

crystallites having adequate proportion. Samples exposed to C and Oxygen ion beams of energy 85MeV and with different fluences shows and very good TL response with the presence of single peak in the TL response is linear upto a wide range for both the ion beams of different energies. The studies can be potential dosimeter for dosimetry of ion beams.

#### MSPP-41

#### Independence of $ZrO_2$ nanoparticles synthesized by Sol-Gel method on pH and annealing temperature

Gayatri Shishodia<sup>1</sup>, Shubhra Gupta<sup>2\*</sup>, Neelam Pahwa<sup>2</sup>, P.K. Shishodia<sup>2</sup>

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Email: shubhragupta09@gmail.com

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#### 28<sup>th</sup> International Conference on Nuclear Tracks and Radiation Measurements

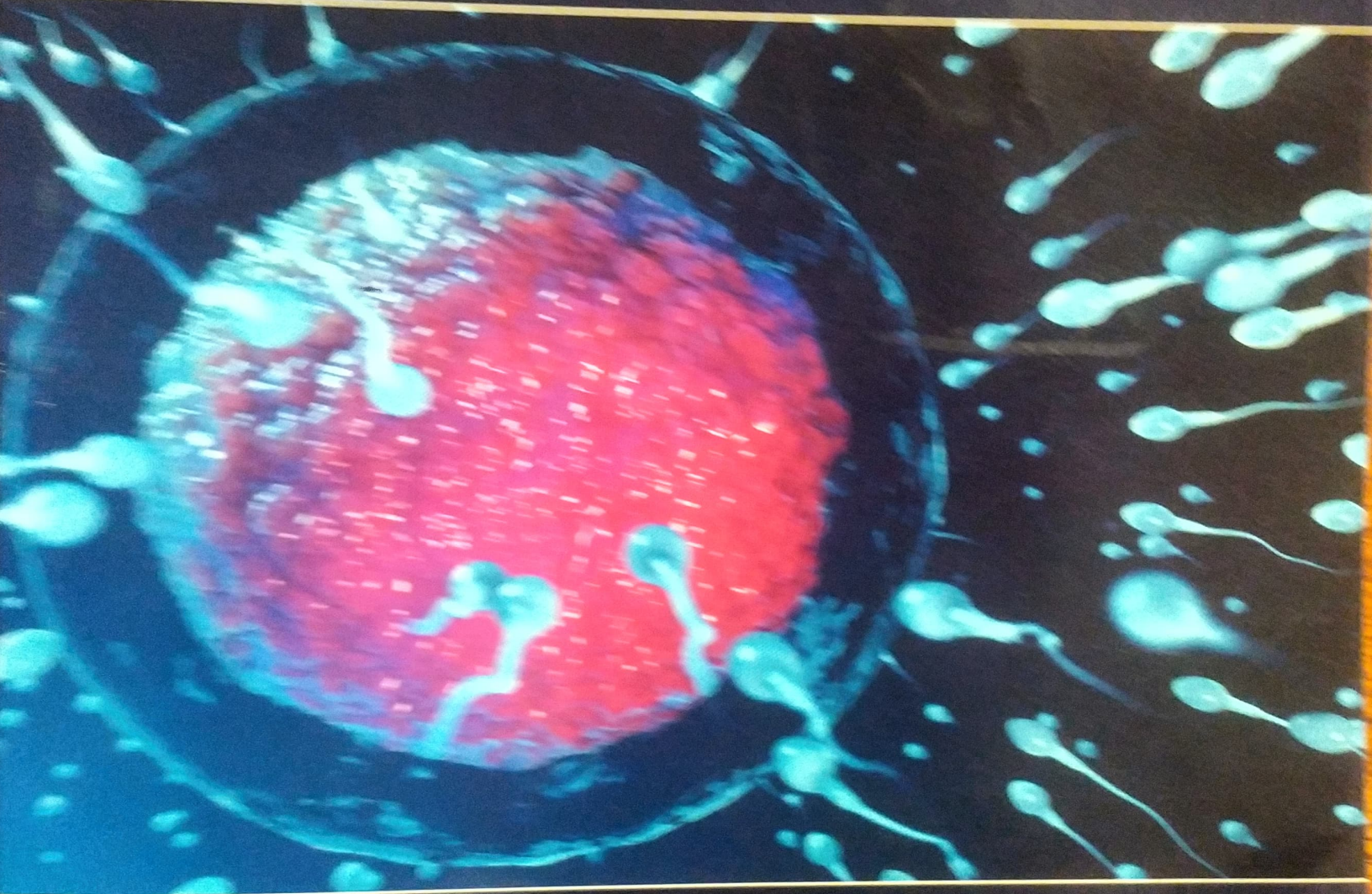
##### Abstract

Zirconium oxide( $ZrO_2$ ) is an important ceramic material characterised with wide optical band gap, low optical loss, high dielectric constant, excellent physical and structural properties and high thermal expansion coefficient and chemical stability. The paper reports synthesis of  $ZrO_2$  nanoparticles by sol gel technique using  $ZrO(NO_3)_2$  as zirconium precursor and ammonia solution(25%) as a precipitating agent. The pH value of the sol and the annealing temperature strongly influence the morphology and size of nanoparticles. In the present investigation sol pH has been varied from 8-11 and the nanoparticles obtained were annealed in the temperature range of 400-700°C. The structural, morphological and optical properties of nanoparticles were investigated using x-ray diffraction, field emission scanning electron microscopy, high resolution transmission electron microscopy, Fourier transform infrared spectroscopy, Raman spectroscopy and photoluminescence measurements. Optimized particle size(15.65nm) have been obtained for pH value 9 and annealing temperature 500°C.




# HUMAN REPRODUCTIVE BIOLOGY AND HEALTH

11th Edition  
2019



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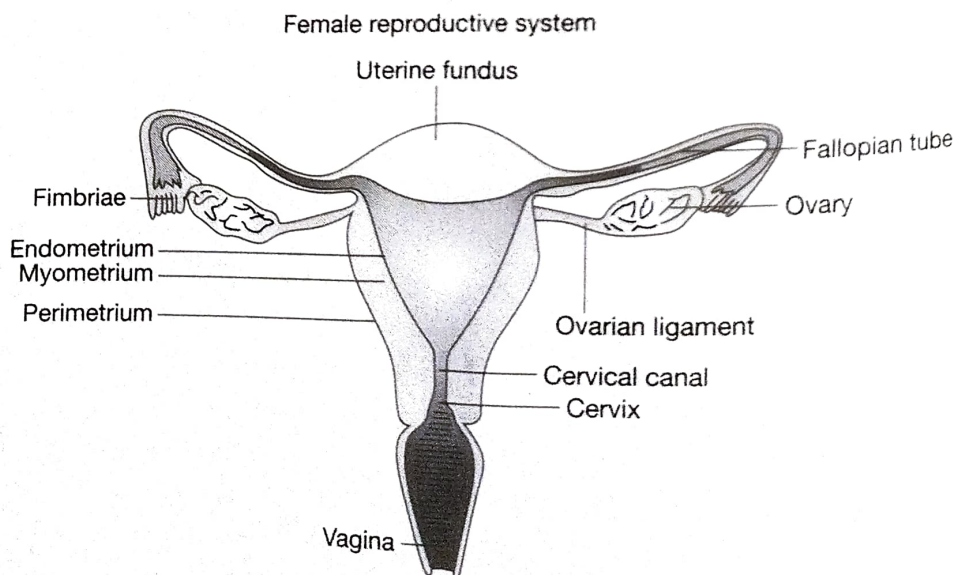
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# CHAPTER 8

# Anatomy and Histology of Female Reproductive System

## 8.1 Introduction

Reproduction is the most important physiological process of living organisms that help maintain their gene pool in nature by producing similar offspring. Two types of reproductive strategies exist in nature, asexual and sexual. While asexual reproduction, predominantly observed in micro-organisms, is a very simplified mode, sexual mode of reproduction in multi-cellular organisms is more complex and creates genetic variations by the process of recombination. Genetic variations form the basis for natural selection and evolution. Sexual reproduction requires the involvement of two sexes, male and female (Refer to Chapter 7 for male reproductive system). The female reproductive system (Figure 8.1.) consists of ovaries and fallopian tubes, unicornuate uterus, cervical canal, vagina and external genitalia including mons pubis, hymen, labia majora, labia minora, clitoris and associated vestibular glands.



**Figure 8.1** Diagrammatic representation of the female reproductive system in humans

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Mamta Tripathy, Ph.D., Department of Zoology, University of Delhi, Delhi, India.



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1. *Chlorophyll a* (Chl a) and *Chlorophyll b* (Chl b) are the primary photosynthetic pigments in green plants. They are responsible for capturing light energy and converting it into chemical energy through the process of photosynthesis. Chl a is the most abundant pigment, while Chl b is present in smaller amounts. Both pigments are found in the chloroplasts of green plants.

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Ed. Martin and Richard Cook

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# 7

## Mass Spectrometry

Ritu Mathur<sup>1</sup>, Rashmy Nair<sup>2\*</sup>

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### 7.1 PRINCIPLE

Mass spectrometry (MS) is the most versatile and powerful analytical technique used in various fields of science, such as biology, chemistry, physics, clinical medicine and space research. The technique is based upon the principle of ion formation from an analyte in its gaseous form by any suitable method followed by their separation according to their masses (more precisely according to their mass-to-charge ratio) and finally measurement of their relative abundance to provide qualitative and quantitative information about the analyte. Sorting of ions, according to their mass-to-charge ratio is achieved by combining electrical and magnetic fields. It is a destructive technique in which sample is consumed during analysis. Unlike other spectroscopic techniques mass spectrometry does not require absorption or emission of electromagnetic radiations.

### 7.2 HISTORY

In the mid-19<sup>th</sup> century, the research studies in the field of physics laid the foundation stone for the development of mass spectrometry and it actually began with the introduction of positive ray analyser by British physicist Sir J. J. Thomson, who had already been awarded the Nobel prize of physics in 1906 for his contribution in theoretical and experimental investigations on the conduction of electricity by gas. With this apparatus in 1912, Thomson successfully obtained the first mass spectrum of various low molecular weight substances. This development prompted the study of isotopes for the first time and showed the way forward for the development of mass



## Chapter 8

### 'THE SEA EATS PEOPLE': CAPITALOCENIC DYSTOPIA IN RIMI B. CHATTERJEE'S 'ARISUDAN'

*Indrani Das Gupta and Shraddha A. Singh*

#### INTRODUCTION

##### By Editors

While one of the characteristics of postcolonial Indian SF is its involvement with and reworking, as it were, of its history; another, in opposition to the first one, is the imagining of a future through that history. What is interesting to note is that this future, more often than not, working through the present Indian sociopolitical and existential contexts, is a dystopia where governments, capitalist conglomerates, ecological destructions and/or unchecked adherence to structures of dominance, whether political, religious or social, have destroyed any hope of founding a long-lasting successful 'modern' nation. While, in its earlier characteristic deployment, postcolonial Indian SF manages to step outside the controlling discursivities of the West, in its second avatar (here second has been used merely in a relational way), it shows how the promises offered by the freedom from its colonial past have been, in the wake of unmitigated human folly, completely squandered. Decolonisation of the Indian past, after all, does not guarantee a different present or a better future.

Indrani Das Gupta and Shraddha A. Singh's paper reads Rimi B. Chatterjee's novella 'Arisudan' as a representative narrative of this second form of postcolonial Indian SF to show how the Indian nation, despite the possibilities presented by a decolonised past, fails to live up to the ostensible freedom. They show how Chatterjee's novella, through the presentation of this dystopic future, comments on not only the failures of the Indian nation in its governmental capacities but also its social and ecological ones. Doom, in a sense, will strike the nation from all fronts if present methods of existential interactions are not modified.

# THE IACLALS JOURNAL

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# Affective Witnessing: Testimony in the Age of Post-truth

Mukul Chaturvedi

## Abstract

An interesting phenomenon of post truth moment is the rise of personal testimony and witnessing cultures. Informed by theories of affect, this paper examines how affective witnessing has emerged as a powerful tool in a highly mediatized and networked world by focusing on #MeToo movement and #NotInMyName protest as they unfolded on social media and moved from digital to the real world. Focusing on how affect constitutes witnessing as a collective and relational practice, with the effect of forming communities and provoking further testimonies, the paper argues that 'affective economies' (Ahmed 2004) of contemporary media landscape create feelings of communality and solidarity and reimagines new ways of being ethical and political. In foregrounding witnessing as a way of affecting and being affected, the paper draws attention to the challenges of contesting 'truth' claims, 'alternative facts', and competing witnesses, each claiming its own veracity with great vigour. The paper reflects on the paradox of the post truth moment which is marked by significant ethical quandaries that arise as we engage with mediatized witnessing in the digital age.

**Keywords:** testimony, truth, ethical, affect, post-truth.

## Introduction

The significance of testimony and bearing witness is inextricably linked to the issues of epistemic injustice and violence in contemporary times. Whether it is witnessing from the site of historical trauma as in Holocaust and Partition, testifying before Truth and Reconciliation in conflict zones as part of transitional justice, denouncing human rights violations in testimonio, testimony finds a place in the context of denial, oppression, violence where the victim or the survivor in the act of giving testimony recounts personal and collective oppression. Bearing witness to trauma has been institutionalized as a way of moving forward after genocide and human rights violations and this has given impetus to 'speaking out' against injustice, oppression, and violence. The rise of testimony can be attributed



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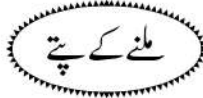
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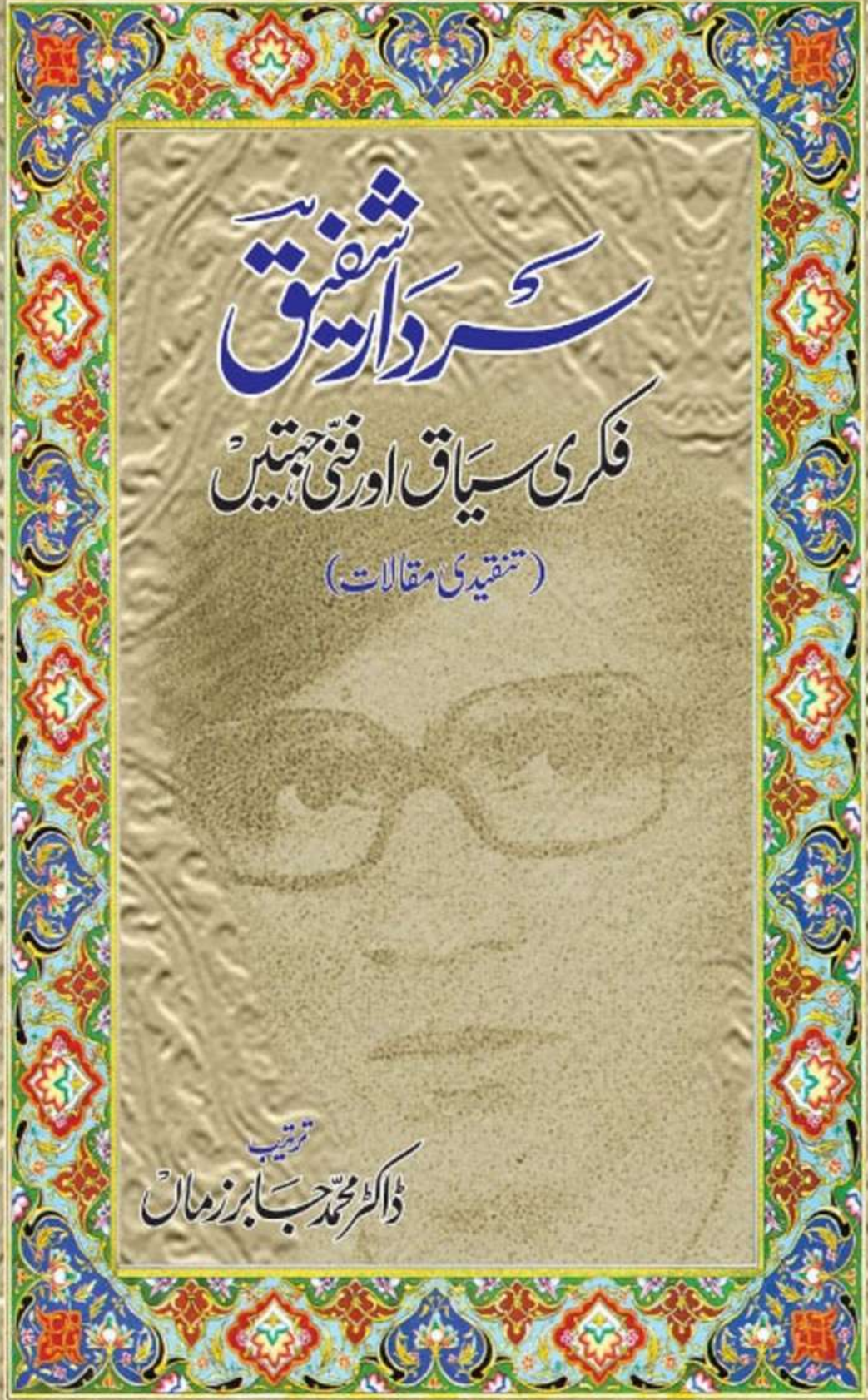
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## سردار شفیق کی نظمیں شاعری کے فکری ابعاد

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اگر یہ شعر ایک طرف فراق و جگر کی یاد دلاتا ہے۔ تو دوسری طرف فضا ابن فیضی کا پرتو اس شعر پر صاف نظر آتا ہے۔ بلاشبہ یہ شعر ایک مشاق و طباع ذہن اور استادانہ بصیرت کے حامل استاد شاعر کے خون جگر کا حاصل ہے، جس نے کائنات کی پوری تاریخ کو اپنی شعری کائنات میں سمیٹ کر رہتی دنیا تک زمین پر بسنے والوں کے دلوں میں اپنے وجود کو لافانی کر دیا۔

اردو شعر عموماً شاعری کی ابتدا میں غزل کی زلفیں سنوارتے ہیں اور مشقِ سخن کی خاصی مدت گزرنے کے بعد ہی دیگر اصنافِ سخن میں طبع آزمائی کی ہمت جٹا پاتے ہیں،

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Second Edition

# **CITIZENSHIP IN A GLOBALIZING WORLD**



Pearson

Ashok Acharya



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# 1

## The Origin and Development of Citizenship—A Historical Overview

Sanjeev Kumar

*A nation's culture resides in the hearts and in the souls of its people.*

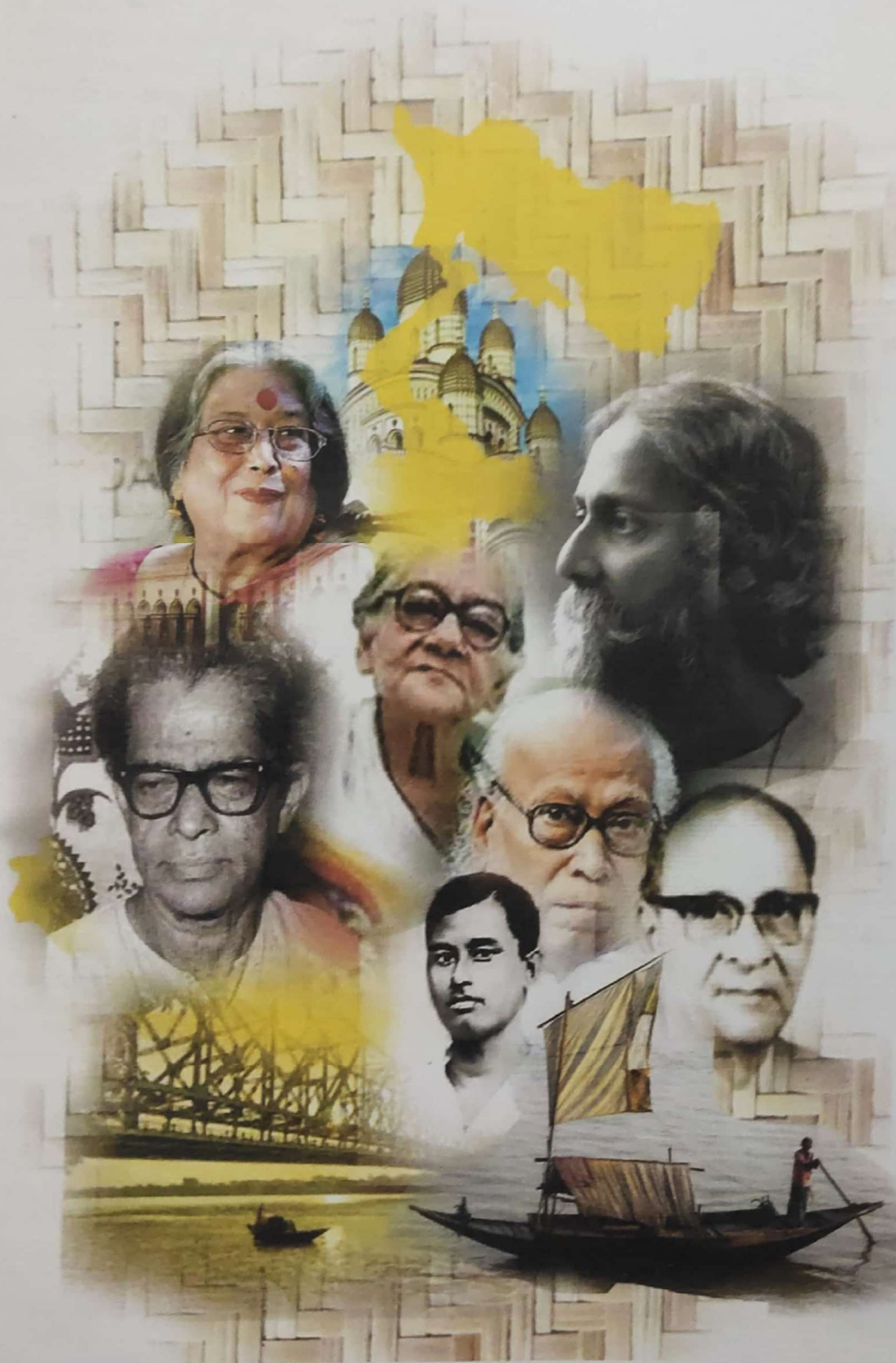
Mahatma Gandhi

### INTRODUCTION

Since the late 1990s, the notion of citizenship has acquired a renewed salience and popularity. In the last two decades, the global developments in the organization of modern societies have significantly contributed to the rise of citizenship as an emerging area of debate. For the better part of the last century, conceptions of citizenship, despite many differences, have



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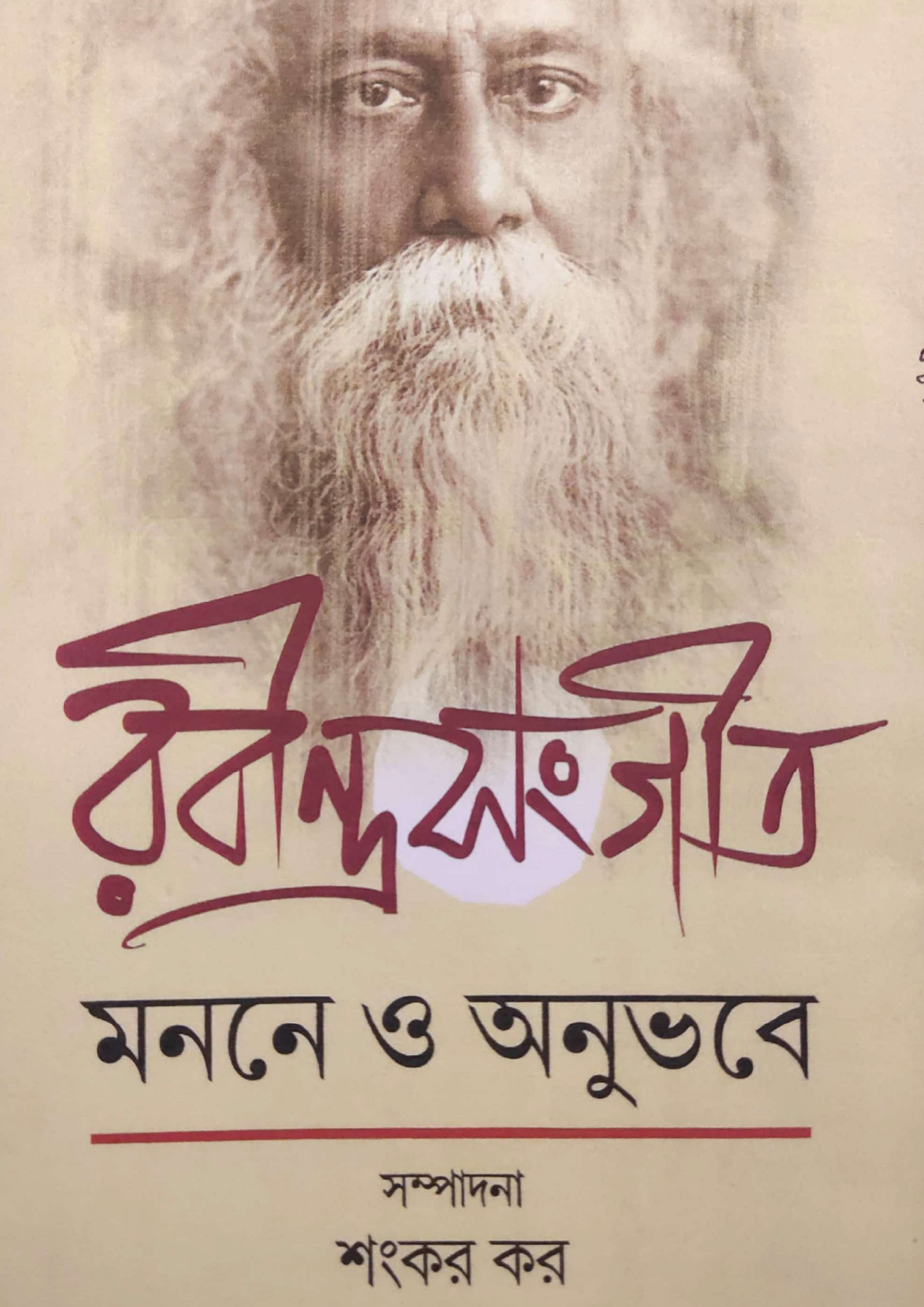
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# আমার রবীন্দ্রনাথ

শর্মিষ্ঠা সেন

পাঁচে পড়েছি তখন। মনে পড়ে মায়ের সঙ্গে সারা বাড়ি ঘুরে-ঘুরে গাইতাম— ‘আলো আমার, আলো ওগো, আলো ভুবন-ভরা, / আলো নয়ন-ধোওয়া আমার, আলো হৃদয়-হরা (গী.বি. বিচিত্র, সং ৪৬) মল্লিকা বা মালতীফুলেরও কোনো ধারণা ছিল না, নেচে নেচে গাইতাম,—‘আলোর ঢেউয়ে উঠল নেচে মল্লিকা মালতী।’ মা গান গাইতেন। দিদিও শিখতে আরম্ভ করেছে তখন। আমাদের বাড়িতে রবীন্দ্রসংগীতের চর্চা ছিল বাটের দশকের আর পাঁচটা মধ্যবিস্তৃত বাড়ালি পরিবারের মতো। বাবা নাটক ভালোবাসতেন। অভিনয়ও করতেন ভালো। বদলির চাকরির সঙ্গে সঙ্গে সংস্কৃতিচর্চার আবেগ ছুটে বেড়াত ভারতের এক প্রান্ত থেকে আরেক প্রান্তে। আরও অনেক ভালোবাসার সঙ্গে কেন্দ্রশক্তি ছিলেন রবীন্দ্রনাথ। বাবা ডাকঘর নাটকের মহড়া দিচ্ছেন ছোটদের নিয়ে, এমনই এক রাত্রে একটি পারিবারিক দুর্ঘটনা আমাদের আমূল নাড়িয়ে দিয়েছিল। আমার রবীন্দ্রনাথকে ওই ছোট বয়সেই আঁকড়ে ধরার পথে সে ঘটনা ছিল অন্যতম পিভোট। এর পর থেকে বাবার গ্রামোফোন রেকর্ডে যখন শুনছি— ‘মরণ রে, ...তুঁই মম শ্যামসমান। / মেঘবরণ তুঝ, মেঘজটাজুট, / রক্ত-অধরপুট, / ... গগন সঘন অব, তিমিরমগন ভব, / তড়িতচকিত অতি, ঘোর মেঘরব’...! (গী.বি. প্রেম, সং ১৮১) তখন সদ্য-মৃত্যু-আগ্নিস্ট মন ‘মেঘবরণ’, ‘মেঘ-জটাজুট’, ‘রক্ত-অধর’, ‘তড়িতময় তিমির’, ‘অতি, ঘোর মেঘরব’— টপাটপ তুলে নিয়েছিল আহত, বিধ্বস্ত মনের মধ্যে। সদ্য অভিজ্ঞতালব্ধ অকাল-মৃত্যুর করাল, উদ্যত থাবার নীচে মানুষের ভয়ানক অসহায়তাকে নিজের মতো করে বুঝে নিতে একটুও অসুবিধা হয়নি সেদিন। মনে হয়েছে তাণ্ডবপর শিবের জটাজুটভরা মৃত্যুর প্রচণ্ড রুদ্ধ রূপ! তবে, আরও বড় হয়ে উঠে একদিন হঠাৎ লক্ষ্য করে আকস্মিক আঘাত পেয়েছিলাম যে এ-সবই শ্যামের অনুষ্ঙ্গ—‘শ্যাম’ আমাদের ঠাকুরের আসন আলো করে থাকা কেঁপে ঠাকুরটি! ‘মরণ’ যদি মৃত্যুই হয়— সে বিভীষিকাময় জটাজুট কি কখনও কৃষ্ণের মতো কোমল সুন্দর হতে পারে? রবীন্দ্রনাথ সম্পর্কে প্রথম অভিমানও বোধহয় সেই প্রথম!

শিমলায় কাকার কাছে রবীন্দ্রনাথের জন্মদিন পালন করতাম আমরা। নাচ, গান, আবৃত্তি করতাম সবাই মিলে। বড়রাও যোগ দিতেন—কখনও আবৃত্তি বা রবীন্দ্রনাথের গল্প-কবিতা পাঠ করে, কখনও দর্শকের আসন অলঙ্কৃত করে আমাদের উৎসাহ বর্ধন করতেন তাঁরা। দেওয়ালে দাঁড়িয়ে ছবির রবীন্দ্রনাথ নিষ্পলক চেয়ে থাকতেন। সবেমাত্র শতবর্ষ পেরিয়েছেন। লম্বা, বোলা আলখান্না পরা সৌম্যদর্শন মানুষটি বাবার কণ্ঠে শুনতেন তাঁরই আশার কথা—

“আজি হতে শতবর্ষ পরে, / কে তুমি পড়িছ বসি আমার কবিতাখানি / কৌতুহল ভরে—” (চিত্রা ১৪০০ সাল)



# दीनदयाल उपाध्याय व्यक्तित्व एवं विचार

संपादक  
राजकुमार

**SKP**  
श्री कला प्रकाशन  
दिल्ली 110007

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## पंडित दीनदयाल उपाध्याय की वैचारिक दृष्टि में वैदिक समावेश

डॉ. सचिन कुमार

सहायक आचार्य, संस्कृत विभाग

जाकिर हुसैन कॉलेज

दिल्ली विश्वविद्यालय, दिल्ली

अर्वाचीन भारत के विस्तृत फलक पर पंडित दीनदयाल उपाध्याय का विराट् चित्र बहुआयामी रूप में प्रतिभाषित होता है। भारतीय राजनीति में उनकी पहचान एक राजनीतिज्ञ के रूप में की जाती है किंतु उससे अधिक वे एक दार्शनिक चिंतक और साहित्यकार के रूप में जाने जाते हैं। भारतीय संस्कृति की आधारभूत जिस चिन्तनधारा को महात्मा गांधी ने 'सर्वोदय' की दार्शनिक अवधारणा के रूप में प्रस्तुत किया था, उसी सांस्कृतिक चेतना को गांधी जी के पश्चात् पंडित दीनदयाल उपाध्याय ने अपने दार्शनिक और वैचारिक चिन्तन से सींचकर सार्वभौमिक मानवीय सन्दर्भों के उद्देश्य से 'एकात्म मानववाद' के रूप में प्रस्तुत किया था।

भारतीय राजनीति के मंच पर जनमानस में अपनी पहचान बनाने वाले पंडित दीनदयाल उपाध्याय का बचपन पारिवारिक संघर्ष के कारण असामान्य परिस्थितियों में व्यतीत हुआ, इन्हीं विषम परिस्थितियों ने पंडित जी का हाथ पकड़कर जीवन की विषमताओं से उनका परिचय कराया। भारतीय इतिहास

पंडित  
के पन्ने इस बात  
व्यक्तित्व रूपी भवने  
विषमताएँ समान्य न  
माता की मृत्यु के रू  
के दर्शन मात्र से सिद्ध  
जिस मृत्यु को देखकर  
उसी मृत्यु का बाल्यक  
पहले पिता, माता और  
आघात कर निश्चित र  
वैराग्य का प्रतिबिम्ब  
प्रतिघ्नित होता दिखा

पंडित दीनदयाल  
विचारधाराओं के वैश्विक  
हिलाते हुए भारत की  
भारतीय सत्य-सनातन  
विचारों से जनमानस के  
देश को अपनी सनातन  
विश्व की क्रूर दृष्टि से  
गहन विषयों के समुद्र में  
देश-विशेष के सन्दर्भित  
फलतु को कसकर पकड़े  
पृथिव्याः के वैदिक भा  
श्रद्धेय भावना उनके  
श्रद्धा को अपेक्षित भावने  
है। पंडित जी का सम्पूर्ण  
जीवन आदि की परीधि में  
मानव जीवन की स  
विश्व धाराओं के माध्यम स  
विचारों में राष्ट्रमर्जित और  
उनकी अर्थनीति की समीक्षा



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اعتنى به

الدكتور شمس الآفاق الصديقي



# My First Action Words Picture Dictionary

ENGLISH - ARABIC

Designed and edited by : Anna Stoker

Translated by : Dr. Amir Jamal



ENGLISH - ARABIC

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# BASIC ANALYTICAL CHEMISTRY

BASIC ANALYTICAL CHEMISTRY

Dr. Nadira Arif  
Dr. Shahzad Ahmad

## ABOUT THE BOOK

Basic Analytical chemistry is a branch of science dealing with the chemical characterization of matter. As each and everything we use and consume comprises chemicals, its applications extend to all aspects of our lives.

This book is written for undergraduate students of the science stream and is designed according to Skill Enhancement Course "Basic Analytical Chemistry" included in the CBCS syllabus of B.Sc. Honours and B.Sc. Program courses of the University of Delhi. The textbook includes an introduction to analytical chemistry, assessment of analytical data, chemical analysis of water and soil, and chromatography.

This book provides a basic understanding of the principles, procedures, and applications of the various techniques available to an analyst. We hope this book will help students with a comprehensive understanding of the above topics.

## ABOUT THE AUTHORS

**Dr. Nadira Arif** is working as an Associate Professor at the Department of Chemistry, Zakir Husain Delhi College, University of Delhi. She has teaching experience of over thirty-five years and has also published many research papers in national and international journals. Her area of research has been the synthesis, characterization and biological importance of metal complexes.

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