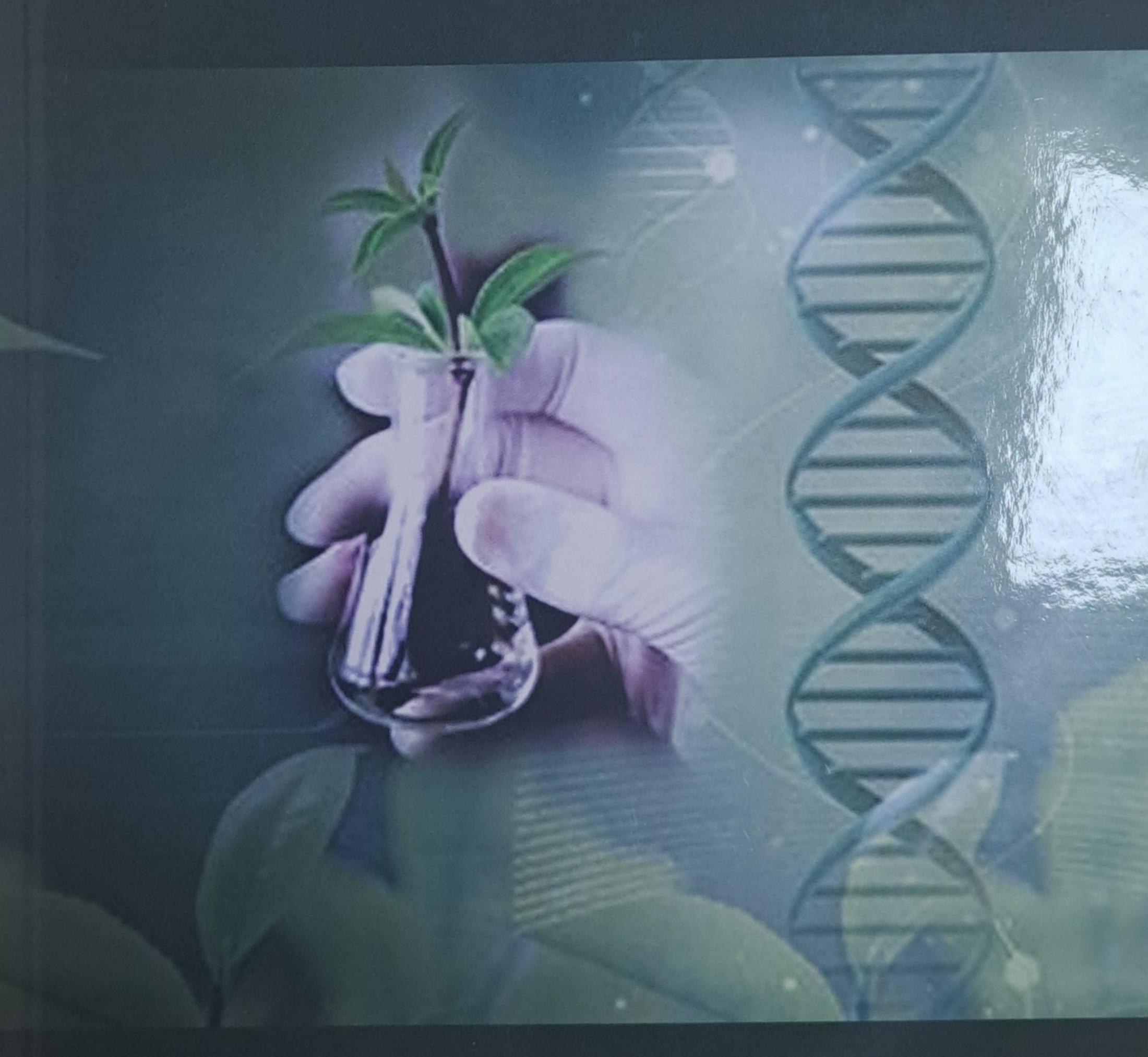
# INTRODUCTION TO

# AGRICULTURAL BIOCHEMISTRY



Dr. Faria Fatima Dr. Arshya Hashim Dr. Sumaiya Anees

# Introduction to Agricultural Biochemistry

Dr. Faria Fatima Dr. Arshya Hashim Dr. Sumaiya Anees



Published By: Book Rivers

Website: www.bookrivers.com

Email: publish@bookrivers.com

Mobile: +91-9695375469

Place: Lucknow

First Edition: 2022

MRP: 450

ISBN: 978-93-5515-449-1

Copyright©: Authors

### All Rights Reserved

No part of this publication may be reproduced, transmitted or stored in a retrieval system, in any form or by any means, electronic, mechanical, photocopying recording or otherwise, without the prior permission of the author.

[Printed In India]

## INDEX

S.No	Title	Page no.
1	Agricultural Biochemistry:	2
	Fundamentals and Importance of	
	Biochemistry in Agriculture	
2	pH and Buffer	11
3	Mineral nutrients	22
4	Plant growth Regulators –Physio-	35
	logical role and Agricultural uses	
5	Plant Cell	51
6	Plant Cellular division	69
7	Carbohydrates	86
8	Amino Acids And Proteins	111
9	Enzymes	128
10	Lipids and fatty acids	144
11	Nucleic Acid	159
12	Vitamins And Minerals (Part I)	177
13	Vitamins (Part II)	195
14	Plant Hormones	214

### CHAPTER-1

# AGRICULTURAL BIOCHEMISTRY FUNDAMENTALS, IMPORTANCE OF BIOCHEMISTRY IN AGRICULTURE

#### Faria Fatima\*

Integral Institute of Agricultural Science and Technology, Integral University, Lucknow-226026, India

Corresponding Author: Dr. Faria Fatima

Email ID: fatimafaria45@gmail.com

#### Introduction:

The chemistry of living beings is referred to as biochemistry. Its roots can be found in biology and chemistry. It makes an attempt to explain biological activities at the molecular level. Throughout nature, there is a fundamental unity of biochemistry. Although various species' life processes differ on the surface, there are surprising connections in how they carry out distinct activities. The genetic code, metabolic pathways, enzymes, coenzymes, and even regulatory systems are all quite similar in all living creatures. Living beings has unique characteristics. They have excellent reproducibility in terms of growth, response to stimuli, and replication. All of these actions can eventually be translated into chemical terms. A living creature is formed by lifeless organic molecules with suitable complexity and qualities. The fundamental phenomena of biochemistry are to understand how the groups of lifeless molecules that comprise live beings interact with one another in order to