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# Differential CALCULUS

B.Sc. MATHEMATICS-1 : PART-A

1st Sem

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*"An equation means nothing to me unless  
it expresses a thought of God."* - *Srinivasa Ramanujan*

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# Differential Calculus

## B.Sc. MATHEMATICS-I : PART A

(For B.A. and B.Sc. 1st Semester students of All Colleges affiliated to universities in Uttar Pradesh)

As per NEP - 2020 Syllabus (w.e.f. 2021-22)

By

**A. R. Vasishtha**

Retd. Head, Dep't. of Mathematics  
Meerut College, Meerut (U.P.)

**Sanjay Kumar Pandey**

*M.Sc., Ph.D.*

Head, Dep't. of Mathematics  
Shri LBS Degree College,  
Gonda (U.P.)

**J. N. Mishra**

*M.Sc., Ph.D.*

Principal  
G.S. (P.G.) College, Sultanpur (U.P.)

**S. K. Tiwari**

*M.Sc., Ph.D.*

Head, Dep't. of Mathematics  
K.S. Saket (P.G.) College, Ayodhya (U.P.)

**K. B. Pandey**

*M.Sc., Ph.D.*

Asst. Prof., Dep't. of Mathematics  
K.N.I.P.S.S. Sultanpur (U.P.)

**Prabhat Kumar Singh**

*M.Sc., Ph.D.*

Sant Tulsi Das (P.G.) College,  
Kadipur Sultanpur (U.P.)

**Shesh Kumar Pandey**

*M.Sc., M.Phil., Ph.D.*

Head, Dep't. of Mathematics  
A.N.D. Kisan (P.G.) College, Babhnan,  
Gonda (U.P.)

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# Differential Calculus

**B.Sc. MATHEMATICS-I : PART A**

I.S.B.N. - 978-93-91152-06-2

Book Code No. - 2107-02

First Edition - 2021

Second Edition - 2022

M.R.P. - ₹ 410.00

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Published by : Sugam Rastogi & Kanupriya Rastogi  
for KRISHNA Prakashan Media Pvt. Ltd.  
Krishna House, 11, Shivaji Road, Meerut - 250 001 (U.P.), India  
Ph.: 91.121.2644766, 2642946, 4026111, 4026112  
www.krishnaprakashan.com, info@krishnaprakashan.com

Designed by : Krishna Graphic Arts, Meerut (S.A.J., S.K., A.K.)  
Printed at : Shiv Offset Printers, Meerut.

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# दो दशकों के बीच

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**Xpress**Publishing  
An Imprint of Notion Press

No.8, 3rd Cross Street, CIT Colony,  
Mylapore, Chennai, Tamil Nadu-600004

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ISBN 978-1-64951-288-8

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माता : श्रीमती दिलाराम तिवारी

पिता : श्री राजमणि तिवारी

पता : ग्राम व पत्रालय दुर्गाइवा, गोंडा, उ०प्र०

शिक्षा : एम०ए० हिंदी, पीएच०डी०

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संप्रति : श्री लाल बहादुर शास्त्री डिग्री कॉलेज, गोंडा, उ०प्र० के हिंदी विभाग में एसोशिएट प्रोफेसर के पद पर सेवारत

Price Rs 240.00

ISBN 978-1-64951-288-8



9 781649 512888

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An imprint of Notion Press



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- Editors** : **Dr. Neeraj Yadav**
- Publisher** : **Swaranjali Publications Pvt. Ltd.**  
FF1, Plot No. 1B, Sector 10-B  
Vasundhara - 201012  
Ghaziabad, U.P.
- Phone** : +91-8700124880, 9810749840
- E-mail** : [swaranjalipublication@gmail.com](mailto:swaranjalipublication@gmail.com)
- Book** : **Brain Based Learning in Mathematics**
- Edition** : July 2021
- ISBN** : 978-93-5470-621-9
- Price** : ₹499
- Printed By** : Swaranjali Offset Printers

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## About the Author



Dr. Neeraj Yadav, M.Sc. ( Mathematics), M.Ed., NET-JRF (Education) Ph.D. from University of Lucknow, Lucknow, Uttar Pradesh, bears an excellent academic record and is presently working as Assistant Professor in the Department of Teacher Education, Shri Lal Bahadur Shastri Post Graduate College, Gonda (UP), India affiliated to Dr. Rammanohar Lohia Avadh University, Ayodhya. He has six years teaching experience in Higher Education. He has got specialization in Educational Measurement and Evaluation. Dr. Yadav has attended about 20 international and national seminars, workshops, conferences, symposia. He has participated and presented research papers in many National and International seminars. He has authored several research papers which are published in different international and national journals of India.



**Swaranjali Publication**  
swaranjalipublication@gmail.com  
1-B, 10-B, Vasundhara,  
Ghaziabad, (U.P. - 201012)  
www.nrjp.co.in  
8700124880, 9810749840

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ISBN: 978-93-54706-21-9



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# BUSINESS ECONOMICS



**DR. BINOD PRATAP SINGH**  
**DR. SMRITI SHISHIR**

# **Business Economics**

**Dr. Binod Pratap Singh**

Associate Professor

Head Department of Commerce

Shri Lal Bahadur Shastri Degree college Gonda (UP).

**Dr. Smriti Shishir**

Assistant Professor

B.B.A. Department

Shri Lal Bahadur Shastri Degree College Gonda (UP).



Address: No -1-B, Sector 10B, Vasundhara Sector 10,  
Delhi - 201012, Behind Vanasthali Public School

E-mail: [swarnajalpublication@gmail.com](mailto:swarnajalpublication@gmail.com)

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Author © : **Dr. Binod Pratap Singh & Dr. Smriti Shishir**  
Publisher : Swaranjali Publication  
Sector-10B, Vasundhara,  
Ghaziabad (U.P.)-201012  
Phone : 9810749840, 8700124880  
E-mail : swaranjalipublication@gmail.com  
Website : www.swaranjalipublication.com  
Book : **Business Economics**  
Edition : 1st October 2021  
ISBN : 978-93-5470-826-8  
Price : ₹450/-  
Printed By : Swaranjali Printers

# Business Finance

Dr. Binod Pratap Singh

Dr. Smriti Shishir



# Business Finance

**Dr. Binod Pratap Singh**

Associate Professor

Head Department of Commerce

Shri Lal Bahadur Shastri Degree college Gonda (UP).

**Dr. Smriti Shishir**

Assistant Professor

B.B.A. Department

Shri Lal Bahadur Shastri Degree College Gonda (UP).



Address: No -1-B, Sector 10B, Vasundhara Sector 10,  
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Publisher : Swaranjali Publication  
Sector-10B, Vasundhara,  
Ghaziabad (U.P.)-201012

Phone : 9810749840, 8700124880

E-mail : [swaranjalipublication@gmail.com](mailto:swaranjalipublication@gmail.com)

Website : [www.swaranjalipublication.com](http://www.swaranjalipublication.com)

Book : **Business Finance**

Edition : 1st September 2021

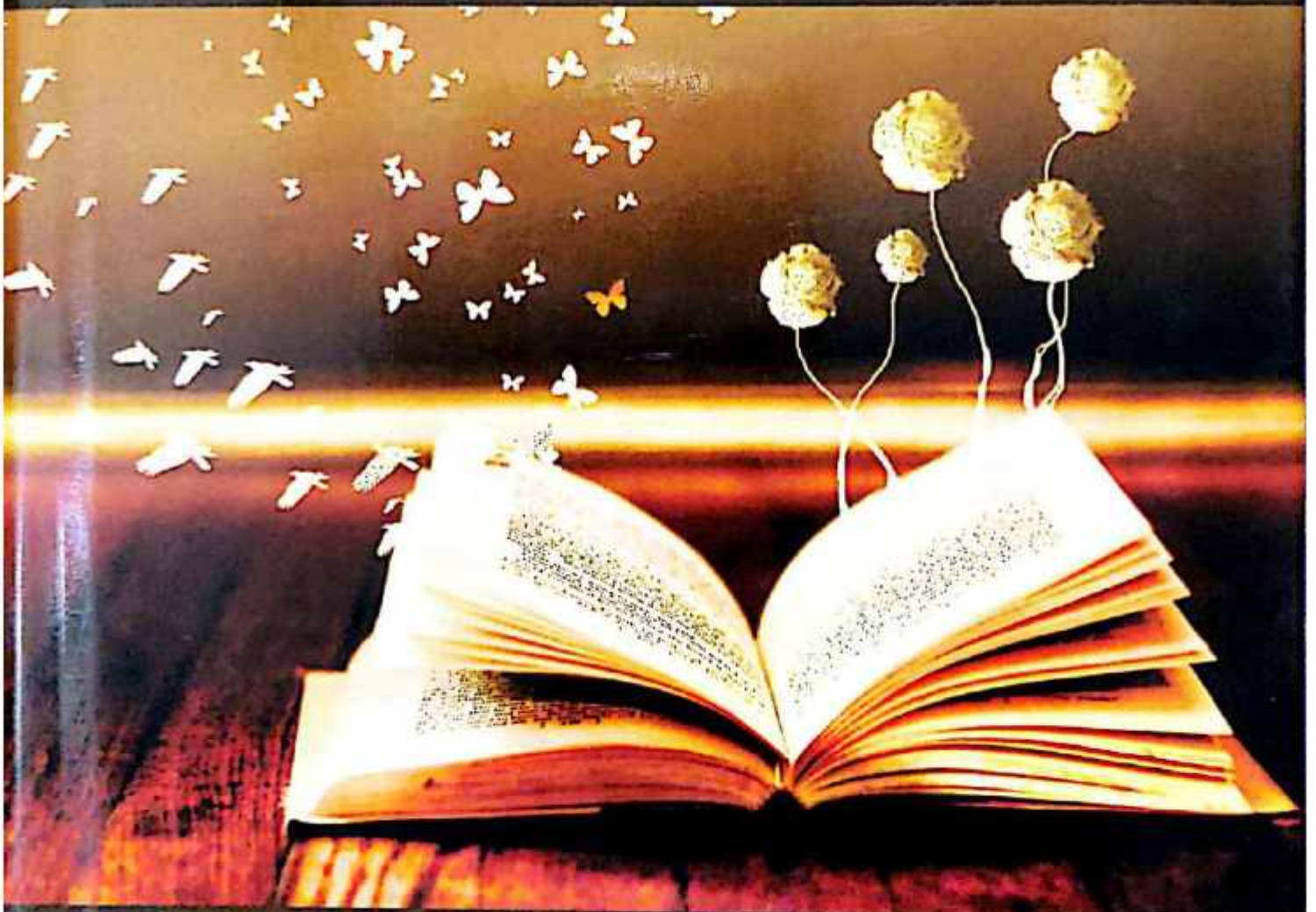
ISBN : 978-93-5470-827-5

Price : 499/-

Printed By : Swaranjali Printer

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4240/23, अंसारी रोड

दरियागंज, नई दिल्ली-110002

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Email : arpublishers@gmail.com

ब्रांच ऑफिस

लेखेश्वर कॉम्प्लेक्स, नियर अवध विश्वविद्यालय,

प्रयागराज रोड, अयोध्या-224001

© लेखक

मूल्य : 550/-

ISBN : 978-81-953578-5-7

लेज़र-टाइप-सेटिंग्स :

आशीष प्रिन्टर्स

संस्करण : 2021

मुद्रक : आशीष प्रिन्टर्स, दिल्ली

मो. 9910143493

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# दैनिक कक्षाओं में उच्च शिक्षा के वर्तमान अवसरों की प्रासंगिकता

लोहांस कुमार कल्याणी एवं तारकेश्वर स्वरूप मणि

“शिक्षा सबसे शक्तिशाली हथियार है जिसका उपयोग आप दुनिया को बदलने के लिए कर सकते हैं”

—नेल्सन मंडेला

शिक्षा के बारे में नेल्सन मंडेला का कथन बहुत प्रासंगिक लगता है। यदि आप दुनिया में बदलाव लाना चाहते हैं, तो यह शिक्षा के माध्यम से ही संभव है। भारत में, शिक्षा को तीन स्तरों में बांटा गया है, पहली प्राथमिक शिक्षा दूसरी माध्यमिक शिक्षा और तीसरी उच्च शिक्षा। शिक्षा से ही किसी भी देश की सामाजिक और आर्थिक प्रगति सम्भव है।

“गुणवत्ता सुनिश्चित करना उच्च शिक्षा सबसे महत्वपूर्ण चीजों में से एक है जो हम भविष्य की पीढ़ियों के लिए कर सकते हैं।”

—रॉन लुईस

उच्च शिक्षा, वर्तमान समय में किसी भी राष्ट्र की प्रगति का एक मुख्य आधार है। इसलिए किसी विशेष देश की उच्च शिक्षा प्रणाली में मौजूदा चुनौतियों और अवसरों के बारे में जानना आवश्यक है। वर्तमान में, भारतीय उच्च शिक्षा अपनी प्रगति और परिवर्तन के स्तर पर है। एक मंच जहाँ नए अवसर उत्पन्न हो रहे हैं, विचार एक नई अंतर्दृष्टि के साथ आ रहे हैं। हर दिन आधुनिक तकनीक और वर्ल्ड वाइड वेब इंटरनेट सुविधा का उपयोग बढ़ रहा है। इसलिए धीरे-धीरे दुनिया एक वैश्विक गांव बन गई है।

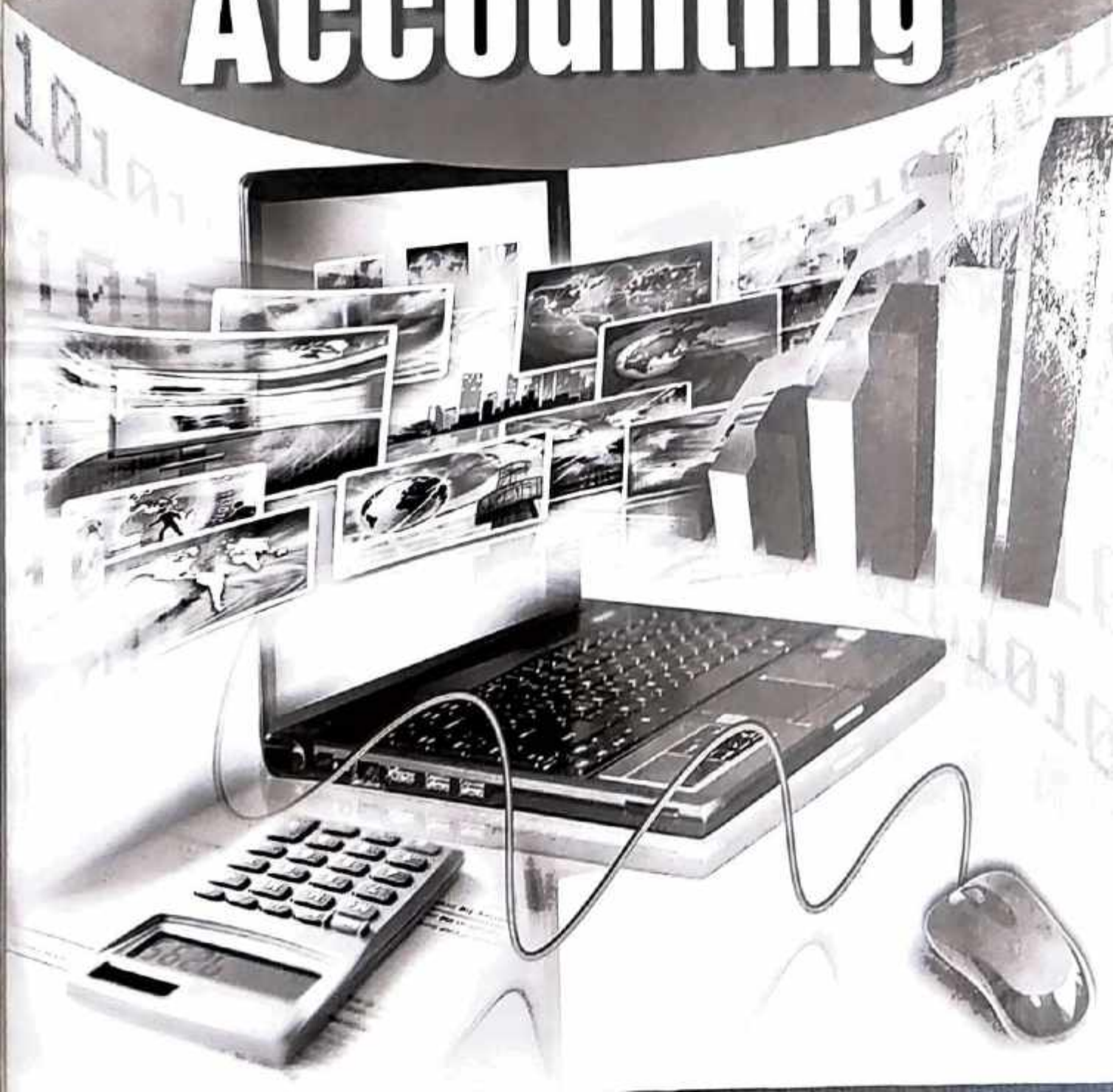
विभिन्न चुनौतियों के बावजूद, भारतीय उच्च शिक्षा प्रणाली तेजी से बढ़ रही है। और इसके साथ ही साथ हमारे देश की आबादी बहुत तेजी से बढ़ रही है। सरकार सभी लोगों को शिक्षित करने की पूरी कोशिश कर रही है। इसलिए अनंत संभावनाएं हैं। भारत में युवाओं की आबादी लगभग 150 मिलियन है। उनमें से ज्यादातर 18 से 25 साल के बीच के हैं। भारत में उच्च शिक्षा क्षेत्र को विकसित करने के लिए बाजार की विविधता और कई

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# Financial Accounting



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SEMESTER II : UTTAR PRADESH UNIFIED SYLLABUS

**Prof. B. P. SINGH**

M. Com., Ph.D.

*Professor & Head of Department*

Department of Commerce

L.B.S. (P.G.) College, Gonda

**Dr. ARJUN DAS**

M. Com., M.A., Ph.D.

*Deptt. of Accounts & Law*

*Faculty of Commerce*

St. John's College, Agra

**NAVYUG PUBLICATIONS**

**Printing History :**  
First edition 2008-09  
Seventh edition 2021

**ISBN :** 978-93-87970-25-0

**Price :**

₹ 590 only

**Medium :**  
English Version  
Also Available in Hindi Version

**Published by :**  
**Navyug Publications**  
Bagh Ram Sahai,  
Lohamandi, AGRA-282 002

**For Feedback / Queries, Please Contact to :**  
**Consumer Services Manager**  
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09412589626 / 09411629672 / 09359838075  
Whatsapp us : 07895008935  
or mail us at : navyugpublications@yahoo.com  
or visit us at : www.navyugpublications.com

**Printers :**  
**Nikita Offset Press**  
Raja Mandi, Agra-282 002

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(Their Administrative Problems)



|| Dr. Sandip Kumar Srivastava ||

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**(Their Administrative Problems)**

**Dr. Sandip Kumar Srivastava**  
Associate Professor of B.Ed  
Sri Lal Bahadur Shastri Degree College  
Gonda, Uttar Pradesh



Address: No -1-B, Sector 10B, Vasundhara Sector 10,  
Delhi - 201012, Behind Vanasthali Public School  
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- Author © : **Dr. Sandip Kumar Srivastava**
- Publisher : Swaranjali Publication  
Sector 10-B, Vasundhara,  
Ghaziabad, (U.P.) 201012
- Phone : 9810749840, 8700124880
- E-mail : [swaranjalipublication@gmail.com](mailto:swaranjalipublication@gmail.com)
- Website : [www.swaranjalipublication.com](http://www.swaranjalipublication.com)
- Book : **SECONDARY SCHOOL'S PRINCIPALS  
(Their Administrative Problems)**
- Edition : Dec. 2021
- ISBN : **978-93-5470-642-4**
- Price : 350/-
- Printed By : Swaranjali Printers

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**Emerging Trends in Teacher  
Education in 21st Century**



**Lohans Kumar Kalyani  
Dr. Neeraj Yadav**

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**रचनाकार पब्लिशिंग हाउस  
दिल्ली**

ISBN : 978-93-91791-17-9

© : लेखक

प्रथम संस्करण : 2021

मूल्य : ₹ 495/-

प्रकाशक : रचनाकार पब्लिशिंग हाउस  
डी-18, गली नं. 9, जगतपुरी विस्तार,  
शाहदरा, दिल्ली-110093  
मोबाइल : 9910143493, 9990679529

आवरण : शशिकान्त सिंह

मुद्रक : राधा ऑफसेट, दिल्ली-110093

शब्द-संयोजन : आशीष प्रिंटर्स

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**Emerging Trends in Teacher Education in 21st Century**

By Lohans Kumar Kalyani, Dr. Neeraj Yadav

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# शिक्षक: शिक्षण एवं नीतिबोध

डॉ. नीलम\*

लोहंस कुमार कल्याणी\*\*

\*असिस्टेंट प्रोफेसर, का.सु.साकेत स्नातकोत्तर महाविद्यालय, अयोध्या

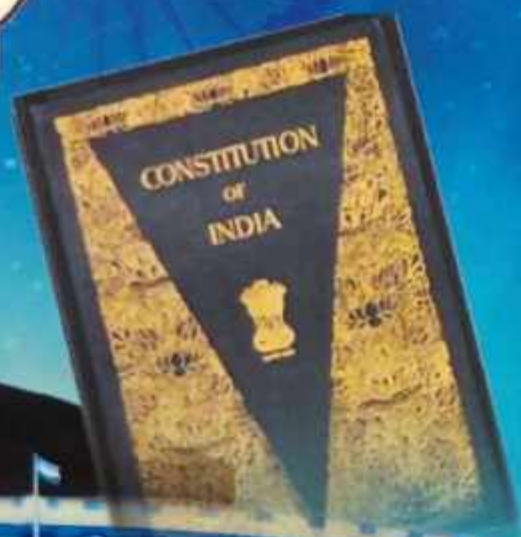
\*\*असिस्टेंट प्रोफेसर, श्री लाल बहादुर शास्त्री डिग्री कॉलेज, गोंडा

## प्रस्तावना

अध्यापक राष्ट्र की संस्कृति के चतुर माली हैं। राष्ट्र की वर्तमान व भावी आवश्यकताओं की पूर्ति का गौरवपूर्ण कार्य शिक्षकों द्वारा ही सम्पन्न कराया जाता है। किसी भी राष्ट्र के निर्माण में प्रभावशाली शिक्षकों की भूमिका को नकारा नहीं जा सकता, क्योंकि एक में स्वस्थ व शिक्षित समाज का निर्माण करने वाला शिक्षक, केवल एक व्यक्ति न होकर स्वयं में एक संस्था है। विद्यार्थी किसी भी राष्ट्र की सम्पत्ति और उसके भावी कणधर होते हैं। इनके मध्य अध्यापक की भूमिका बगीचे के माली के समान होती है, जो विद्यार्थियों के शारीरिक, मानसिक, जैविक व आध्यात्मिक विकास के उत्तरदायित्वों का वहन करता है। शिक्षा-प्रक्रिया में शिक्षक का स्थान सर्वोपरि माना गया है। शिक्षक, शिक्षा व समाज को जोड़ने वाली महत्त्वपूर्ण कड़ी है। अन्य व्यवसायों में जहाँ लोग वस्तुएँ एवं पदार्थ बनाते हैं, वहीं शिक्षक एक अविकसित चेतना को अभीष्ट दिशा में मोड़कर सभ्य व सुदृढ़ मानव के रूप में विकसित करता है। अतः शिक्षक का कार्य संसार के सर्वाधिक जटिल कार्यों में से एक है। शिक्षण-कार्य वह व्यक्ति ही कर सकता है, जिसमें कुछ विशिष्ट शारीरिक, बौद्धिक, सामाजिक, नैतिक व सांवेगिक गुण विद्यमान हो।

शिक्षक का अर्थ किसी जाति, धर्म या वर्ग-विशेष से न होकर सम्पूर्ण मानव-जाति के कल्याणकारी: व्यक्ति के रूप में लिया जाता है। प्राचीन काल में इसी पवित्र सोच के कारण शिक्षण को व्यवसाय न मानकर एक आध्यात्मिक तथा सेवा का कार्य माना जाता था, परन्तु युग-परिवर्तन के साथ सामाजिक परिवेश तथा मनुष्य की मनोवृत्तियों में परिवर्तन होना शुरू हुआ। मात्र अध्यापन करके संतुष्ट होने वाला शिक्षक अब शिक्षण को जीविकोपार्जन के साधन के रूप में स्वीकार कर चुका है। बदले हुए परिवेश में राष्ट्र तथा समाज द्वारा शिक्षक से व्यावसायिक कुशलता की अपेक्षा की जा रही है। शिक्षक का कार्य मात्र कक्षा-कक्ष तक ही सीमित नहीं बल्कि शिक्षक की जवाबदेही सम्पूर्ण समाज व राष्ट्र के प्रति भी है।

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डॉ. लोहंस कुमार कल्याणी

डॉ. राशिका अतहर

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रचनाकार पब्लिशिंग हाउस  
दिल्ली

**ISBN** : 978-93-91791-56-8

© : Editor

**First Edition** : 2023

**Price** : ₹ 495/-

**Published By** : Rachnakar Publishing House  
D-18, Street No. -9, Jagatpuri Extn.  
Shahdara, Delhi-110093  
Mob. 99101343493

**Cover Design By** : Shashikant Singh

**Printed By** : Kaushik Offset Printers

**Composed By** : Rajive Kumar Verma

**Note** – For every article printed in the book, the author of the article concerned will be solely responsible, the editor and publisher of the book will not have any responsibility.

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डॉ. नीरज यादव

असिस्टेंट प्रोफेसर, बी.एड. विभाग, श्री लाल बहादुर शास्त्री डिग्री कॉलेज, गोण्डा

भारत दुनिया के सबसे बड़े सामाजिक लोकतांत्रिक देशों में से एक है। साथ ही, इसका संविधान लोकतांत्रिक राष्ट्र और प्रत्येक मनुष्य की सुरक्षा पर जोर देता है। यह लेख सामाजिक व्यवस्था द्वारा दलित जाति के खिलाफ भेदभाव की समस्या पर केंद्रित है। जैसा कि भारत का संविधान परिभाषित करता है कि हाशिए की जातियाँ सुरक्षित होनी चाहिए हैं, लेकिन एक वर्ग देश के विभिन्न कोनों में अत्यधिक मात्रा में अत्याचार और शोषण का सामना कर रहा है। इसके अलावा, मानवाधिकारों का उल्लंघन और दलितों पर अत्याचार, यह सरकार की भूमिका और सामाजिक न्याय के सिद्धांत पर सवाल खड़ा करता है। यह संविधान के तहत प्रदान किए गए विभिन्न सुरक्षा उपायों और संसद द्वारा समय-समय पर बनाए गए विधानों के बावजूद दलितों पर हिंसा के लिए जवाबदेही निर्धारित करने का एक प्रयास है। समकालीन काल में इक्कीसवीं सदी में मनुष्य का आगमन हुआ और भारत विभिन्न दृष्टियों (आर्थिक, राजनीतिक और सामाजिक) में विकसित हुआ। डॉ. अम्बेडकर के जाति व्यवस्था, अस्पृश्यता और हिंदू सामाजिक व्यवस्था के विश्लेषण का उद्देश्य समानता, स्वतंत्रता, न्याय और सार्वभौमिक भाईचारे के मानवीय मूल्यों के आधार पर एक सजातीय हिंदू समाज बनाना था। (यूनेस्को) इसलिए शोध पत्र का उद्देश्य समाज में समानता के प्रति डॉ. अम्बेडकर की विचारधारा का अध्ययन करना है। जिसका उद्देश्य आधुनिक भारत के निर्माण में डॉ. बाबा साहेब अम्बेडकर के विचारों, उनकी दृष्टि के बारे में अध्ययन करना है डॉ. अम्बेडकर न केवल भारतीय



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**Mamta Verma**

*M.Sc., M.Phil., Ph.D.*

Asst. Prof., Dep't. of Zoology  
S.S.V. College, Hapur (U.P.)

**Indu Singh**

*M.Sc., NET, FZSI*

Asso. Prof., Dep't. of Zoology  
K.N.I.P.S.S., Sultanpur (U.P.)

**Shishir Tripathi**

*M.Sc., NET, JRF*

Asst. Prof., Dep't. of Zoology  
Shri L.B.S. Degree College, Gonda (U.P.)

**Sudha Shukla**

*M.Sc., Ph.D., B.Ed.*

Asst. Prof., Dep't. of Zoology  
Kisan (P.G.) College, Bahraich (U.P.)

**Malkhan Singh**

*M.Sc., M.Phil.*

Asst. Prof., Dep't. of Zoology  
R.R. (P.G.) College, Amethi (U.P.)

**JAGDISH ANAND**

9536901316, 8368060515

9761426406

**Raghvendra Mishra**

*M.Sc.*

Asst. Prof., Dep't. of Zoology  
Shri Lal Bahadur Shastri Degree College,  
Gonda (U.P.)



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B.Sc. Paper-I

#### Unit-I: Structure and Function of Biomolecules

1. Structure and Biological importance of carbohydrates (Monosaccharides, Disaccharides, Polysaccharides and Glycoconjugates).
2. Lipids (saturated and unsaturated fatty acids; Tri-acylglycerols, Phospholipids, Glycolipids, Steroids).
3. Structure, Classification and General properties of  $\alpha$ -amino acids; Essential and non-essential  $\alpha$ -amino acids, Levels of organization in proteins; Simple and conjugate proteins.

#### Unit-II: Enzyme Action and Regulation

1. Nomenclature and classification of enzymes; Cofactors; Specificity of enzyme action.
2. Isozymes; Mechanism of enzyme action.
3. Enzyme kinetics, Factors affecting rate of enzyme-catalyzed reactions; Derivation of Michaelis-Menten equation, Concept of  $k_m$  and  $V_{max}$ , Lineweaver-Burk plot; Enzyme inhibition.
4. Allosteric enzymes and their kinetics; Regulation of enzyme action.

#### Unit-III: Metabolism of Carbohydrates and Lipids

1. Metabolism of Carbohydrates: glycolysis, citric acid cycle, gluconeogenesis, phosphate pentose pathway.
2. Glycogenolysis and Glycogenesis.
3. Lipids Biosynthesis of palmitic acid; Ketogenesis.
4.  $\beta$ -oxidation and omega-oxidation of saturated fatty acids with even and odd number of carbon atoms.

#### Unit-IV: Metabolism of Proteins and Nucleotides

1. Catabolism of amino acids: Transamination, Deamination, Urea cycle.
2. Nucleotides and vitamins.
3. Review of mitochondrial respiratory chain, Oxidative phosphorylation and its regulation.

#### Unit-V: Digestion and Respiration

1. Structural organization and functions of gastrointestinal tract and associated glands.
2. Mechanical and chemical digestion of food; Absorptions of carbohydrates, lipids, proteins, water, minerals and vitamins; Histology of trachea and lung.
3. Mechanism of respiration, Pulmonary ventilation; Respiratory volumes and capacities; Transport of oxygen and carbon dioxide in blood; Respiratory pigments, Dissociation curves and the factors influencing it; Control of respiration.

#### Unit-VI: Circulation and Excretion

1. Components of blood and their functions.
2. Haemostasis: Blood clotting system, Blood groups: Rh factor, ABO and MN.
3. Structure of mammalian heart.
4. Cardiac cycle; Cardiac output and its regulation, Electrocardiogram, Blood pressure and its regulation.
5. Structure of kidney and its functional unit; Mechanism of urine formation.

#### Unit-VII: Nervous System and Endocrinology

1. Structure of neuron, resting membrane potential.
2. Origin of action potential and its propagation across the myelinated and unmyelinated nerve fibers.
3. Types of synapse.
4. Endocrine glands - pineal, pituitary, thyroid, parathyroid, pancreas, adrenal; hormones secreted by them.
5. Classification of hormones; Mechanism of Hormone action.

#### Unit-VIII: Muscular System

Histology of different types of muscle; Ultra structure of skeletal muscle; Molecular and chemical basis of muscle contraction; Characteristics of muscle twitch; Motor unit, summation and tetanus.

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B.Sc. 3 <sup>rd</sup> Sem. (w.e.f. 2021-23)	
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P.B.: Bioinstrumentation & Molecular Biology Lab (Practical)	- Verma & Others
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for KRISHNA Prakashan Media Pvt. Ltd.  
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Ph.: 91.121.2644766, 2642946, 4026111, 4026112  
www.krishnaprakashan.com; info@krishnaprakashan.com

**Designed by :** Krishna Graphic Arts, Meerut (M.S.K., V.S.)

**Printed at :** Vimal Offset Printers, Meerut

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## Chapter - 2

### Biodiversity and Conservation

\*Drinkal Yadav, Vipin Kumar, Ajay Kumar Pandey

Prof. Ravindra kumar

Research Scholar

Shri Lal Bahadur Shastri Degree College, Gonda Uttar Pradesh- 271003

ravindrabalrampur@gmail.com, \*yadavdrinkal@gmail.com

### Introduction

Biodiversity is the variety and variability of life i.e. plants, animals and microorganisms present on this Earth. It is a measure of variation at the genetic, species and ecosystem level.

Biodiversity is also called biological diversity. It is the variety of life found on Earth or in a place the variety of plants, animals, microorganisms, etc. Each of these species and organisms make ecosystems and work together. Biodiversity maintains balance in nature. It supports everything in this nature that we need to survive i.e. food, fodder, water, shelter, etc. Biodiversity is the term popularized by the sociobiologist Edward Wilson to describe the combined diversity at all the levels of biological organization. Biodiversity is a comprehensive umbrella term for the extent of nature's variety or variation within the natural system; both in number and frequency. It is often understood in terms of the wide variety of plants, animals and microorganisms, the genes they contain and the ecosystem they form. The biodiversity we see today is the result of billions of years of evolution, shaped by natural processes and, increasingly, by the influence of humans. It forms the web of life of which we are an integral part and upon which we so fully depend. So far, about 2.1

# WILDLIFE AND CONSERVATION STRATEGIES IN CURRENT ENVIRONMENTAL SCENARIO



**Dr. Arvind Kumar Sharma**  
**Dr. Prashant Kumar**  
**Dr. Reema Sonker**

## About the Author

### Dr. Arvind Kumar Sharma



Dr. Arvind Kumar Sharma, Associate Professor, Department of Zoology, K S Saket PG College, Ayodhya (Affiliated to Dr. R M L Avadh University, Ayodhya). Schooling from Sainik School Ghorakhal, Nainital. Completed Graduation and Post Graduation from Aligarh Muslim University. Topped in all the five years and received THE UNIVERSITY GOLD MEDAL for B.Sc (Hons) Zoology - 1990 and THE BABAR MIRZA INAYAT ALI GOLD MEDAL for M.Sc (Zoology) - 1992. Completed Ph.D (Ecology, Conservation, Management and Eco-tourism Perspectives of Kondar Lake of Gonda District) in 2006. He has a teaching experience of thirty years (Teaching UG & PG students since 20-02-2009 at K S Saket PG College Ayodhya, NAAC B++ and before this at S L B S Degree College Gonda, DPS - Korba, Chattisgarh, SRVP - Gonda, BBPS - Balrampur and

Sainik School Lucknow since 1993 in various capacities). He is guiding several Ph.D students. He has published more than thirty research papers in different National Peer Reviewed and UGC approved Journals. He has Membership of three Academic Bodies and is working as Chief Editor of a Biannual Journal of Science and Technology SCITECH (ISSN : 0974 - 052X), as EDITOR of another Biannual Journal of Arts, Literature and Commerce SHODH-BODH (ISSN : 0974 - 0511) and Subject Editor in a Biannual Journal THE SCIENTIFIC TEMPER (ISSN : 0976 - 8653). Presented a paper (Earthworms as Tools in Sustainable Management of Agroecosystems) in an International Conference held at Bangkok, Thailand in 2019, Associated with the Activities related to Science Popularization for the promotion of Scientific Temper among Students, Farmers, Unemployed Youth, Women and Teachers (Our Fundamental Duty, Article 51 - A, Constitution of India), done by District Science Club and National Children Science Congress (Both affiliated to CST - UP, Government of UP, DST - UP, DST - Government of India and AIR, Ayodhya)

### Dr. Prashant Kumar



Dr. Prashant Kumar completed his PG from department of Zoology, University of Allahabad, Prayagraj. He completed his D.Phil. degree under the able guidance of Dr. U.C. Srivastava (Professor Emeritus) from the same department. Dr. Prashant Kumar is Assistant Professor in the department of Zoology, K.S. Saket Post Graduate College, Ayodhya (Affiliated to Dr. RML Avadh University, Ayodhya) and teaching undergraduate and post graduate students since 2019. He has research papers and book chapters in the fields of neuro histology, animal behavior and urban ecology. Dr. Prashant Kumar is a life member of scientific societies like ISCA, IAN, GESA, and ABRF. He is currently working on population trend of some important birds in urban habitat.

### Dr. Reema Sonker



Dr. Reema Sonker has obtained her Ph.D. degree from Department of Zoology, University of Lucknow, Lucknow, Uttar Pradesh. She is currently working as Assistant Professor in Department of Zoology, K.S. Saket P.G. College Ayodhya (affiliated to Dr. Ram Manohar Lohia Awadh University Ayodhya) teaching undergraduate and post graduate students since 2019. She has published 5 research papers, 10 book chapters and 1 popular article in national and international journals and books. She has also presented 19 research papers in various national and international conferences. Dr. Reema Sonker is life member of Scientific Societies like Indian Science Congress, (ISC) Global Environment & Social Association (GESA) and The Asian Biological Research Foundation (ABRF). She is currently working on Forensic Entomology.



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**© : Editor**

**First Edition : 2022**

**Price : ₹ 495/-**

**Published By : Rachnakar Publishing House**  
D-18, Street No. -9, Jagatpuri Extn.  
Shahdara, Delhi-110093  
Mob. 99101343493

**Cover Design By : Shashikant Singh**

**Printed By : Kaushik Offset Printers**

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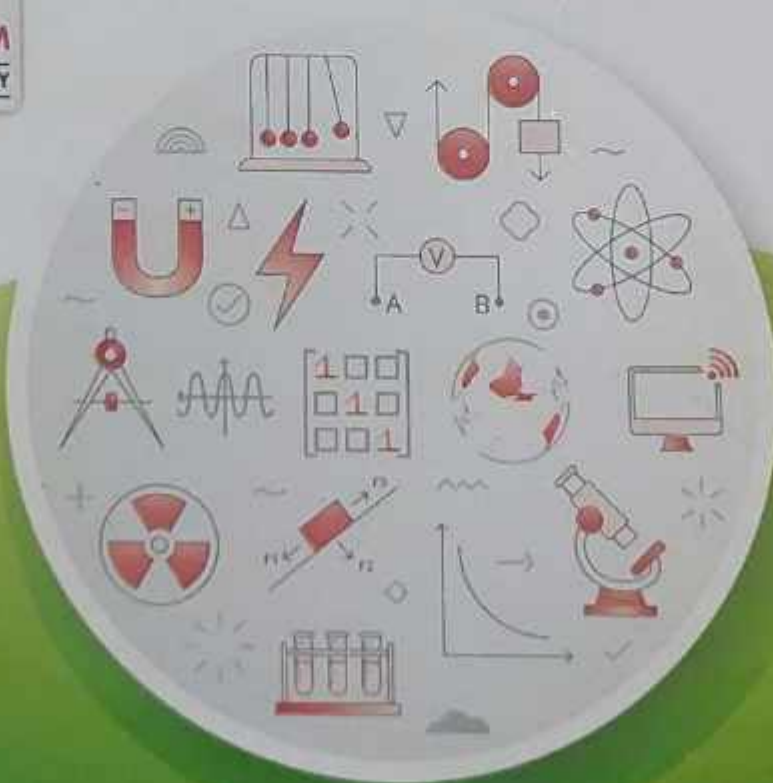
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By

**Dr. Harjinder Singh**

*M.Sc., NET, Ph.D*

**Asso. Prof., Dep't of Botany  
Meerut College, Meerut (U.P.)**

**Dr. Narendra Kumar Sharma**

*M.Sc., Ph.D, FIAES*

**Head, Dep't of Botany  
Ganpat Sahai (P.G.) College,  
Sultanpur (U.P.)**

**Dr. Nikhil Kumar Dubey**

*M.Sc., Ph.D*

**Asst. Prof., Dep't of Botany  
Shri Vishwanath (P.G.) College,  
Kalan, Sultanpur (U.P.)**

**Dr. Nidhi Singh**

*M.Sc., Ph.D*

**Head, Dep't of Botany  
R.R. (P.G.) College, Amethi (U.P.)**

✓ **Dr. Sanjay Kumar**

*M.Sc., Ph.D*

**Asst. Prof., Dep't of Botany  
Shri Lal Bahadur Shastri College,  
Gonda (U.P.)**

**Dr. Vinay Kumar Singh**

*M.Sc., Ph.D*

**Asso. Prof., Dep't of Botany  
K.S. Saket (P.G.) College, Ayodhya (U.P.)**

**Dr. Arvind Kumar Bajpai**

*M.Sc., Ph.D, B.Ed*

**Asst. Prof., Dep't of Botany  
Dr. Rammanohar Lohia Avadh University,  
Ayodhya (U.P.)**

**Shalini Singh**

*M.Sc., NET*

**Asst. Prof., Dep't of Botany  
KNIPSS, Sultanpur (U.P.)**

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Book Code No. - 2854-01

First Edition - 2023

M.R.P. - ₹ 360.00

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B.Sc. Paper-I

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#### Unit-I: Origin and domestication of cultivated plants

Centers of diversity of plants; origin of crop plants. Domestication and introduction of crop plants. Concepts of sustainable development; cultivation, production and uses of Cereals, legumes, Spices & beverages.

#### Unit-II: Botany of oils, Fibers, timber yielding plants & dyes

Study of the plants with Botanical names, Family, part used and economic uses yielding Edible & essential oils; Sugar, Starch; Fibers; Paper, Furnitures & Masticatories, Rubber, Dyes, Timber, biofuel crops.

#### Unit-III: Commercial production of Flowers, Vegetables and fruits (To be Chosen area wise)

Commercial greenhouse cultivation of rose, Gerbera, Gladiolus, Anthurium/lilium/lily, tomato, bell pepper, cucumber, strawberry & Exotic leafy vegetables using Hydroponics.

#### Unit-IV: IPR & Traditional Knowledge

IPR and WTO (TRIPS, WIPO), Patent Act 1970 and its amendments, TIFAC, NRDC, Rights, Procedure of obtaining patents, Working of patents, Infringement, Copyrights, Trademarks, Geographical Indications, Traditional Knowledge Digital Library, Protection of Traditional Knowledge & Protection of Plant Varieties and Biotech inventions.

#### Unit-V: Ethnobotany

Methodologies of ethnobotanical research: Field work, Literature, Herbaria and Musea and other aspects of ethnobotany. Importance of ethnobotany in Indian systems of medicine (Siddha, Ayurveda and Unani), Role of AYUSH, NMPB, CI-MAP and CARI.

Tribal Knowledge towards disease diagnosis, treatment, medicinal plants, plant conservation and cultivation.

#### Unit-VI: Medicinal aspects

Study of common plants used by tribes (*Aegle marmelos*, *Ficus religiosa*, *Cynodon dactylon*, *Eclipta alba*, *Oxalis*, *Ocimum sanctum* and *Trichopus zeylanicus*) Ethnobotanical aspect of conservation and management of plant resources, Preservation of primeval forests in the form of sacred groves of individual species and Botanical uses depicted in our epics.

Plants in primary health care: common medicinal plants: *Tinospora*, *Acorus*, *Ocimum*, *Turmeric* and *Aloe*. Indian Pharmacopeia, Quality Evaluation of crude drugs & adulteration.

#### Unit-VII: Pharmacognosy

Preparation of drugs for commercial market - Organoleptic evaluation of drugs - Microscopic evaluation of drugs - Physical evaluation of drugs - Active and inert constituents of drugs - Classification of drug plants - individual drugs - drug adulteration. Sources of crude drugs - roots, rhizome, bulb, corm, leaves, stems, flowers, fruits and seeds;

organoleptic study of *Adhatoda vasica*, *Andrographis paniculata*, *Azadirachta indica*, *Coriandrum sativum*, *Datura metel*, *Eclipta alba*, *Embilica officinalis*, *Ocimum sanctum*, *Phyllanthus amarus*, *Ricinus communis*, *Vinca rosea* and *Zingiber officinale*.

#### Unit-VIII: Herbal Preparations & Phytochemistry

Collection of wild herbs - Capsules - compresses - Elixirs - Glycerites - Hydrotherapy or Herbal bath - Herbal oils - Liquid extracts or Tincture - Poultices - Salves - Slippery elm slurry and gruel - Suppositories - Teas. Plant natural products, general detection, extraction and characterization procedures. Glycosides and Flavonoids and therapeutic applications. Anthocyanins and Coumarins and therapeutic applications, Lignans, Terpenes, Volatile oils and Saponins, Carotenoids and Alkaloids Carotenoids and pharmacological activities.

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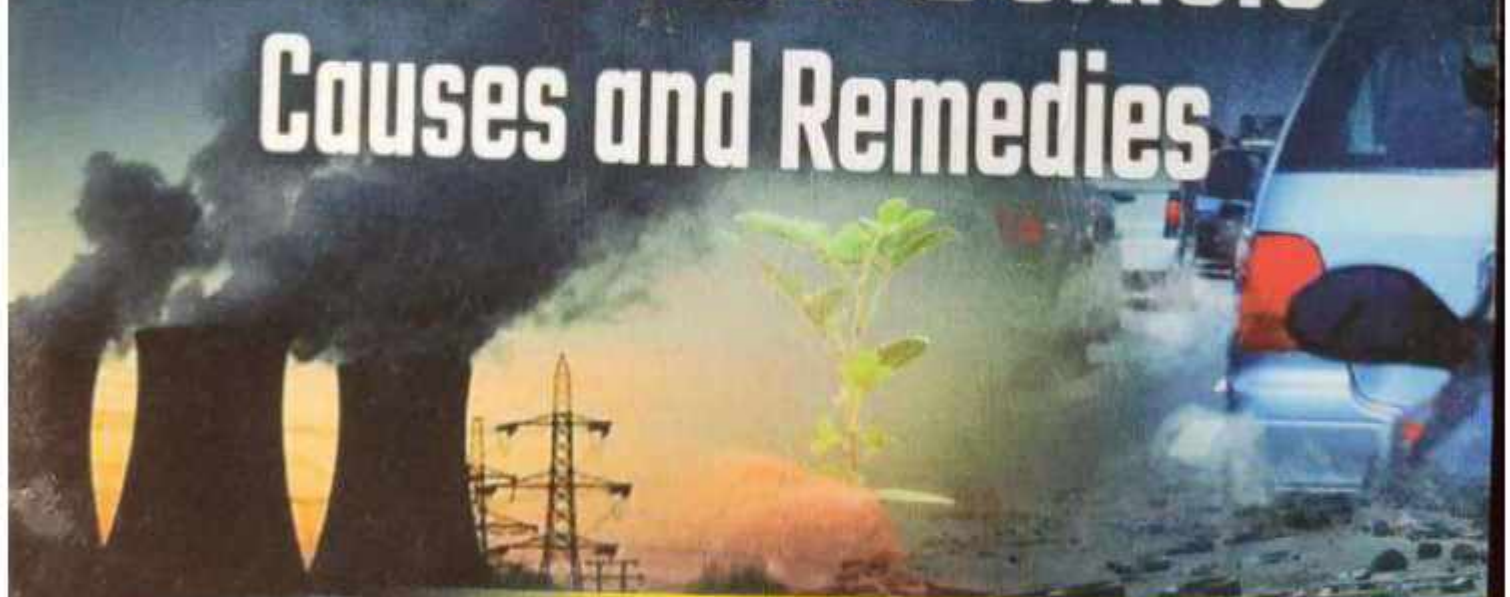
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# **ENVIRONMENTAL CRISIS**

## **Causes and Remedies**



**Dr. Pushyamitra Mishra**



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# Economical Aspects of Environmental Issues

**Dr. Jitendra Bahadur Pal<sup>1</sup>, Akanksha Singh<sup>2</sup>**

<sup>1</sup>Professor, Department of Economics, Shri Lal Bahadur Shastri Degree College, Gonda (U.P.)

<sup>2</sup>Research Scholar, Shri Lal Bahadur Shastri Degree College, Gonda, Affiliated to Dr. R. M. L. Awadh University, Ayodhya (U.P.)

Email: jbpal346@gmail.com

## Introduction

The rising challenges of climate change and exceeding the environmental limits direct to the concentration on environmental degradation. The environment plays an important role in the economy by providing resources like minerals and fossil fuels which hold an economic value as these environmental resources are scarce and finite. The economy and the environment are interdependent on each other but the relationship between the economy and the environment are complex. The environment gives assets to the economy and goes about as a sink for outflows and waste. Natural Resources are fundamental contributions to production in numerous areas, while production and utilization likewise lead to contamination and different pressures on the atmosphere. The environmental problems arise when the overproduction in the economy leads to a certain limit and create ecological imbalance. Poor ecological quality thus influences financial development and prosperity by bringing down the amount and nature of assets or because of well-being influences, and so on. In this unique situation, ecological approaches can check the negative criticisms from the economy on the climate (as well as the other way around). In any case, how powerful they are and



**Dr. Pushyamitra Mishra**

Dr. Pushyamitra Mishra, Ph.D. in Chemistry from The University of Lucknow, Lucknow, is an Assistant Professor and Head, at the Department of Chemistry, Shri Lal Bahadur Shastri Degree College, Gonda, U.P., and holds a myriad of experience of teaching at various places like National PG College, Lucknow, Babasaheb Bhimrao Ambedkar University, Lucknow and several other platforms. He holds a vast knowledge of research and has several research papers, published both in reputed, National as well as International Journals, in his name. Dr. Mishra is an active thinker with a progressive mind bent, and highly adaptive to the contemporary ways and needs of teaching.



**Rachnakar Publishing House**

D-18, Street No. 9, Jagatpuri Extn.

Shahdara, Delhi-110093

Mob. 9910143493

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**A.R. Publishers & Distributors**

(Publishers, Book Sellers & Library Supplier)

4740/23 Ansari Road, Dariyaganj

New Delhi-110002

e-mail : arpublishers@gmail.com

Mob. 6307550933

**Branch Office :**

Lekhewsar Complex, Near Awadh

University, Prayagraj Road,

Ayodhya-224001

Printed by :  
Pooja Offset

**Edition : 2022**  
**Price : ₹ 250.00**

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# MAPPING INDIA

Literature, Culture, History and Politics

*Editor*

**Dr. Raj Kumar Mishra**



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# On Reading Ruskin Bond Unhurriedly

Dr. V.CH.N.K. Srinivasa Rao & Amit Verma

---

Undoubtedly, Ruskin Bond is one of the finest masters of storytelling in Indian English Literature. But what makes him special from others is the way he narrates, the way he takes the readers along with him while reading, to the places, to the experiences he faces and makes readers feel at home with the writer himself. As a story teller, Ruskin Bond excels when it comes to the description of Nature- the trees, the rivers, the animals, the mountains everything, seem fascinating for us along with the author, as it is so with R.K. Narayan with human nature in his characters.

Of late, the writers of this article have gone through one of Ruskin Bond's books, *Unhurried Tales – My Favourite Novellas* and it is no exaggeration to say that they have immediately fallen in love with the book and with the writer.

The book brings us together, for the first time, the author's favourite and finest novellas. They include, *Time Stops at Shamli*, *Bus Stop*, *Pipalnagar*, *The Last Tiger*, *Angry River*, *The Blue Umbrella*, *Night of the Leopard*, *Tales of Fosterganj*, among which *Time Stops at Shamli* was though written in 1956, published only

India as a nation or nation-state has been ever interesting and challenging before creative thinkers because of its unique social, cultural and spiritual interests. This uniqueness is the strength of the country truly. It is really very difficult to cover all the aspects of it in this or that way. It needs especial attention and patience. Unity is interior identity and diversity is exterior. But caution is that both must not be understood in terms of binary oppositions. Both are equally important features of it. The present anthology of critical essays titled *Mapping India: Literature, Culture, History and Politics* is a moderate attempt to explore and evaluate varied realities of India as put forth in different works of creative writers either born and brought up in India or outside India. These writers imaginatively portray the country in the light of cultural, historical, social, and economic perspectives. The book contains fourteen essays which are critical and exploratory. All these essays are quite readable, lucid and comprehensive.



**Raj Kumar Mishra** is an Assistant Professor of English at Kamla Nehru Institute of Physical & Social Sciences, Sultanpur (Uttar Pradesh). He is a DPhil on the poetry of Nissim Ezekiel from the University of Allahabad, Prayagraj. He has published dozens of critical articles in various reputed national and international journals. Dr.

Mishra's areas of interest include Indian Poetics, Western Literary Criticism and Indian Writing in English.



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4378/4B, 105, J.M.D.House, Murari Lal Street,  
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**Evaluation of Efficient Bio-Agents and Fungicides  
against Alternaria Blight of Linseed  
(*Linum usitatissimum*. L.)**

**Smita Singh<sup>1</sup>, Virendra Pratap Singh<sup>2</sup>, R. K. Lal<sup>3</sup> and  
Rajiv Ranjan<sup>4</sup>**

<sup>1</sup>Assistant Professor, Department of Agriculture, Shri Lal Bahadur  
Shastri Degree College Gonda, Email- [cimap.smita@gmail.com](mailto:cimap.smita@gmail.com)

<sup>2</sup>Executive Registration, Department of Plant Pathology, ADAMA India  
Pvt. Ltd., Hyderabad, Email- [virusingh1377@gmail.com](mailto:virusingh1377@gmail.com)

<sup>3</sup>Emeritus Scientist (Ex-Chief Scientist), Department of Genetics and  
Plant Breeding, CSIR-CIMAP, Lucknow, Email- [rk.lal@cimap.res.in](mailto:rk.lal@cimap.res.in)

<sup>4</sup>Assistant Professor, Department of Botany, M.L.K. (PG) College  
Balrampur,

Email- [ranjanrajiv1001@gmail.com](mailto:ranjanrajiv1001@gmail.com)

## **Introduction**

Linseed (*Linum usitatissimum* L.) ( $2n = 30$ ) belong to the family "Linaceae" and genus "*Linum*" is widely cultivated in North India during Rabi season and is the only species in the family, which is of high economic importance. Flax fibre is stronger than cotton fibre but it is less elastic. Flax is cultivated for its nutritional importance and it is grown as an ornamental plant. Linseed is an important oilseed and fibre crop grown for its seed as well as fibre which is used for the manufacture of linen. The oil is edible and also used for the preparation of paints, varnishes, printing ink, oil, cloth, soap, patent leather, and waterproof fabrics. About 20% of the total oil produced is used in domestic purpose and about 80% of the linseed oil is used for the production of paints, varnish, linoleum, oil cloth, pad ink etc (Kerkhi *et al.*, 1999). Linseed has medicinal value due to presence of Omega-3 essential fatty acid because fatty acids are helpful in controlling cholesterol and high blood pressure. It is the best herbal source of omega-3 and omega-6 fatty acids which improves human nervous system and diabetic nephropetic disease and also useful in reducing sexual problem in women (Hurteau, 2004). Diets rich in dietary fibre may help to reduce the risk of heart disease, diabetes, cancer, obesity and inflammation (Morris, 2003). India ranks third in linseed production area after Canada and Kazakhstan. As far as productivity is concerned, National average



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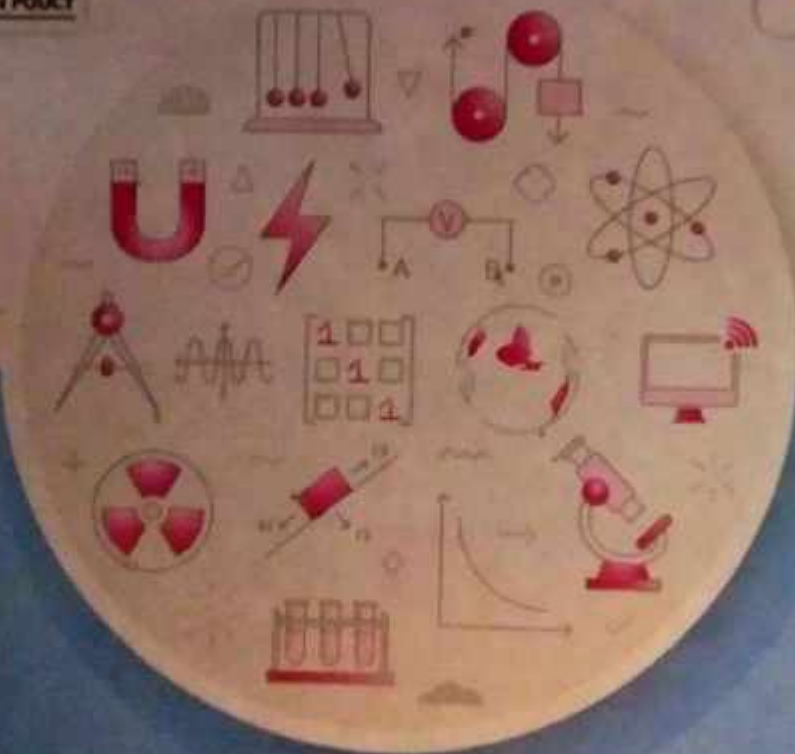
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NET, JRF, GATE, SLET*

Prof., Dep't. of Physics  
Meerut College, Meerut (U.P.)

**Dr. Jitendra Singh**

*M.Sc., Ph.D.*

Head, Dep't. of Physics  
S.L.B.S. Degree College, Gonda (U.P.)

**Dr. Sameer Sinha**

*M.Sc., Ph.D.*

Asso. Prof. & Head, Dep't. of Physics  
Ganpat Sahai (P.G.) College,  
Sultanpur (U.P.)

**Dr. Rajeev Kumar Srivastava**

*M.Sc., Ph.D.*

Prof., Dep't. of Physics  
Ganpat Sahai (P.G.) College,  
Sultanpur (U.P.)

**Dr. S. P. Singh**

*M.Sc., Ph.D.*

Asso. Prof., Dep't. of Physics  
Kamla Nehru Institute of Physical  
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*M.Sc., Ph.D.*

Head, Dep't. of Physics  
K.S. Saket (P.G.) College, Ayodhya (U.P.)

**Dr. Arvind Kumar Singh**

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ISBN. - 978-93-94511-91-0

Book Code No. - 2507-01

First Edition - 2023

M.R.P. - ₹ 140.00

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Published by : Sugam Rastogi & Kanupriya Rastogi  
for KRISHNA Prakashan Media Pvt. Ltd.  
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Ph.: 91.121.2644766, 2642946, 4026111, 4026112  
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Designed by : Krishna Graphic Arts, Meerut (Planet, S.A.J.)

Printed at : Shiv Offset Printers, Meerut



# National Education Policy 2020

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Editor

**DR. AKHILESH PATEL**



# **National Education Policy 2020**

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**Dr. Akhilesh Patel**

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**Title : National Education Policy 2020  
A Roadmap for Quality Education**

**Editor : Dr. Akhilesh Patel**

**First Published, 2022**

**ISBN : 978-93-93108-07-4**

**Price : ₹450**

**Published by:**

**Vidyapeeth Prakashan**  
40 Jaihind Cottage, Sahaaji Raje Marg,  
Vileparle East, Mumbai-400057

**Print By :**

**Rachnakar Publishing House**  
Mob. 9910143493

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# Study on Transformation of Higher Education System in India: NEP 2020

**Dr. Jitendra Singh**

Department of Physics, Sri. Lal Bahadur Shastri Degree College,  
Gonda, Uttar Pradesh, India

## **Abstract**

*This paper is devoted to the study on transformation of Higher Education System in India: National Education Policy 2020 (Outlook of Present Scenario and Future). In this paper we have analysis to understanding the system and constitution of higher education in India, review of the transformation of higher education is based on the All-India Survey of Higher Education (AISHE) and analyzing the National Education Policy 2020 with a vision for the future in Indian Higher Education. In this continuation we have analysis Identifying the Strengths, Weaknesses, Opportunities, and Threats (SWOT) of higher education in India. There is an urgent need to look at finance, access and equity. To promote higher education in India, it is necessary to use a strategic approach to address various challenges.*

**Keywords:** Higher Education in India, Transformation, National Education Policy 2020, SWOT analysis.

## **Introduction**

The development of institutions of higher learning in India has accelerated in the past due to globalization and rapid advances in science and technology. There is an increase in the number of universities, institutions, especially private ones.<sup>[1]</sup> The National University of Education Planning and Management has said



आज़ादी का  
अमृत महोत्सव

# स्वतंत्रता की उत्तर मीमांसा

प्रधान सम्पादक  
प्रो. शैलेन्द्र नाथ मिश्र

सम्पादक  
प्रो. जयशंकर तिवारी

सह सम्पादक  
अच्युत शुक्ला

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**प्रो. शैलेन्द्र नाथ मिश्र**

निदेशक, शोध केन्द्र,

श्री लाल बहादुर शास्त्री डिग्री कॉलेज गोण्डा, उ.प्र.

सम्पादक

**प्रो. जयशंकर तिवारी**

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**अच्युत शुक्ला**

सहायक आचार्य, हिन्दी विभाग,

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गोण्डा, उत्तर प्रदेश

**ISBN** : 978-93-91791-61-2

© : शोध केन्द्र, श्री लाल बहादुर शास्त्री डिग्री कॉलेज  
गोण्डा, उत्तर प्रदेश

**First Edition** : 2023

**Price** : ₹ 395/-

**Published By** : Rachnakar Publishing House  
D-18, Street No. 9, Jagatpuri Extn.  
Shahdara, Delhi-110093  
Mob. 9910143493, 6307550933

**Cover Design By** : Shashikant Singh

**Printed By** : Kaushik Offset Printers

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**Note** – For every article printed in the book, the author of the article concerned will be solely responsible, the editor and publisher of the book will not have any responsibility.

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# आधुनिक कालीन हिन्दी काव्य में स्वातंत्र्य चेतना

अव्युत शुकला

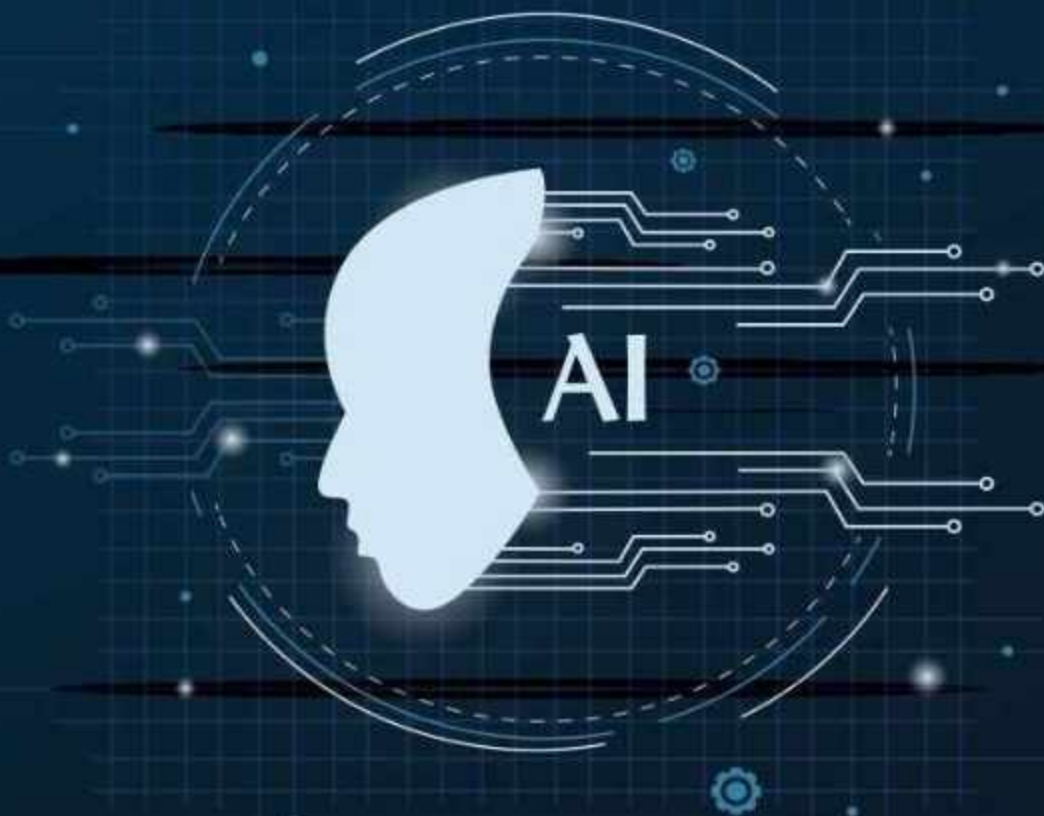
सहायक आचार्य, हिन्दी विभाग, श्री लाल बहादुर शास्त्री डिग्री कॉलेज, गण्डा

सम्पूर्ण भारतवर्ष एवं हिन्दी साहित्याकाश में चाहे कितना ही पराधीनता रूपी सघन औंधियारा क्यों न व्याप्त हो, साहित्यकारों की लेखनी की लौ में प्रस्फुटित प्रकाश से वह तमस, वह कुहासा, वह अन्धकार हमेशा ही छँटा है। मानुषी प्रवृत्ति अनादि काल से स्वतंत्रचेतस रही है, उसे कभी बंधन नहीं सुहाए। उसने हमेशा से ही बंधनमुक्त होना चाहा है, वह पक्षियों की भाँति उन्मुक्त होकर स्वछंद रूप से आकाश में विचरण करने का आकांक्षी रहा है। इसी स्वतंत्रकामी प्रवृत्ति के चलते उसने सदैव परतंत्रता विरोधी शक्तियों पर कुठाराघात किया है। वैविध्यपूर्ण जीवन के विविध आयामों के स्वतंत्रचेतस नवोन्मेषी विचारों को उद्घाटित करने का कार्य अत्यन्त कुशलतापूर्वक विभिन्न साहित्यकारों ने किया है। हिन्दी काव्य परम्परा में आरंभिक युग से ही, यत्किंचित ही सही स्वतंत्रता पर कुछ न कुछ अवश्य ही लिखा जाता रहा है। हालाँकि उस समय स्वतंत्रता की अवधारणा सीमित रही। आदिकाल के सामंती परिवेश में अपने राज्य को स्वाधीन बनाए रखना ही सर्वप्रमुख कार्य होता था। आगे चलकर भक्तिकाल की सगुण रामभक्ति काव्यधारा के प्रतिनिधि कवि, विश्ववंद्य, कविकुल शिरोमणि और हिन्दी जगत के दैदीप्यमान सूर्य जिनकी आभा के आलोक से भक्तिकाल में कंचन की चमक उत्पन्न हुई, ने स्पष्टतः घोषित किया कि—‘पराधीन सपनेहुँ सुख नहीं।’

सत्य विलम्बित हो सकता है, परास्त नहीं। स्वतंत्रता प्राप्ति का मार्ग भले ही लम्बा रहा, परन्तु कभी लीक से बेलीक नहीं हुआ। इस हेतु साहित्यकारों की बड़ी महती भूमिका इस मायने भी रही कि स्वतंत्रता के



# The Ethics of AI: Challenges and Solutions for a Fair Future



**Dr. Sanjay Kumar Pandey**  
**Dr. Ankit Maurya | Abhay Dwivedi**

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Editor : Dr. Sanjay Kumar Pandey, Dr. Ankit Maurya, Abhay Dwivedi  
Publisher : Surya Multidisciplinary Publication  
407, Ramlila Maidan Malviya Nagar Gonda, Uttar  
Pradesh (India)- 271001  
Phone : +91-9415093911  
Email : suryampublication@gmail.com  
Book : The Ethics of AI: Challenges and Solutions for a Fair  
Future  
Edition : 2024  
ISBN : 978-81-972279-5-0  
Price : 499/-  
Printed By : Global Printing Service, Delhi.

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## Artificial Intelligence and it's Application

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**Manish Sharma**

*Assistant Professor, Department of Mathematics, Shri Lal Bahadur Shastri Degree College, Gonda*

**Alok Kumar Mishra**

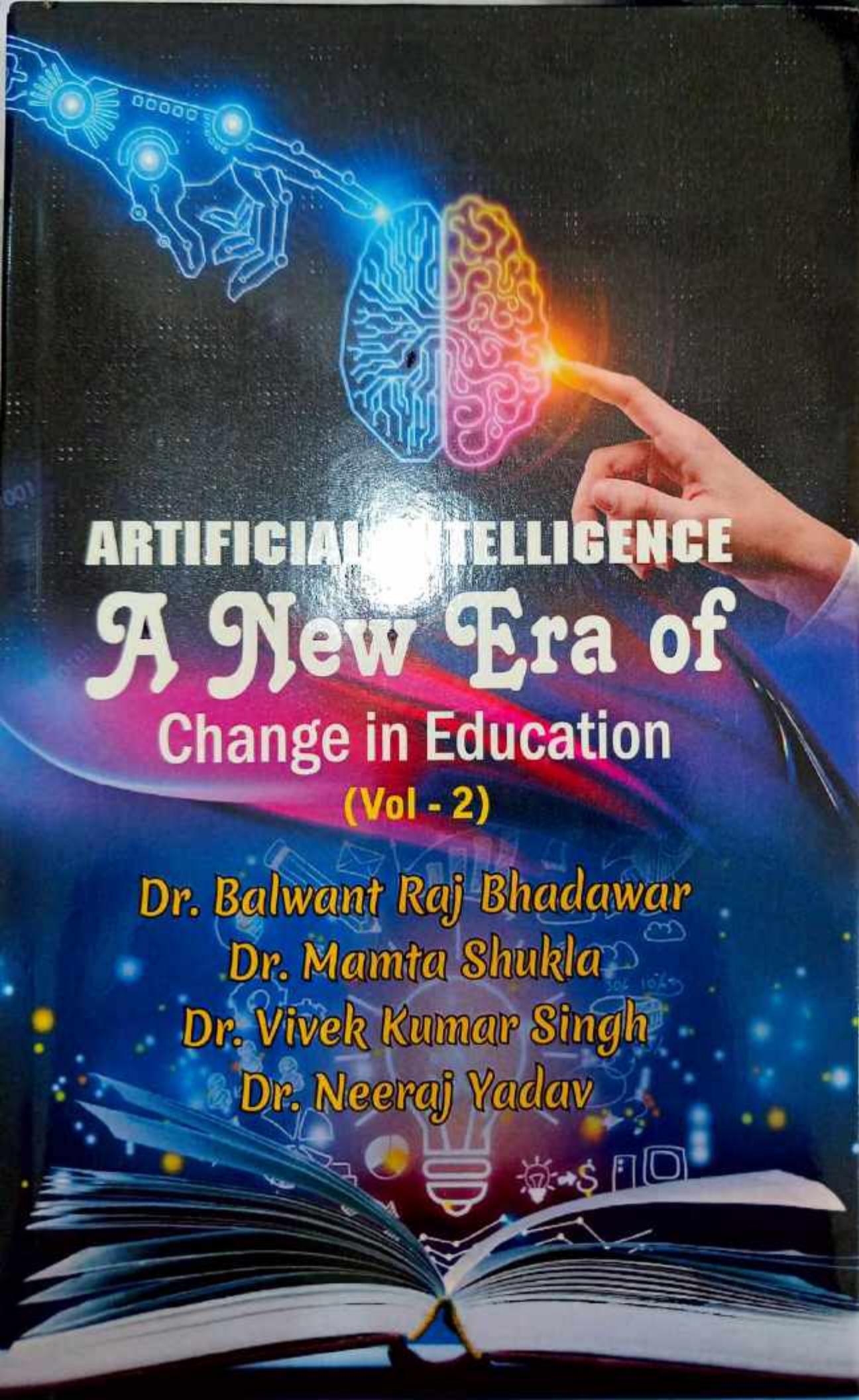
*Department of Mathematics, Shri Lal Bahadur Shastri Degree College, Gonda*

### **Overview:**

Artificial Intelligence (AI) encompasses the science and engineering aimed at creating intelligent machines, particularly through sophisticated computer programs. While it shares common ground with efforts to mimic human intelligence using computers, AI is not restricted to biologically observable methods. Although consensus on its exact definition is lacking, AI generally involves computational studies that enable capabilities such as perception, reasoning, and action. In the contemporary context, the volume of data generated by both humans and machines surpasses our capacity to effectively absorb, interpret, and derive complex decisions from it. AI serves as the cornerstone of computational learning and is poised to revolutionize intricate decision-making processes in the future. This article explores various aspects of AI, including its introduction, definitions, historical development, applications, growth trajectory, and notable achievements.

### **Introduction:**

Artificial Intelligence (AI), commonly abbreviated as AI, denotes the branch of computer science focused on developing



**ARTIFICIAL INTELLIGENCE**  
**A New Era of**  
**Change in Education**  
**(Vol - 2)**

**Dr. Balwant Raj Bhadawar**

**Dr. Mamta Shukla**

**Dr. Vivek Kumar Singh**

**Dr. Neeraj Yadav**

**ISBN : 978-93-91791-73-5**

**© : Editor**

**First Edition : 2023**

**Price : ₹ 595/-**

**Published By : Rachnakar Publishing House**  
D-18, Street No. -9, Jagatpuri Extn.  
Shahdara, Delhi-110093  
Mob. 99101343493

**Email : rachnakarpublishinghouse@gmail.com**

**Cover Design By : Shashikant Singh**

**Printed By : Kaushik of fset Printers**

**Composed By : Rajive Kumar Verma**

**Note – For every article printed in the book, the author of the article concerned will be solely responsible, the editor and publisher of the book will not have any responsibility.**

**Artificial Intelligence A New Era of Education Change in Education (Volume - 02)**

By Dr. Balwant Raj Bhadawar, Dr. Mamta Shukla  
Dr. Vivek Kumar Singh & Dr. Neeraj Yadav

**Artificial Intelligence  
A New Era of  
Change in Education**

**(Volume - 02 )**

Editor

**Dr. Balwant Raj Bhadawar**

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**Rachnakar Publishing House**

**Delhi**

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डॉ. मोहम्मद कुमाय चंद नागो  
डॉ. अशिता अलवर

**ISBN** : 978-93-91791-56-8

**©** : Editor

**First Edition** : 2023

**Price** : ₹ 495/-

**Published By** : Rachnakar Publishing House  
D-18, Street No. -9, Jagatpuri Extn.  
Shahdara, Delhi-110093  
Mob. 99101343493

**Cover Design By** : Shashikant Singh

**Printed By** : Kaushik Offset Printers

**Composed By** : Rajive Kumar Verma

**Note** – For every article printed in the book, the author of the article concerned will be solely responsible, the editor and publisher of the book will not have any responsibility.

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डॉ. शैलेश कुमार

### जीवन परिचय एवं कार्य

सन् 1916 में डॉ. भीमराव अम्बेडकर ने कोलम्बिया विश्वविद्यालय में प्रोफेसर गोल्डन विजर द्वारा आयोजित मानव शास्त्र की गोष्ठी में अपना शोध-पत्र पढ़ा जिसका शीर्षक था- 'भारत में जातियाँ-उनके क्रियाकलाप और संरचना का विकास'। इसके बाद उन्होंने सन 1920 में मराठी भाषा में प्रकाशित साप्ताहिक पत्रिका 'मूकनायक' का प्रकाशन आरम्भ किया। डॉ. भीमराव अम्बेडकर ने सन 1922 में अपना प्रसिद्ध शोध-पत्र 'रूपये की समस्या उत्पत्ति और हल' अपना डॉ.एससी. की उपाधि के लिए प्रस्तुत किया।

डॉ. भीमराव अम्बेडकर ने 1927 में बम्बई से मराठी में 'बहिष्कृत भारत' नामक साप्ताहिक समाचार पत्र का प्रकाशन आरम्भ किया। मार्च, 1929 में अम्बेडकर ने 'समता' समाचार पत्र का प्रकाशन प्रारम्भ किया। इसके बाद सन 1935 में अम्बेडकर ने 'जात-पात तोड़क मण्डल' लाहौर वार्षिक अधिवेशन में 'एनिहिलेशन ऑफ कास्ट' नामक लेख पढ़ा। सन 1940 में बाम्बे की ठक्कर एण्ड कंपनी ने अम्बेडकर द्वारा लिखित 'थॉट ऑन पाकिस्तान' नामक पुस्तक का प्रकाशन किया। वर्ष 1944 में अम्बेडकर द्वारा लिखित 'सिडयूल्ड कास्ट्स आस्क फार फ्यूचर सेफगार्ड, सेपरेट इलेक्ट्रेट्स एण्ड रिजरवेशन इन पब्लिक सर्विस फेडरेशन कमेटी आन फण्डामेंटल राइट' लेख 'द मेल' में प्रकाशित हुआ और नेशनलिज्म इन इण्डिया रिवोल्यूशन एण्ड काउन्टर रिवोल्यूशन नामक लेख सितम्बर 25, 1944 को 'द लिबरेशन' मद्रास से प्रकाशित हुआ।

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...to all these works, he is also playing various roles in the college like Program Officer in National Assessment and Accreditation Council (NAAC), Member of Proctorial Board, Member of Research and Development Committee, Member of IQAC, Member of Grievance Redressal Committee, Member of Sessional Work Committee, etc. His excellent academic credentials and volatile teaching style, his being vocal and teaching-passionate made him a popular YouTube channel where nearly 5000 subscribers get benefited from his deliberation.



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Connaught Place, New Delhi-110093

Phone: 9910143493

₹495/-

ISBN: 978-93-91791-56-8



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D-18, Street No.9, Jagatpuri Extn.

Shahdara, Delhi-110093

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2023



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***with ISBN 978-93-91791-56-8***

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