
  2. FABRICATION OF AROMATIC POLYIMIDE MEMBRANE TO STUDY THE PERVAPORATIVE SEPARATION OF PHENANTHRENE/N-TETRADECANE MIXTURES (MODEL DIESEL) AND PROCESS OPTIMIZATION USING RESPONSE SURFACE METHODOLOGY SAYAN ROYCHOWDHURY, DEBARATI MITRA. CHEMICAL ENGINEERING AND COMMUNICATION 2017
  3. SEPARATION OF POLYAROMATIC HYDROCARBONS FROM MODEL DIESEL COMPOSITION VIA PERVAPORATION USING A FABRICATED AROMATIC POLYIMIDE MEMBRANE AND PROCESS OPTIMIZATION SAYAN ROYCHOWDHURY, DEBARATI MITRA. ENVIRONMENTAL PROGRESS AND SUSTAINABLE ENERGY AICHE 2018
  4. SEPARATION OF BENZO[A]PYRENE AND N-TETRADECANE MIXTURES USING PERVAPORATION TECHNIQUE AND OPTIMIZATION SAYAN ROYCHOWDHURY, MONALISHA SAMANTA, DEBARATI MITRA. CHEMICAL PAPERS 2018
  5. FABRICATION AND CHARACTERIZATION OF PERVAPORATIVE NANOCOMPOSITE MEMBRANE FOR REMOVAL OF BENZENE FROM MODEL PYROLYSIS GASOLINE SAYAN ROYCHOWDHURY, MONALISHA SAMANTA, DEBARATI MITRA. J OF AMERICAN CHEMICAL SOCIETY 2018
  6. PREPARATION AND CHARACTERIZATION OF IN-SITU NANO SILVER/POLYVINYL ALCOHOL MEMBRANE FOR PERVAPORATIVE SEPARATION OF BENZENE FROM MODEL PYROLYSIS GASOLINE SAYAN ROYCHOWDHURY, MONALISHA SAMANTA, DEBARATI MITRA. MATERIALS TODAY 2020
  7. FABRICATION AND CHARACTERIZATION OF COMPOSITE (NANO)POLYANILINE/POLYIMIDE MEMBRANE FOR PERVAPORATIVE SEPARATION OF 1-OCTENE/BENZENE MIXTURES SAYAN ROYCHOWDHURY, MONALISHA SAMANTA, DEBARATI MITRA. J OF SEPARATION SCIENCE 2020.
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## SOME INSPIRATIONAL OPINIONS ABOUT PROF. DR. SAYAN ROYCHOWDHURY



Professor Dr. Debarati Mitra  
Department of Chemical Technology,  
University of Calcutta.

This is to state that **Dr. Roy Chowdhury** has been a treasured researcher of the Department of Chemical Technology, University of Calcutta. He has a great acumen for research activity and a problem-solving mind. His extensive knowledge on the subjects taught by him is quite apparent. His exceptional teaching abilities helped to improve the average grade of his students. His friendly and affectionate behaviour towards the students have helped him to gain popularity among his students.



SOME INSPIRATIONAL OPINIONS ABOUT PROF.DR.  
SAYAN ROYCHOWDHURY



**Dr. Susanta Hazra**

**BSc (CU) MSc (IIT), PhD (IIT)**

**Postdoctoral Research Associate at University of Louisville, USA**

A teacher works for the betterment of students, the society and hence, for the betterment of the nation without expecting anything in return. I am truly grateful for all that you have done for me. Thank you, sir.





## SOME INSPIRATIONAL OPINIONS ABOUT PROF.DR. SAYAN ROYCHOWDHURY



**Jaydip Gangopadhyay** ▶ **Sayan RoyChowdhury Classes**

May 24 at 5:49 PM

I highly recommend to attend the classes of Sayan Sir to have a great concept and all round development in Physical Chemistry.



**Jaydip Gangopadhyay** You are not only a very good teacher of Physical Chemistry but also capable to blend the physical interpretations of intricate mathematical derivations with the molecular properties and reactions. This is unique in the sense that it aids students to bridge the gap between Physical Chemistry and the other two. Without any doubt whatsoever in mind, you are a motivational, inspiring, thoughtful and jovial mentor. Attending your classes will definitely foster knowledge and insight regarding entire Chemistry for the aspirants.

Love · Reply · 3d





## Prof. Subhajit Kundu

Dr. Sayan Ray Chowdhury has excellent subject depth in physical chemistry, petroleum production chemistry & petroleum downstream operations. He teaches through a unique way which is a combination of pure as well as applied chemistry. Though petroleum production phenomenon is a hardcore engineering field, but he explains it from basic chemistry via technological aspect. In a nutshell, he holds the uniqueness of his teaching from day 1 to day 2.



Subhadip Das

PhD Scholar

Ceramic Engineering

Myself Subhadip Das, ex-student of Sayan Roy Chowdhury's first batch, completed my B.Sc Chemistry Honours from Uluberia college (C.U.) with good command in physical chemistry. After that completed my post B.Sc B.Tech and M.Tech in Ceramic Engineering from Calcutta University. Now I am a PhD Scholar at NIT Rourkela, Ceramic Engineering Division and working on Solid oxide fuel cell development. His classes were good for in depth learning of physical chemistry, concept development through solving numerical problems. Moreover, he is a good human being & his friendly behaviour makes us pleased. I'm thankful to sir.



HAIMONTIKA DAS  
CALCUTTA UNIVERSITY TOPPER

Hello, I am Haimontika Das. I have done my B.Sc. Chemistry hons from Bijoy Krishana girls' college and secure 2nd rank in Calcutta university and also second rank in MSc from Rajabazar science college. In B.sc Sayan sir taught me physical chemistry. His guidance helped me to understand the subject conceptually. Whenever i needed help, he was always there... Thank you sir for this constant support and encouragement. I have no words to convey my gratitude to him.



Agniswar Chatterjee Mangal  
Cu topper in 2 years aggregate  
persuing 3rd year

I learned a lot from Sayan Da. He is a very close person to me. I get help from him every moment. I can get such a good teacher like Sayan Da from Facebook, I could not think..