

Quadrant II – Transcript and Related Materials

Programme: Bachelor of Science (First Year)

Subject: Chemistry

Paper Code: CHG 103

Paper Title: Basic Chemistry and Indian Scientists

Unit:II

Module Name: Asima Chatterjee (1917 – 2020)

Chemist and Author

Module No: 08

Name of the Presenter: Ms. Sunita Mangesh Rathod

Asima Chatterjee

- (23 Sept. 1917 – 22 Nov. 2006)
- Asima Chatterjee was an Indian organic chemist noted for her work in the fields of organic chemistry and phytomedicine.
- Her most notable work includes research on vinca alkaloids, the development of anti-epileptic drugs, and development of anti-malarial drugs.
- She was the first woman scientist to receive a Doctorate of Science from an Indian university.

Early life:

- Asima Chatterjee was born in Bengal.
- She was the eldest of the two children of a medical doctor Indra Narayan Mukherjee and his wife, Kamala Devi. Chatterjee grew up in Calcutta in a middle-class family where she was encouraged to be in academia.
- Chatterjee's father was interested in botany so she also shared her interest in it.
- She graduated with honors in chemistry from the Scottish Church College of the University of Calcutta in 1936.

Education:

- Asima Chatterjee received a master's degree and a doctoral degree in organic chemistry from the Rajabazar Science College campus of University of Calcutta. Her doctoral research focused on the chemistry of plant products and synthetic organic chemistry.
- Chatterjee's research concentrated on natural products chemistry and resulted in anti-convulsive, anti-malarial, and chemotherapy drugs.
- She spent around forty years researching various alkaloid compounds. Her work led to the development of an epilepsy drug called Ayush-56 and several anti-malarial drugs.
- Chatterjee also wrote around 400 papers which were published in both national and international journals.

Career:

- She joined the Bethune College of the University of Calcutta and founded the department of chemistry there .
- In 1954, she joined the University College of Science of the University of Calcutta.

Achievements:

- Chatterjee's contributions to science include the following:
- Initiated chemical investigation of alkaloids in *Rauwolfia canescens*.
- Investigated the chemistry of indole alkaloids.
- Contributed to the elucidation of the structure and stereochemistry of aimalicine and sarpagine.
- First suggested stereo-configuration of sarpagine.
- Carried out synthetic studies on a number of complex indole, quinoline and
- isoquinoline alkaloids.
- Developed procedures for the preparation of beta-phenylethanamines in connection with alkaloid synthesis.

Awards and recognition:

- She was a Premchand Roychand Scholar of the University of Calcutta.
- From 1962 to 1982, she was the Khaira Professor of Chemistry, one of the most prestigious and coveted chairs of the University of Calcutta.
- She was appointed as the Honorary Coordinator of the Special Assistance Programme to intensify teaching and research in natural product chemistry.

- She was elected a Fellow of the Indian National Science Academy, New Delhi.
- She received the Shanti Swarup Bhatnagar Award in chemical science, becoming the first female recipient of this award.
- In 1975, she was conferred the prestigious Padma Bhushan and became the first female scientist to be elected as the General President of the Indian Science Congress Association.
- She was conferred the D. Sc. (*honoris causa*) degree by several universities.
- She was nominated by the President of India as a Member of the Rajya Sabha .