



**Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science,  
Yashvant Keshav Patil College of Commerce,  
Vidhya Dayanand Patil College of Arts,  
VIVA College**

(Affiliated to University of Mumbai) NAAC ACCREDITED WITH "B" GRADE (CGPA 2.69)

Shri Hitendra V. Thakur  
President

Ms. Aparna P. Thakur  
Secretary

Dr. V.S. Adigal  
Principal

Ref. No. : VC/P/188/23-24

Date : 17 Feb 2024

I, the undersigned, would like to certify and endorse that pages numbered 1 to 130 of Criterion III Pointer No. 3.3.2 (Number of Books and Chapters in edited volumes/books published and papers in the national / International conference proceedings year wise during last five years) are true to my knowledge.



*(Signature)*

Principal  
Principal

Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/  
international conference proceedings per teacher during last five year**

**Index**

Sr. No	Content
1	<a href="#">Books and chapters in edited volumes</a>
2	<a href="#">Papers published in national/ international conference proceedings per teacher</a>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/  
international conference proceedings per teacher during last five year**

**INDEX**

**Bookmark Links**

<u><a href="#">Books/Chapters 2022-23</a></u>		
SR. No	Name of the teacher	Title of the book/chapters published
1	Dr.Zeba siddiqui	<u><a href="#">Environment culture and Ecofeminism in selected Indian Womens Novels</a></u>
2	Dr. Arti Sudeep Dubey	<u><a href="#">Adulterant Analysis in Food and Food Products</a></u>
3	Mrs.Jagruti Sanket Raut	<u><a href="#">Fundamentals of Database Management Systems</a></u>
4	Ms. Harshavardhini Arvind Borwankar Mansi Mahendra Gawand	<u><a href="#">ENTREPRENEURSHIP AND SMALL SCALE INDUSTRIES</a></u>
5	Dr. Gauri Gaurav Vartak	<u><a href="#">Digital Logic Application</a></u>
6	Dr. Gauri Gaurav Vartak	<u><a href="#">Fundamentals of Microprocessor and Microcontrollers</a></u>
7	Dr. Gauri Gaurav Vartak Dr Priyanka Roshan Brid	<u><a href="#">IoT Technologies</a></u>
8	Dr. Gauri Gaurav Vartak Dr Priyanka Roshan Brid	<u><a href="#">Research Methodology</a></u>
9	Dorin Benhur Dsilva Dr. Sampada & Dr. Brijesh	<u><a href="#">Green Technologies</a></u>
10	Archana Ramchandra Patil	<u><a href="#">Study on Digital Payments Era in India</a></u>
11	Dr. Vidya Piyush Verma	<u><a href="#">INTRODUCTION TO POETRY</a></u>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Books/Chapters 2021-22

1	Snehal Sitaram Patil Dr.vidya verma Archana Joshi	<a href="#">Introduction to Prose and Fiction "Optional English" for FYBA SEM I</a>
2	Dr. Sameer Mapari	<a href="#">Mass Spectrometry of Food Pigments</a>
3	Dr. Archana Joshi Snehal Sitaram Patil Dr. Vidya Verma Avinash Pawar	<a href="#">Introduction to Prose and Fiction</a>
4	Dr. Ajitkumar Ingle Dr. Sheetal Powar	<a href="#">Science of Environment</a>
5	Dr. Hemangi Raut	<a href="#">Vacuum techniques useful for thin film</a>
6	Nessie Colaco Prof. Sampada B. Deshmukh Dorin Rebello	<a href="#">Open Source Technologies</a>
7	Binita Thakkar	<a href="#">Computer Graphics and Animations</a>
8	Kshitija Abhish Palav (Mane)	<a href="#">Computer Graphics and Animations</a>
9	Dr. Gauri Vartak	<a href="#">Digital System &amp; Architecture</a>
10	Ms. Harshavardhini Arvind Borwankar	<a href="#">स्थूल अर्थशास्त्र -II</a>

Books/Chapters 2020-21

1	Delcy Lopes Jagruti Naukudkar Glorita Pereira	<a href="#">Introduction to Wealth Management</a>
2	Mr. Pratik Bhagwan Jagtap	<a href="#">Chapter 14 - Mycogenic fabrication of nanoparticles and their applications in modern agricultural practices &amp; food industries</a>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

<u>Books/Chapters 2019-20</u>		
1	Dr. Rohan Gavankar Dr. Deepa Verma Nikhil Teli	<a href="#">Microbial Control of Pests and Weeds (Book Title: Natural Remedies for Pest, Disease and Weed Control)</a>
2	Dr. Sheetal Powar	<a href="#">Engineering Chemistry II for First year Engineering Chemistry</a>
3	Dr. Sheetal Powar	<a href="#">F.Y.B.Sc. Sem I, Paper II Concise Graduate Chemistry -II, University Textbook of Chemistry.</a>
4	Sarita Panigrahy	<a href="#">Business Statistic</a>
<u>Books/Chapters 2018-19</u>		
1	Dr. Archana Joshi	<a href="#">F.Y.B.A. English: Introduction to English Literature</a>
2	Dr. Archana Joshi	<a href="#">Business Communication Paper II – University of Mumbai</a>
3	Deepa Dalvi Nazia Shaikh	<a href="#">Commerce VI - Human Resource Management</a>
4	Dr. Deepa Verma, Dr. Rohan Gavankar	<a href="#">High-Performance Liquid Chromatography and High-Performance Thin-Layer Chromatography as Sophisticated Tools in Phytochemical Analysis.</a>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## **Books/Chapters Publication 2022-23**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*

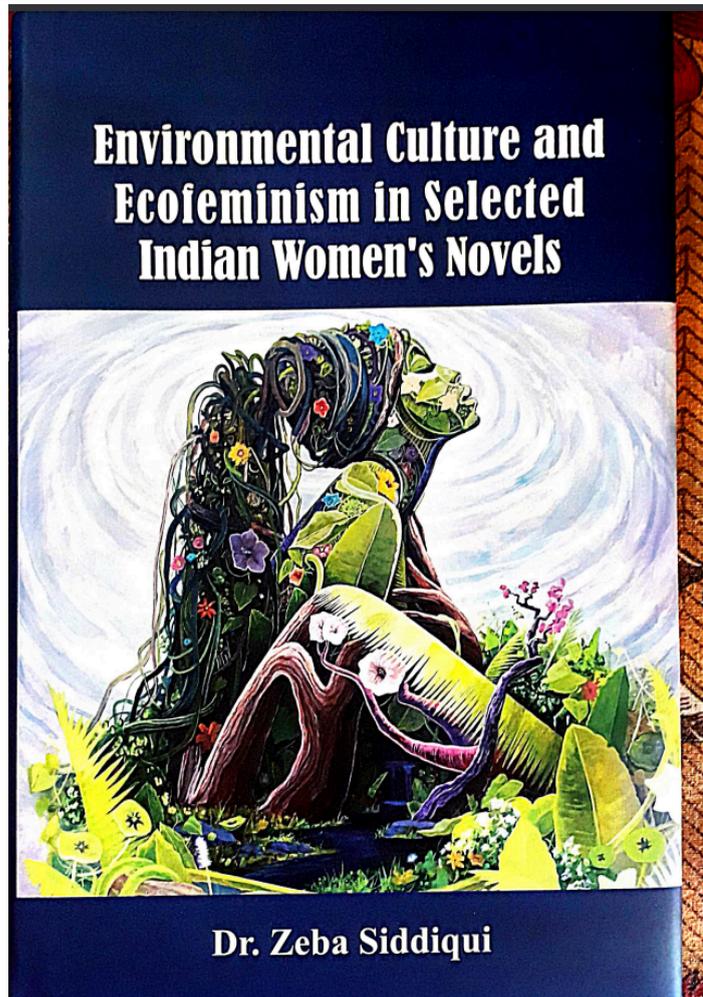
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
1	Dr. Zeba Siddiqui	978-93-94616-22-6	2022-23
Title of the Book/Chapter Published		Environment culture and Ecofeminism in selected Indian Women's Novels	
Name of the Publisher		Educational Publishing House, New Delhi -2	



**Environmental Culture and  
Ecofeminism  
In Selected Indian Women's  
Novels**

**Dr. Zeba Siddiqui**  
Assistant Professor  
Department of  
Film, Television and New Media Production  
New VIVA College, Virar West  
Palghar. (MS) - 401303

**EDUCATIONAL PUBLISHING HOUSE, NEW DELHI-2**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Contents

Acknowledgement	i-iii
Foreword	iv-vi
Introduction	vii-viii
1- Environmental Culture and Ecofeminism- An Introduction	1-25
2- Understanding Gender Roles in 'Nectar in a Sieve' of Kamala Markandaya and 'Fire on the Mountain' of Anita Desai	26-78
3- Exploitation of Nature and Role of Women in 'The God of Small Things' of Arundhati Roy and 'A River Sutra' of Gita Mehta	79-133
4- Postcolonial Examination of Ecological Deterioration and Preservation of Nature as Reflected in 'The Madwoman of Jogare' of Sohaila Abdulali and 'An Atlas of Impossible Longing' of Anuradha Roy	134-190
5- Conclusion	191-201
Bibliography	202-207
Index	208-215





**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
2	Dr. Arti Sudeep Dubey	978-93-89817-83-6	2022-23
<b>Title of the Book/Chapter Published</b>		Adulterant Analysis in Food and Food Products	
<b>Name of the Publisher</b>		Ideal International E – Publication Pvt. Ltd.	

**Adulterant Analysis in Food and Food Products**  
**2023**

**Authors**

**Dr. Dipak Sharma**  
Professor and Head,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

**Dr. Lal Kumar Chandel**  
Assistant Professor,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

**Prof. Deepika Choudhari**  
Assistant Professor,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

**Prof. Deepanshu Pandey**  
Assistant Professor,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

**Prof. Seema Shintre**  
Assistant Professor,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

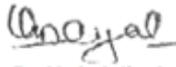
**Dr. Mukesh Gupta**  
Assistant Professor,  
Department of Chemical Sciences,  
Maharaja Ranjit Singh College of Professional Sciences, Indore, MP, India

**Dr. Arti Dubey**  
Assistant Professor,  
Department of Chemistry,  
Bhaskar Waman Thakur College of Arts, Commerce & Science,  
Virar (W), Maharashtra, India

**I**deal  **International E-Publication**  
Pvt. Ltd.

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



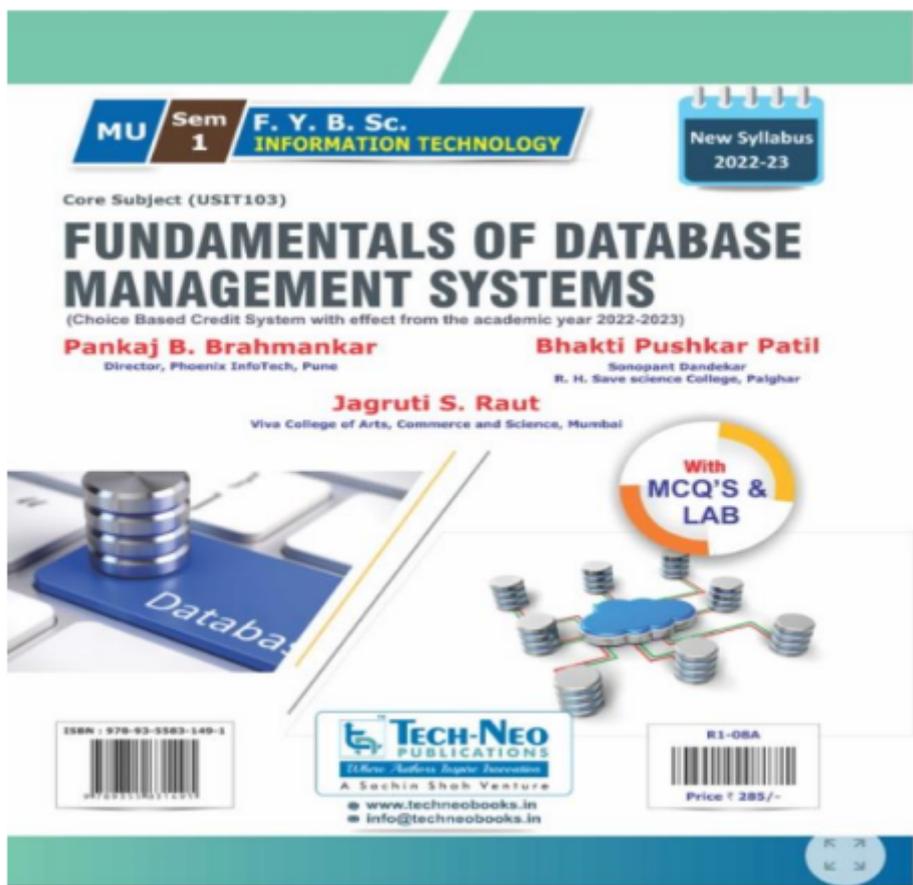
  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



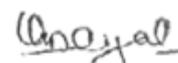
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
3	Mrs.Jagruati Sanket Raut	978-93-5583-1049-1	2022-23
<b>Title of the Book/ Chapter Published</b>		Fundamentals of Database Management Systems	
<b>Name of the Publisher</b>		Tech-Neo Publications LLP	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**



14/09/2022

**TO WHOMSOEVER IT MAY CONCERN**

We, at Tech-Neo Publications LLP, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students.

It is our pleasure that Prof. Jagruti Raut is one of our Author/Co-author. She is having more than 3 years experience of writing technical books in the field of Computer for various national universities. We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author of following book:

Book Code	Book Name	University	ISBN No	Year
R1-08A	Fundamentals of Database Management Systems	University of Mumbai	978-93-5583-1049-1	2022-23

FOR Tech-Neo Publications LLP

Authorised Signatory

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
4	Ms. Harshavardhini Arvind Borwankar Mansi Mahendra Gawand	978-93-95130-44-8	2022-23
<b>Title of the Book/Chapter Published</b>		ENTREPRENEURSHIP AND SMALL-SCALE INDUSTRIES	
<b>Name of the Publisher</b>		Idol International E – Publication Pvt. Ltd.	

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)



तृतीय वर्ष कला  
सत्र -V (CBCS)

अर्थशास्त्र अभ्यासपत्रिका क्र. - X  
संयोजकता आणि लघु उद्योग

विषय कोड: ECOESSIC504

© UNIVERSITY OF MUMBAI

Prof. Subhas Pednekar

Vice Chancellor

University of Mumbai, Mumbai.

Prof. Ravindra D. Kulkarni  
Pro Vice-Chancellor,  
University of Mumbai.

Prof. Prakash Mahanwar  
Director  
IDOL, University of Mumbai.

Program Co-ordinator : Ms. Rajashree Pandit  
Assistant Professor of Economics,  
Incharge Head Faculty of Commerce,  
IDOL, University of Mumbai, Mumbai.

Course Co-ordinator & Editor : Dr. Pratiksha Narayan Tikkar  
Assistant Professor of Economics, IDOL,  
University of Mumbai, Mumbai - 400 098.

Course Writers : Dr. Beenu Singh  
B. M. Ruia Girls' College, Krishna Kunj Vachcha Gandhi  
Marg Gamdevi, Mumbai - 400007.

Mr. Swapnil R. Salvi  
Guru Nanak College of Arts, Science and Commerce,  
Mumbai - 400037.

Riddhi Gada  
Vivekanand Education Society's College of Arts, Science and  
Commerce, Chembur.

Ms. Hemali M. Vyas  
M. K. Sanghavi College, Vile Parle (West),  
Mumbai - 400049.

June 2022, Print I

Published by

Director

Institute of Distance and Open Learning, University of Mumbai, Vidyanageri, Mumbai - 400 098.

DTP COMPOSED AND PRINTED BY

Mumbai University Press,  
Vidyanageri, Santacruz (E), Mumbai - 400098.

CONTENTS

Unit No.	Title	Page No
<b>Module 1: Entrepreneurship</b>		
1.	Introduction To Entrepreneur and Entrepreneurship	1-11
2.	Factors and Challenges of Entrepreneurship	12-19
<b>Module 2 : Starting A New Venture</b>		
3.	Project Identification And Registration Of Small Scale Enterprise	20-27
4.	Trends And Challenges Of Small Scale Industries In Export Trade	28-46
<b>Module 3: Small Scale Industries</b>		
5.	Introduction To Small Scale Industries	47-61
6.	Basic Concepts Relates Small Scale Industries	62-75
<b>Module 4: Management And Incentives For Small Scale Industries</b>		
7.	Management For Small Scale Industries	76-89
8.	Management And Incentives For Small Scale Industries	90-105

Online Proof Link

[Economics-Paper-X-Entrepreneurship-and-Small-Scale-Industries-Englsih-Version.pdf \(mu.ac.in\)](https://www.mu.ac.in/Economics-Paper-X-Entrepreneurship-and-Small-Scale-Industries-Englsih-Version.pdf)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



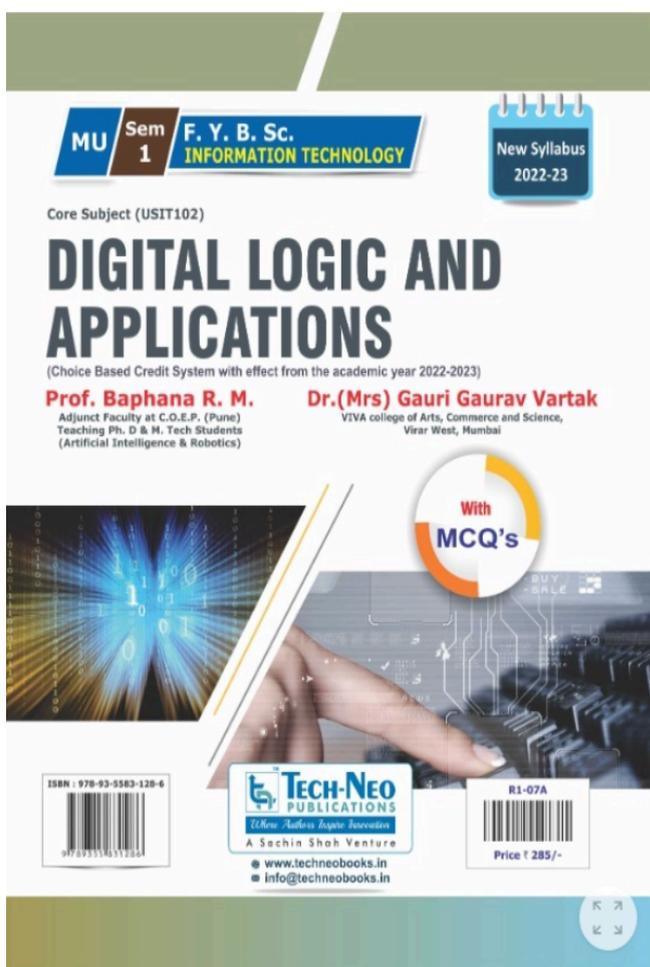
*Anayal*  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



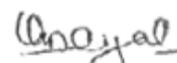
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
5	Dr. Gauri Gaurav Vartak	978-93-5583-128-6	2022-23
<b>Title of the Book/Chapter Published</b>		Digital Logic Application	
<b>Name of the Publisher</b>		Tech-Neo Publications LLP	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Digital Logic and Applications

(Course Code : USIT102)

F. Y. B.Sc. (Information Technology)

Semester I - Mumbai University

Credit Based Semester and Grading System of Mumbai University with effect from the academic year 2022-2023

<p><b>Prof. R. M. Baphana</b> Adjunct Faculty, Government College of Engineering, Pune (C.O.E.P) (Teaching M. Tech &amp; Ph. D students)</p>	<p><b>Dr. ( Mrs) Gauri Gaurav Vartak</b> PhD ( Information Technology), M.Sc.I.T. Asst Professor, Department of Information Technology VIVA college of Arts, Commerce and Science, Virar West, Mumbai</p>
--	---

Where Authors Inspire Innovation

A Sachin Shah Venture

R1-07

**Syllabus...**

<b>B. Sc (Information Technology)</b>		<b>Semester – I</b>	
Course Name: Digital Logic and Applications		Course Code: USIT102	
Periods per week (1 Period is 50 minutes)		5	
Credits		2	
		<b>Hours</b>	<b>Marks</b>
<b>Evaluation System</b>	<b>Theory Examination</b>	2	75
	<b>Internal</b>	--	25

**Course Objectives :**

- To introduce the basics of logic in digital electronics as an entry level course.
- To interpret and assess number systems and the conversions of number systems
- To analyze the boolean expressions and reduce the expression to the minimum.
- To design simple logic circuits using tools such as Boolean Algebra and Karnaugh Mapping
- To understand the state of a memory cell and its types using flip-flops.
- To create simple digital systems using counters, registers etc.

Unit	Details	Lectures
I	<b>Digital Systems and Binary numbers</b> Introduction to Number systems, Positional Number systems, Conversions (converting between bases), Non positional number systems, Unsigned and Signed binary numbers, Binary Codes, Number representation and storage in computer system. <b>Logic gates and Logic Circuits</b> Basic and Universal Gates (Refer Chapter 1)	12
II	<b>Boolean algebra and Gate level minimization</b> Introduction, Postulates of Boolean Algebra, Two Valued Boolean Algebra, Principle of Duality, Basic Theorems of Boolean Algebra, Boolean Functions and their Representation, Gate-Level Minimization (Simplification of Boolean Function), Quine- McCluskey Method, Review questions (Refer Chapter 2)	12
III	<b>Combinational logic</b> Introduction, Analysis and Design Procedure for Combinational Logic Circuits, Types of Combinational Circuit, Review Questions (Refer Chapter 3)	12
IV	<b>Sequential circuits</b> Introduction, Latch, Flip-Flops, Registers, Counters, Review Questions (Refer Chapter 4)	12
V	<b>Applications</b> Bit Arithmetic and Logic unit, Carry lookahead generator, Binary Multiplication and Division algorithm, Booth's multiplication algorithm (Refer Chapter 5)	12

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Certificate

28/02/2023

TO WHOMSOEVER IT MAY CONCERN

We, at Tech-Neo Publications LLP, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students. It is our pleasure that **Dr. Gauri Vartak** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities.

We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following book :

Sr. No.	Book Name	Standard	Year	ISBN Number
1.	Digital Logic and Applications	F.Y. B. Sc. Information Technology	2022-2023	ISBN-978-93-5583-128-6

FOR Tech-Neo Publications LLP

Authorised Signatory  
Mr. Sanket Shah  
(Administration Executive)

**Tech-Neo Publications LLP**  
Sr. No. 38/1, Behind Pari Compound, Khedekar Industrial Estate, Narhe, Pune-411041, Maharashtra State, India.  
info@technoobooks.in www.technoobooks.in

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)

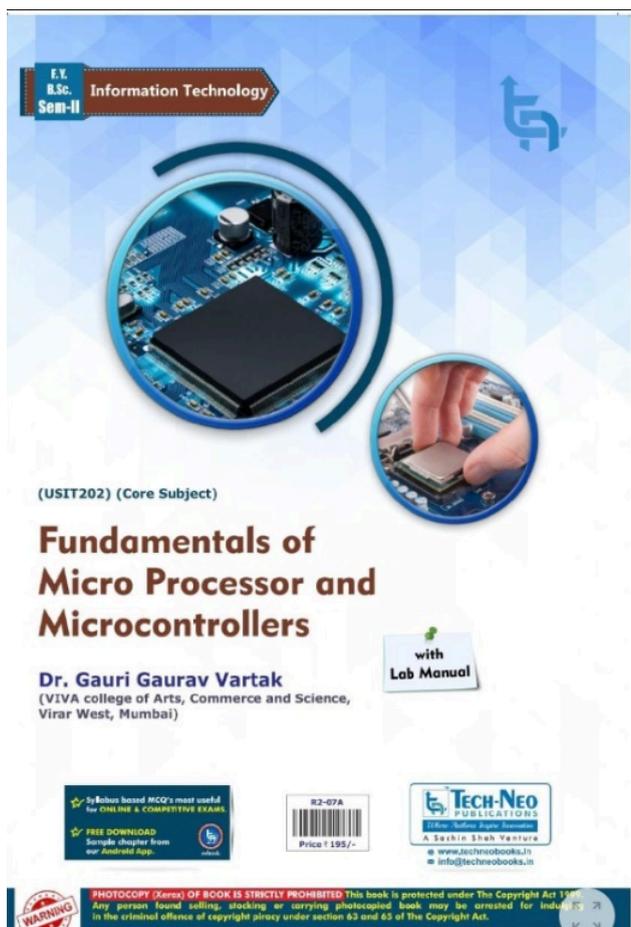


**Dr. V. S. Adigal**  
Principal  
Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
6	Dr. Gauri Gaurav Vartak	978-93-89926-64-4	2022-23
<b>Title of the Book/Chapter Published</b>		Fundamentals of Microprocessor and Microcontrollers	
<b>Name of the Publisher</b>		Tech-Neo Publications LLP	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Fundamentals of  
 Micro Processor and  
 Microcontrollers  
 (USIT202) (Core Subject)**

**F. Y. B.Sc. (Information Technology)**

**Semester II - University of Mumbai**

F.Y.B.Sc. (Information Technology) Syllabus Choice Based  
 Credit System with effect from the academic year 2022-2023

**Dr. Gauri Gaurav Vartak**

*Ph.D (Information Technology), M.Sc.I.T.*  
 Assistant Professor,  
 Department of Information Technology,  
 VIVA college of Arts, Commerce and Science,  
 Virar West, Mumbai

**TECH-NEO  
 PUBLICATIONS**  
*Where Authors Inspire Innovation*  
 A Sachin Shah Venture

R2-07



**Syllabus...**

B. Sc. (Information Technology)		Semester - II	
Course Name : Fundamentals of Micro Processor and Microcontrollers		Course Code : USIT202	
Periods per week (1 Period is 50 minutes)		5	
Credits		2	
Evaluation System	Theory Examination	2	75
	Internal	--	25

**Course Objectives**

- 1) To understand the basic concept of Micro Computer Systems.
- 2) To develop background knowledge in 8085 Microprocessor.
- 3) To write Assembly language Programs of 8085.
- 4) To understand the peripheral devices and interfacing to 8051 Micro Controller and design aspects of Micro Controller.

Unit	Details	Lectures
I	<p><b>Microprocessor, microcomputers, and Assembly Language</b> : Microprocessor, Microprocessor Instruction Set and Computer Languages, From Large Computers to Single-Chip Microcontrollers, Applications.</p> <p><b>Microprocessor Architecture and Microcomputer System</b> : Microprocessor Architecture and its operation's, Memory, I/O Devices, Microcomputer System, Logic Devices and Interfacing, Microprocessor-Based System Application.</p> <p><b>8085 Microprocessor Architecture and Memory Interface</b> : Introduction, 8085 Microprocessor unit, 8085-Based Microcomputer, Memory Interfacing, Interfacing the 8085 Memory Segment.</p> <p align="right">(Refer Chapter 1)</p>	12

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Certificate

28/02/2023

TO WHOMSOEVER IT MAY CONCERN

We, at **Tech-Neo Publications LLP**, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students. It is our pleasure that **Dr. Gauri Vartak** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities.

We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following book :

Sr. No.	Book Name	Standard	Year	ISBN Number
1.	Fundamentals of Microprocessor and Microcontrollers	F.Y. B. Sc. Information Technology	2022-2023	ISBN-978-93-89926-64-4

FOR Tech-Neo Publications LLP

Authorised Signatory  
Mr. Sanket Shah  
(Administration Executive)

**Tech-Neo Publications LLP**  
Bt. No. 38/1, Behind Parli Compound, Khedekar Industrial Estate, Nerhe, Pune-411041, Maharashtra State, India.  
info@technesbooks.in www.technesbooks.in

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



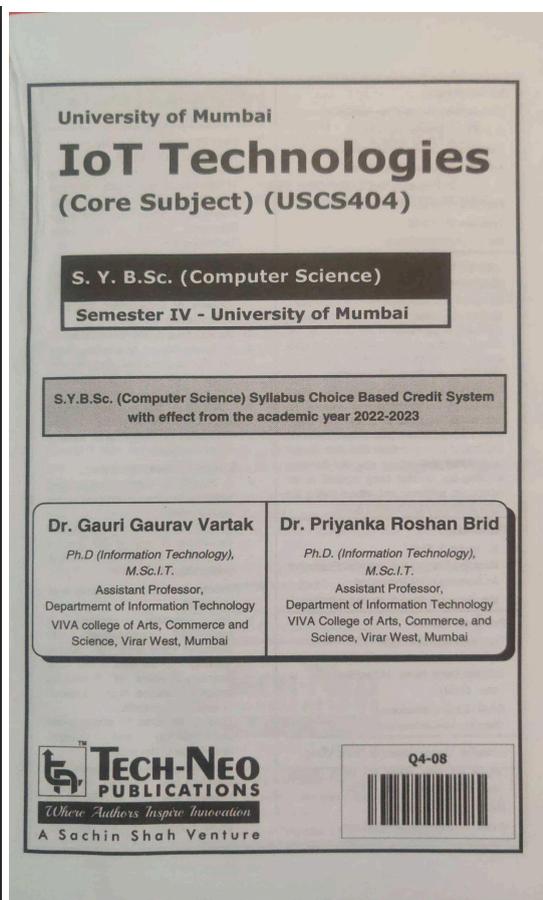
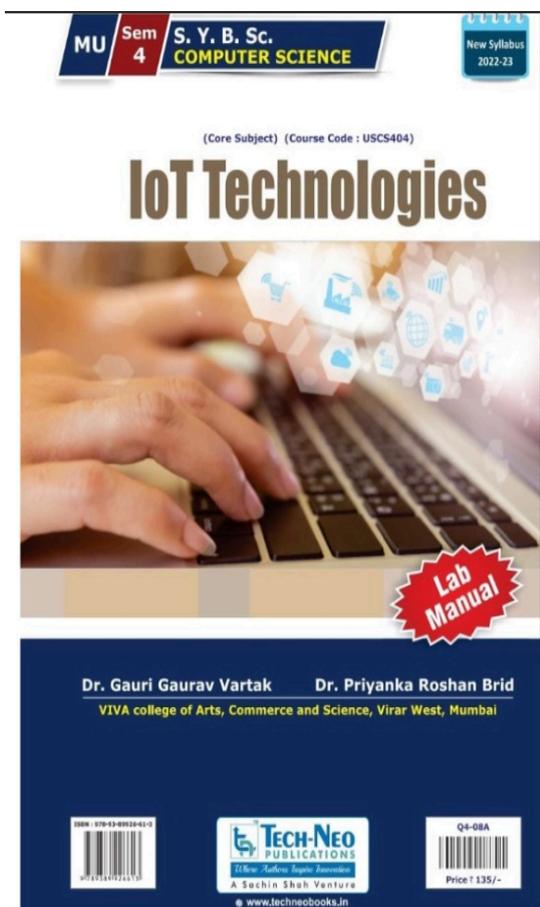
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
7	Dr. Gauri Gaurav Vartak Dr Priyanka Roshan Brid	978-93-899-26-61-3	2022-23
<b>Title of the Book/Chapter Published</b>		IoT Technologies	
<b>Name of the Publisher</b>		Tech-Neo Publications LLP	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Syllabus...**

Course Code	Course Title	Credits	Lectures / Week
USCS404	IoT Technologies	2	3

**About the Course**

The course aims to provide basic understanding of SoC architectures; IoT, different types of IoT platforms and different types of applications that can be built.

**Course Objectives**

- Introduce concepts of SoC and IoT.
- Introduce various types of IoT platforms.
- Interfacing various types of devices using different protocols with IoT.
- Understand practical applications of IoT in real life world.

**Learning Outcomes**

After successful completion of this course, students would be able to

- Understand SoC and IoT.
- Use different types of IoT Platforms and interfaces.
- Understand and implement an idea of various types of applications built using IoT.

Unit	Topics	No. of Lectures
I	<p><b>Fundamentals of IoT</b> : Introduction, Definitions &amp; Characteristics of IoT, IoT Architectures, Physical &amp; Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.</p> <p><b>System on Chip</b> : What is System on chip? Structure of System on Chip. SoC Elements : FPGA, GPU, APU, Compute Units.</p> <p><b>Different types of IoT/SoC Platforms</b> : Introduction to Raspberry Pi, Arduino &amp; NodeMCU, Introduction to SoC-ARM Architecture, atmega328 architecture.</p> <p align="right">(Refer Chapter 1)</p>	15

Unit	Topics	No. of Lectures
II	<p><b>Interfacing with IoT Platforms</b> : Basic hardware components like LED, Button, Camera, 8X8 LED Grid, Motor etc. and interfacing them for input/output with IoT devices using PWM, UART, GPIO, I2C, SPI.</p> <p><b>Using Sensor &amp; Actuators</b> : Overview of Sensors working, Analog and Digital Sensors, Interfacing of Temperature, Humidity, Motion, Light and Gas Sensor, Level Sensors, Ultrasonic sensors, Interfacing of Actuators, Interfacing of Relay Switch and Servo Motor.</p> <p><b>IoT and Protocols IoT Security</b> : HTTP, UPnP, CoAP, MQTT, XMPP, Privacy and Security Issues in IoT.</p> <p align="right">(Refer Chapter 2)</p>	15
III	<p><b>IoT &amp; Web</b> : Web server for IoT, Sending/Receiving data between web server &amp; IoT device, Cloud for IoT, Node RED, M2M vs IoT Communication Protocols, Basics of WSNs, WSN architecture and types.</p> <p><b>IoT Applications</b> : Modern IoT case studies / applications used in the areas of transportation, agriculture, health care etc.</p> <p><b>Edge Computing</b> : Edge computing purpose and definition, Edge computing use cases, Edge computing hardware architectures, Edge platforms, Edge vs Fog Computing, Communication Models - Edge, Fog and M2M.</p> <p align="right">(Refer Chapter 3)</p>	15



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Certificate**

28/02/2023

**TO WHOMSOEVER IT MAY CONCERN**

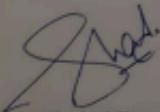
We, at **Tech-Neo Publications LLP**, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students. It is our pleasure that **Dr. Gauri Vartak** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities.

We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following book :

Sr. No.	Book Name	Standard	Year	ISBN Number
1.	IoT Technologies	S.Y. B. Sc. Computer Science	2022-2023	ISBN-978-93-899-26-61-3

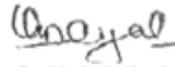
**FOR Tech-Neo Publications LLP**

  
Authorised Signatory  
Mr. Sanket Shah  
(Administration Executive)

**Tech-Neo Publications LLP**  
Sr. No. 38/1, Behind Pari Compound, Khedekar Industrial Estate, Narhe, Pune-411041, Maharashtra State, India.  
info@technobooks.in www.technobooks.in

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
Principal

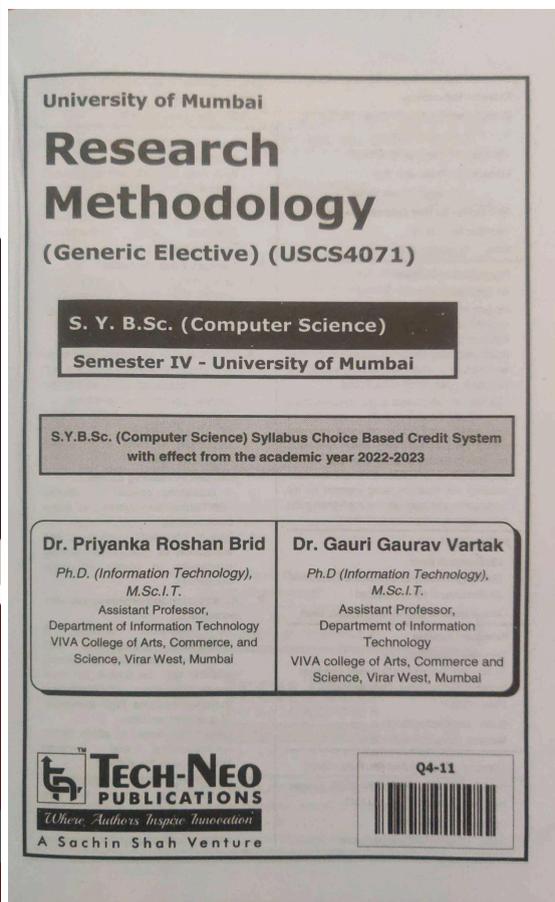
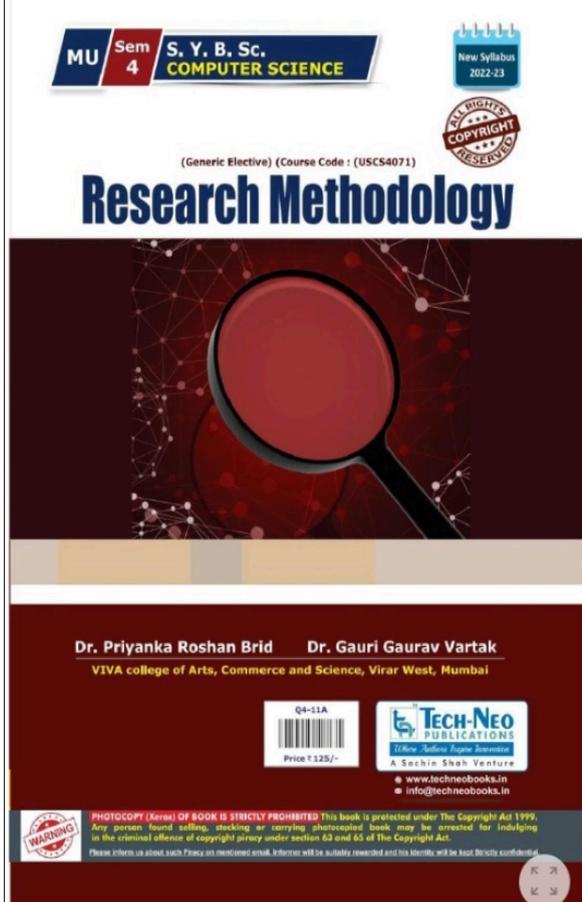
**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
8	Dr. Gauri Gaurav Vartak Dr Priyanka Roshan Brid	978-93-5583-278-8	2022-23
<b>Title of the Book/Chapter Published</b>		Research Methodology	

<b>Name of the Publisher</b>	Tech-Neo Publications LLP
------------------------------	---------------------------



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Syllabus...**

Course Code	Course Title	Credits	Lectures / Week
USCS4071	Research Methodology	2	3

**About the Course**

The course aims to understand the basics research, how research problems are defined, research methods are adopted and/or developed, research is undertaken, and how research results are communicated to the peers.

**Course Objectives**

- The research methodology course is proposed to assist students in planning and carrying out research projects.
- The students are exposed to the principles, procedures and techniques of implementing research project.
- The course starts with an introduction to research and carries through the various methodologies involved.
- It continues with finding out the literature using technology, basic statistics required for research and finally report writing.

**Learning Outcomes**

After successful completion of this course, students would be able to

- Define research, formulate problem and describe the research process and research methods.
- Understand and apply basic research methods including research design, data analysis and interpretation.
- Understand ethical issues in research, write research report, research paper and publish the paper.

Unit	Topics	No. of Lectures
I	<p><b>Introduction to Research Methodology</b> : Meaning of Research, Objectives of Research, Motivations in Research, types of Research, Research Approaches, Significance of Research, Research Methods v/s Methodology, Research and Scientific Methods, Research Process, Criteria of Good Research.</p> <p><b>Defining the Research Problem</b> : Concept and need, Identification of Research problem, defining and delimiting Research problem.</p> <p><b>Formulating a Research Problem</b> : Reviewing Literature, formulating a Research Problem, Research Question, Identifying Variables, Constructing Hypothesis.</p> <p><b>The Research Design</b> : Meaning, Need for Research Design, Important Concepts, Different Research Designs, Basic Principles of Experimental Designs.            (Refer Chapter 1)</p>	15

Unit	Topics	No. of Lectures
II	<p><b>Tools for Data Collection</b> : Collections of Primary Data, Collection of Data through questionnaire and Schedules, other Observation Interview Methods, Collection of Secondary Data, Selection of appropriate method for data collection, Case Study, Focus Group Discussion, Techniques of developing research tools, viz. Questionnaire and rating scales etc. Reliability and validity of Research tools.</p> <p><b>Sampling Design</b> : Steps in Sampling Design, Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs, how to Select a Random Sample. Probability and Non-Probability sampling types and criteria for selection, Developing sampling Frames.</p> <p><b>Overview of Hypothesis Testing</b> : What is a Hypothesis? Characteristics of good Hypothesis. Basic Concepts, Procedure for Hypothesis Testing, Flow Diagram for Hypothesis Testing, Tests of Hypotheses, and One sided and two-sided hypothesis, Type - I and Type - II errors, Null Hypothesis - Alternative Hypothesis.            (Refer Chapter 2)</p>	15
III	<p><b>Technical Writing</b> : Writing a Research Proposal, what is a Scientific Paper? Ethics in Scientific Publishing.</p> <p><b>Preparing the Text</b>: How to Prepare the Title, how to List the Authors and Addresses, how to Prepare the Abstract, how to Write the Introduction, how to Write the Materials and Methods Section, how to Write the Results, how to Write the Discussion, how to State the Acknowledgments, how to Cite the References.</p> <p><b>Preparing the Tables and Figures</b> : How to Design Effective Tables, how to Prepare Effective Graphs, how to Prepare Effective Photographs.</p> <p><b>Publishing the Paper</b> : Rights and Permissions, How to Submit the Manuscript, How and When to Use Abbreviations, How to Write a thesis, Outcome of Research, Ethical issues in research.            (Refer Chapter 3)</p>	15



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Certificate

28/02/2023

TO WHOMSOEVER IT MAY CONCERN

We, at Tech-Neo Publications LLP, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students. It is our pleasure that **Dr. Gauri Vartak** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities.

We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following book :

Sr. No.	Book Name	Standard	Year	ISBN Number
i.	Research Methodology	S.Y. B. Sc. Computer Science	2022-2023	ISBN-978-93-5583-278-8

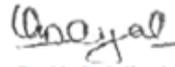
FOR Tech-Neo Publications LLP

  
Authorised Signatory  
Mr. Sanket Shah  
(Administration Executive)

**Tech-Neo Publications LLP**  
Sr. No. 38/1, Behind Parl Compound, Khedekar Industrial Estate, Narhe, Pune-411041, Maharashtra State, India.  
info@technoobooks.in | www.technoobooks.in

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
9	Dorin Benhur Dsilva Dr. Sampada & Dr. Brijesh	978-93-5583-231-3	2022-23
<b>Title of the Book/Chapter Published</b>		Green Technologies	
<b>Name of the Publisher</b>		Tech-Neo Publications LLP	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)

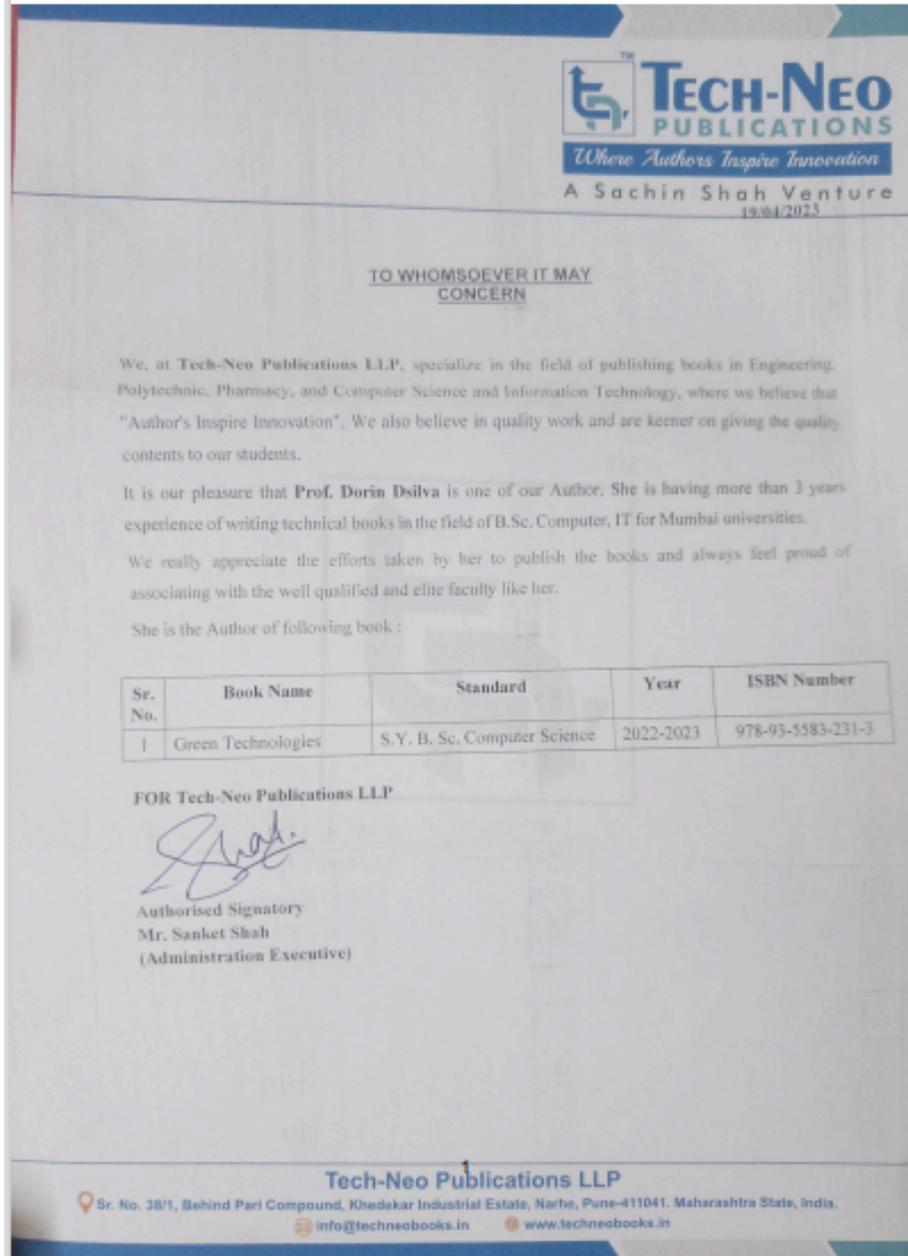


*Anayal*  
**Dr. V. S. Adigal**  
**Principal**  
 Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



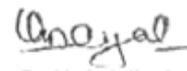
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Certificate**



VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
10	Archana Ramchandra Patil	978-1-387-73422-1	2022-23
<b>Title of the Book/Chapter Published</b>		Study on Digital Payments Era in India	
<b>Name of the Publisher</b>		RED'SHINE PUBLICATION	

[Home](#) / [Archives](#) / [Vol. 1 \(2022\): Contemporary Issues In Business And Economics](#) / [Articles](#)

## STUDY ON DIGITAL PAYMENTS ERA IN INDIA

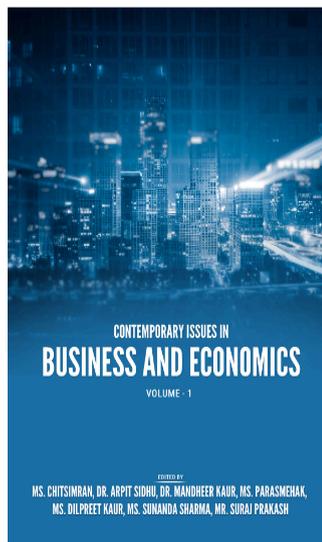
### Archana Patil

Assistant professor, Department of Commerce, VIVA college of Arts, Commerce and Science, Virar, India

DOI: [#10.25215/1387734229.14](#)

### Abstract

Digital payment is one of the latest trends in payment industry. The days are gone when cash used to be the most important thing utilized for exchanges. Banks and financial companies have spread awareness among people about non-cash payment methods. Digital payments are done with the help of technology. There is no wonder that these payment methods gained popularity in technologically advanced countries. It is still in developing form in India. This is because of unfamiliarity and lack of technical knowledge. The research aimed at analyzing present status of digital payments in India. It also tried to study factors which are responsible for the growth of digital payments in India. This research has conducted through primary and secondary sources.



Published  
2022-11-25

How to Cite  
Archana Patil. (2022). STUDY ON DIGITAL PAYMENTS

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)

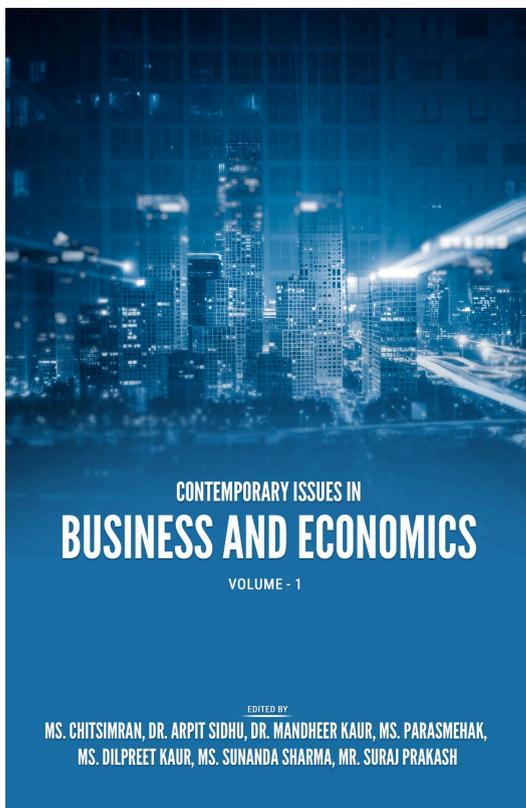


*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**



**POLLUTION CONTROL MULTI-OBJECTIVE INVENTORY MODEL OF PRODUCT-PROCESS INNOVATION WITH STOCK DEPEND DEMAND AND GATHERING KNOWLEDGE ACCUMULATION IN FINITE TIME HORIZON**

Santu Hati, Dr. Kalipada Maity

**CRISIS COMMUNICATION: THEORY AND TACTICS**

Ayushi Saini

**STUDY ON DIGITAL PAYMENTS ERA IN INDIA**

Archana Patil

**FINANCIAL EMPOWERMENT INDEX: AN EMPIRICAL EVALUATION OF WOMEN IN SHGS RAJASTHAN, INDIA**

Dr Aditi Soni, Dr Sanjay Kumar Patel

**INDIAN STOCK EXCHANGES 'NSE' AND 'BSE' DURING RUSSIA-UKRAINE WAR: A CONCEPTUAL FRAMEWORK**

Sheenam, Dr. Arpit Sidhu

**GREEN MARKETING: AN INNOVATIVE METHOD**

Dr. Aditi Sharma

**AN EXTENSIVE ANALYSIS OF HARVEY NORMAN'S OPERATIONS (2013-2014) WITH AN EMPHASIS ON ITS FINANCIAL AND ENVIRONMENTAL PERFORMANCE AND CORPORATE GOVERNANCE PROCEDURES**

Rubel Saha

Online Proof Link

<https://chapters.redshine.in/index.php/redshine/article/view/14>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



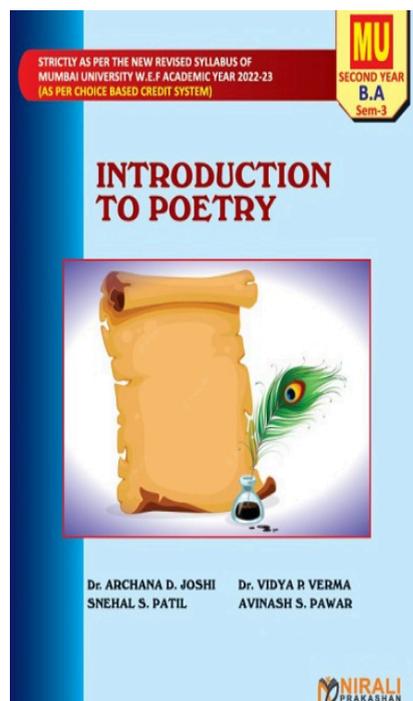
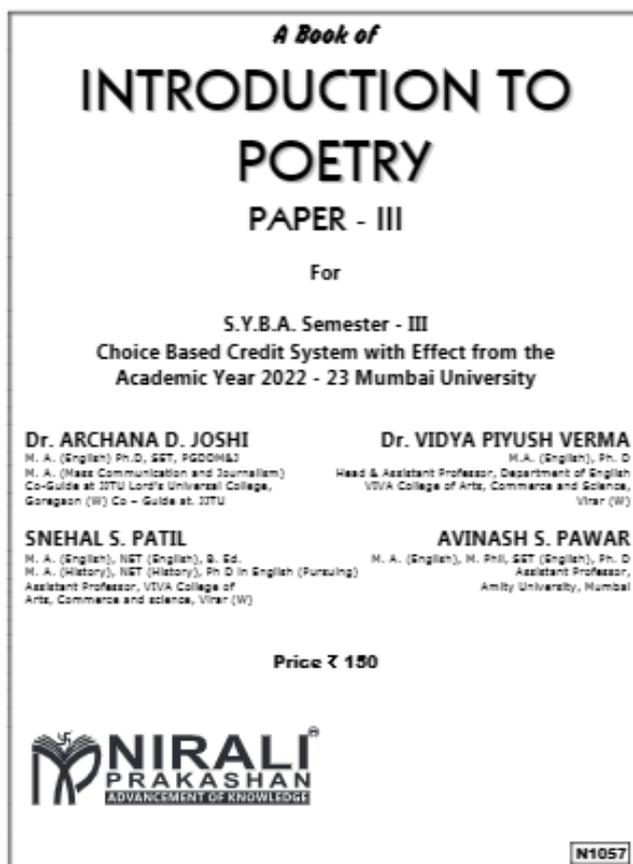
*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name of Faculty	ISBN	Year
11	Dr. Vidya Piyush Verma	9789395951241	2022-23
<b>Title of the Book/Chapter Published</b>		INTRODUCTION TO POETRY	
<b>Name of the Publisher</b>		NIRALI PRAKASHAN	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Contents ...**

<b>1. Elements of Poetry and Types of Verse</b>	<b>1.1 – 1.38</b>
<b>2. Poets and their Poetry</b> (John Milton, Robert Frost, Edmund Spenser, William Shakespeare, Walt Whitman, Ralph Waldo Emerson, W. B. Yeats)	<b>2.1 – 2.32</b>
<b>3. Prose</b> (John Keats, Alfred Lord Tennyson, Rabindranath Tagore, Sarojini Naidu, Wole Soyinka, Pablo Neruda, Nissim Ezekiel)	<b>3.1 – 3.42</b>
<b>4. Model Question Paper</b>	<b>P.1 – P.2</b>

Online Proof Link

[INTRODUCTION TO POETRY – Paper 3 – SYBA Semester 3 – As Per University of Mumbai Syllabus \(2022-23\) | Pragationline.com](#)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## **Books/Chapters Publication 2021-22**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*

**Dr. V. S. Adigal**  
**Principal**

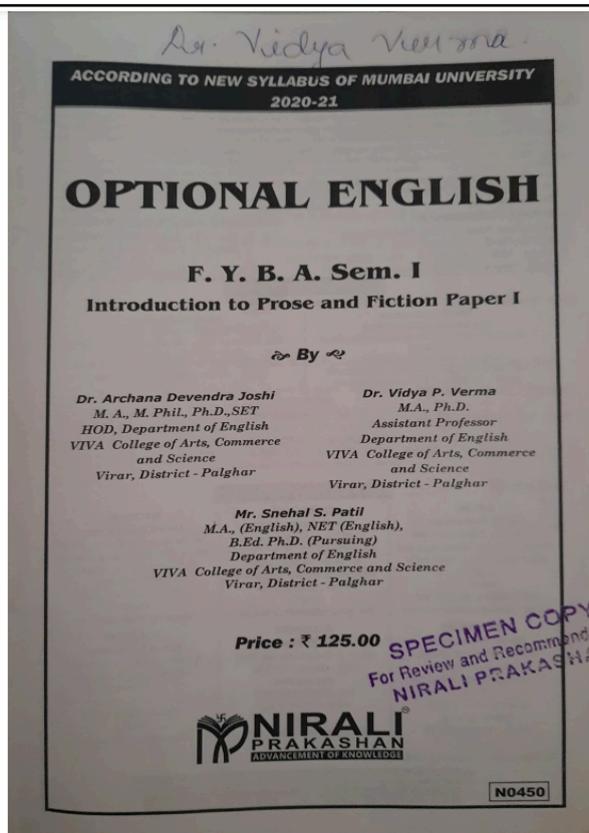
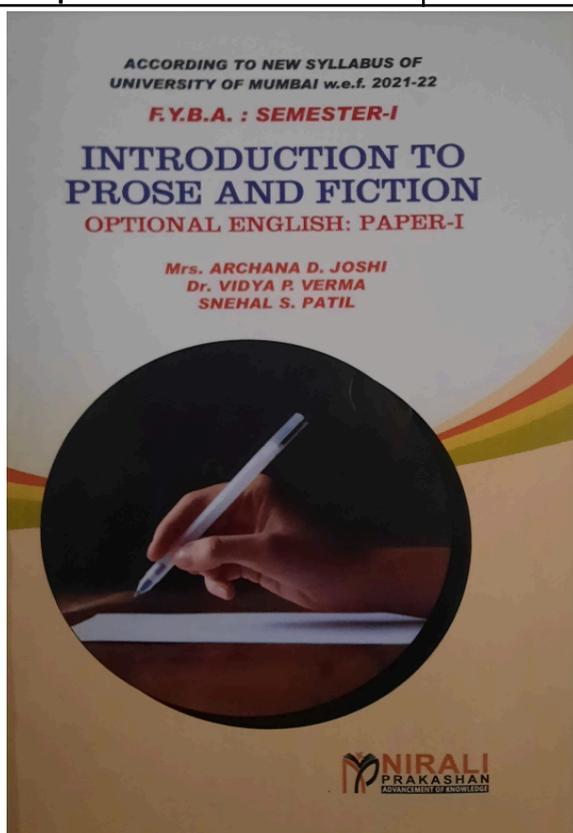
**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
1	Snehal Sitaram Patil Dr.Vidya Verma Archana Joshi	978-93-5451-660-3	2021-22

<b>Title of the chapter/Book Published</b>	Introduction to Prose and Fiction "Optional English" for FYBA SEM I
<b>Name of the publisher</b>	Nirali Prakashan



Online Proof Link	<a href="https://pragationline.com/introduction-to-prose-and-fiction-optional-english-part-1-f-y-b-a-semester-1-mu/">https://pragationline.com/introduction-to-prose-and-fiction-optional-english-part-1-f-y-b-a-semester-1-mu/</a>
-------------------	---

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)

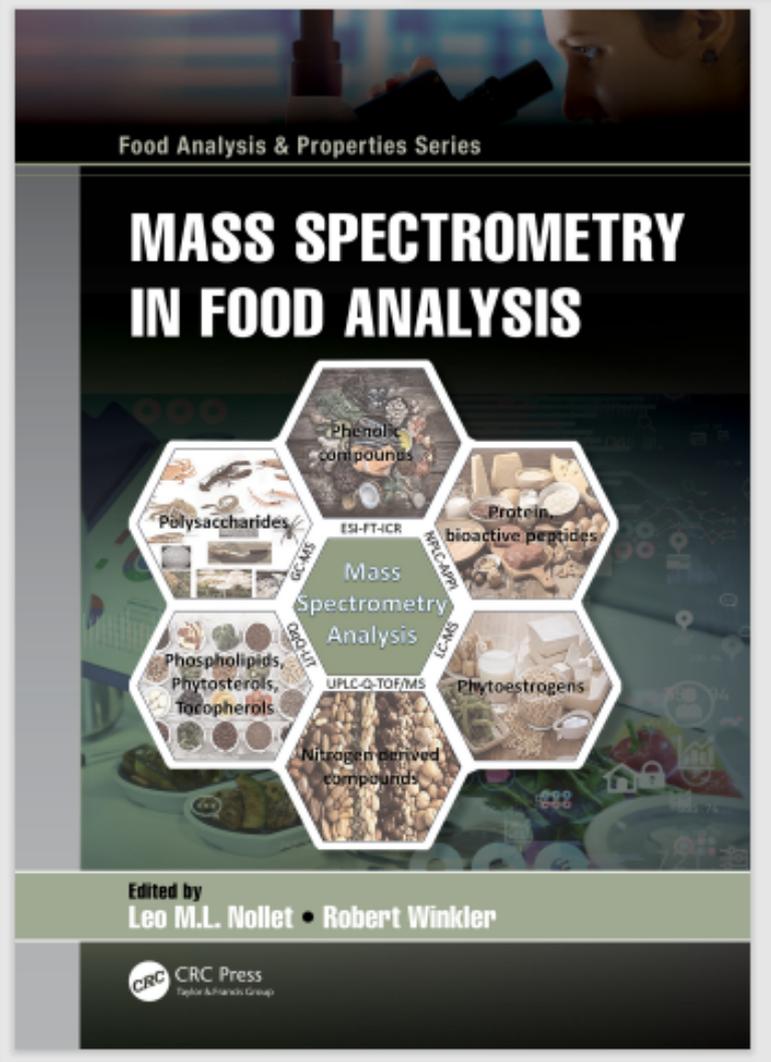


*Anayal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
2	Dr. Sameer Mapari	978-1-003-09122-6	2021-22
<b>Title of the chapter/Book Published</b>		Mass Spectrometry of Food Pigments	
<b>Name of the publisher</b>		CRC PRESS 	

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

## Contents

Series Preface.....	ix
Preface.....	xii
Editors.....	xviii
Contributors.....	xxv

### SECTION 1 Mass Spectrometry – Theoretical

<b>Chapter 1</b> Basic Principles and Fundamental Aspects of Mass Spectrometry.....	3
<i>Javed Ahmad, Farooq Ali, Manzoor Ahmad Sayed, Javed Ahmad, and Leo M.L. Nollet</i>	
<b>Chapter 2</b> Targeted and Untargeted Analyses.....	19
<i>Dev Kaur Shandilya</i>	

### SECTION 2 MS Analysis of Food Components

<b>Chapter 3</b> Mass Spectrometry of Lipids.....	31
<i>Aymar Gunore</i>	
<b>Chapter 4</b> Proteomic Strategies to Evaluate the Impact of Farming Conditions on Food Quality and Safety in Aquaculture Products.....	43
<i>Mónica Carrera, Carmen Pitteiro, and Iciar Martínez</i>	
<b>Chapter 5</b> Recent Advances in Vitamin Analysis by Mass Spectrometry.....	61
<i>Maria Katsa and Charafampon Proctor</i>	
<b>Chapter 6</b> Carbohydrate Analysis by Mass Spectrometry.....	85
<i>Alexander O. Chizhov</i>	
<b>Chapter 7</b> Mass Spectrometry Analysis of Allergens.....	109
<i>Behnam Keshavarz</i>	
<b>Chapter 8</b> Mass Spectrometry of Food Pigments.....	119
<i>Laurent Dufosse, Fabio Gosetti, Daria Maria Monti, Antonello Merlino, and Sameer A. S. Mapari</i>	

Contributors

xvii

<b>Chandra Kala</b> Faculty of Pharmacy, Department of Pharmaceutical Chemistry Maulana Azad University Jodhpur, Rajasthan, India	<b>Sameer A. S. Mapari</b> Department of Biotechnology VIVA College [Affiliated to University of Mumbai] Palghar, Maharashtra, India
<b>Maria Katsa</b> Laboratory of Food Chemistry, Department of Chemistry National and Kapodistrian University of Athens Athens, Greece	<b>Iciar Martínez</b> Research Centre for Experimental Marine Biology and Biotechnology—Plentzia Marine Station (PiE) University of the Basque Country (UPV/EHU) Plentzia, Spain and IKERBASQUE Basque Foundation for Science Bilbao, Spain
<b>Behnam Keshavarz</b> Division of Allergy and Clinical Immunology, Department of Medicine University of Virginia Charlottesville, Virginia	<b>Mariana Martínez-Ávila</b> Tecnológico de Monterrey, Centro de Biotecnología FEMSA Escuela de Ingeniería y Ciencias Monterrey, Mexico
<b>Muhammad Zaki Khan</b> Department of Food Science and Technology MNS University of Agriculture Multan, Pakistan	<b>Antonello Merlino</b> Department of Chemical Sciences University of Naples Federico II Napoli, Italy
<b>Zabin Khoje</b> Department of Zoology Karnatak University Dharwad, Karnataka, India	<b>Daria Maria Monti</b> Department of Chemical Sciences University of Naples Federico II Napoli, Italy
<b>Géraldine Lucchi</b> Centre for Taste, Smell and Feeding Behaviour French National Institute for Agricultural Food and Environment Research (INRAE) Dijon, France	<b>Mikel Musatadi</b> Department of Analytical Chemistry University of the Basque Country (UPV/EHU) Leioa, Basque Country, Spain
<b>Inamul Hasan Madar</b> Department of Biomedical Science and Environmental Biology Kaohsiung Medical University Kaohsiung, Taiwan	<b>Jarnail Naik</b> Department of Zoology Karnatak University Dharwad, Karnataka, India
<b>Shanthala Mallikarjuniah</b> Department of Zoology Centre for Applied Genetics, Bangalore University Bangalore, Karnataka, India	<b>Leo M.L. Nollet</b> University College Ghent Ghent, Belgium

Online Proof  
Link

<https://doi.org/10.1201/9781003091226>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



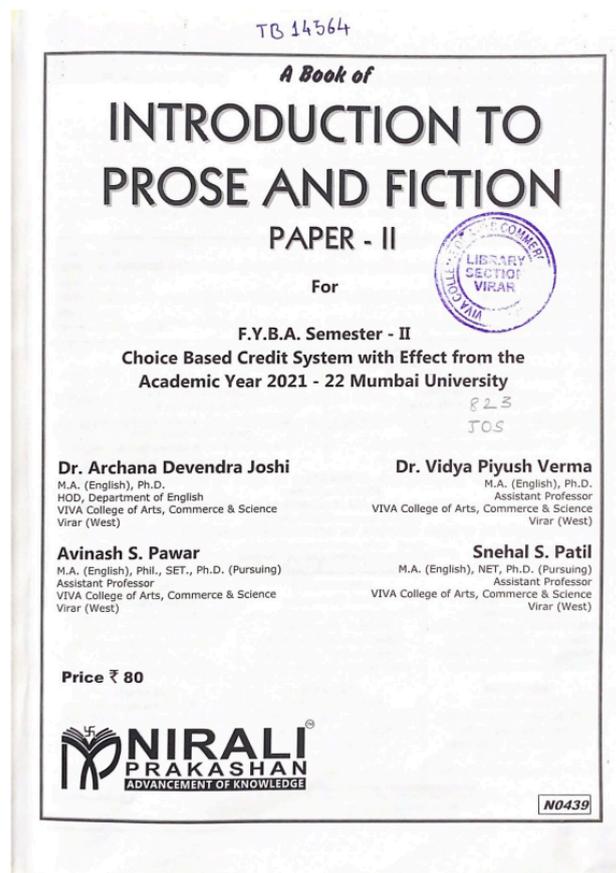
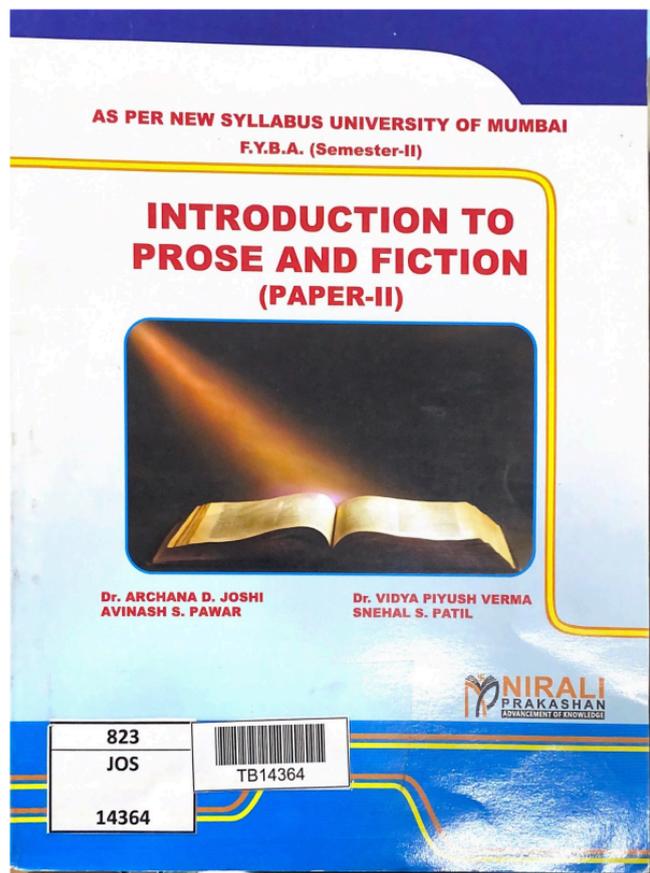
*Anayal*  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
3	Dr. Archana Joshi Snehal Sitaram Patil Dr. Vidya Verma Avinash Pawar	978-93-5451-660-3	2021-22
<b>Title of the chapter/Book Published</b>		Introduction to Prose and Fiction	
<b>Name of the publisher</b>		Nirali Prakashan	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

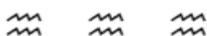
**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## CONTENTS

1. Unit 1 ..... 1.1 – 1.50
2. Unit 2 ..... 2.1 – 2.76
3. Unit 3 ..... 3.1 – 3.116



## SYLLABUS

(New Syllabus w.e.f. June 2021)  
F.Y.B.A. : Semester – I  
Optional English

### Unit 1

1. Development of Short Story
2. Elements of Short Story : Plot, Character, Setting, Narrative,
3. Development of Essay
4. Features of Prose Writing, Types of Prose
5. Autobiography

### Unit 2

1. "The Cop and the Anthem"

Online Proof Link

[INTRODUCTION TO PROSE AND FICTION – Optional English: Part 1 – FYBA – Semester 1 – University of Mumbai | Pragationline.com](#)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



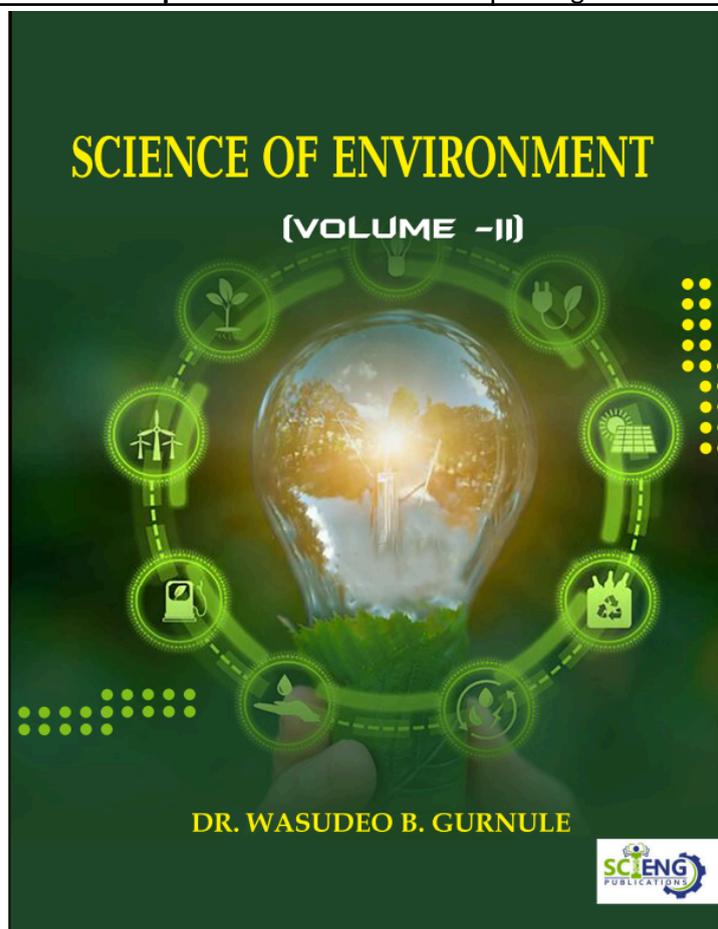
*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
4	Dr. Ajitkumar Ingle Dr. Sheetal Powar	978-81-955557-1-0	2021-22
<b>Title of the chapter/Book Published</b>		Science of Environment	
<b>Name of the publisher</b>		Scieng Publications	



**SCIENCE OF ENVIRONMENT**

*Volume - II*

*Edited by*  
**DR. WASUDEO B. GURNULE**  
 Professor  
 Department of Chemistry  
 Kamla Nehru Mahavidyalaya  
 Sakkardara Square,  
 Nagpur-440024  
 Maharashtra, India  
 E-mail: wbgurnule@gmail.com



**SCIENGPUBLICATIONS**  
 Tamilnadu-604303 (INDIA)  
 (ISO 9001:2015 Certified Company)



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Chapter

12

NANOMATERIALS MICROPLASTIC AND OTHER  
EMERGING CONTAMINANTS

AJITKUMAR V. INGLE<sup>1</sup> AND DR. SHEETAL R. POWAR<sup>2\*</sup>

<sup>1</sup>Assistant Professor, Head, Department of Chemistry, VWTCT'S Bhaskar Waman Thakur College of Science, University of Mumbai Virar, Maharashtra, India.

<sup>2</sup>Assistant Professor, Department of Chemistry, VWTCT'S Bhaskar Waman Thakur College of Science, University of Mumbai Virar, Maharashtra, India.

\*Corresponding author: Dr. Sheetal R. Powar, Email: palandesheetal@gmail.com.

**ABSTRACT**

Various contaminants are released in our environment every day. Advancement of technology has introduced new materials which make our life easy. Although these are invented for the betterment of the society, they impose health and environmental hazards. This chapter uncovers the risks and effects of such materials on living species and environment. Nanotechnology always thrives on betterment, but it also brings the chronic hazards to the environment. Same applies to plastics and all the synthetic materials which are non-biodegradable and get accumulated in the environment.

**KEYWORDS:** Nanoparticles, microplastics, contaminants, health hazards.

**INTRODUCTION**

Innovative technology, new materials are always welcomed. Life becomes easy with all the technological advancement. New materials are introduced every day. Plastic is known to all of us, it's popular for its toughness, stability and vast applications. One more product of advancement is Nanomaterial. Materials that have a size of 1 to 100 nm are termed as *Nanomaterials*. Because of such small size these materials exhibit enormously fascinating and advantageous properties, these properties are further useful and exploited for an applications right from medicines to space shuttles. When a material is reduced to nano size, its properties change remarkably; opaque substance like copper becomes transparent, inert materials like Pt, Au become reactive; Insulators like Silicon becomes conductor. Nanomaterials are remarkably strong, durable, tough yet ductile at high temp. They have very good resistance to wear and tear, resistance to corrosion and chemically very useful. They are also much more formable than their conventional, commercially available counterparts. Popular carbon nanomaterials like graphene, carbon nanotubes (CNTs), fullerenes which have found lot of applications in electronics, medicines, polymers,

Online Proof Link

[https://www.researchgate.net/publication/360860622\\_MEDICAL\\_WASTE\\_MANAGEMENT\\_ON\\_COVID\\_PANDEMIC](https://www.researchgate.net/publication/360860622_MEDICAL_WASTE_MANAGEMENT_ON_COVID_PANDEMIC)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
5	Dr. Hemangi Raut	978-93-91768-93-5	2021-22
<b>Title of the chapter/Book Published</b>		Vacuum techniques useful for thin film	
<b>Name of the publisher</b>		Bhumi publishers	

*Thin Film Technology and it's Novelities in Material Science*  
(ISBN: 978-93-91768-93-5)

CHAPTER  
**27**

**VACUUM TECHNIQUES USEFUL FOR THIN FILMS**

**Hemnagi Ashutosh Raut**

Department of Physics,

VIVA College, Virar

Corresponding author E-mail: [hemangiraut@vivacollege.org](mailto:hemangiraut@vivacollege.org)

**Introduction:**

Thin films are basically deposited by the various modes like sputtering, thermal and electron beam evaporation, molecular beam epitaxy, chemical vapor deposition, pulsed laser deposition and atomic layer deposition. Among all these processes a good vacuum environment is necessary. The thickness of deposited films may vary from one atom up to millimeters where the material gets deposited atom by atom or molecule by molecule on a solid surface. The efficiency of solar cells can be enhanced by creating multiple layers of different materials used to form optical coatings.

Vacuum means reduction of atmospheric pressure in the container which corresponds to removing gas molecules from the container. Due to less number of gas particles present in the container probability of collision among them decreases. It helps to increase the mean free path of the gas particles which results in a decrease in collision among gas molecules. Thus high vacuum leads to minimize contamination of the insulating gas. On the other hand, a long mean free path reduces the probability of collision, the heat loss get correspondingly reduced. Thus requirements in the sputtering process get fulfilled.

**Units:**

The level of vacuum of the system is described by the pressure within the system. Formerly, a system of units was used equating the pressure to the height of the column of mercury which exerts the same pressure at its base. In SI system pressure is measured in Pascal or  $N/m^2$ . Thus units of pressure are tabulated as below

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)

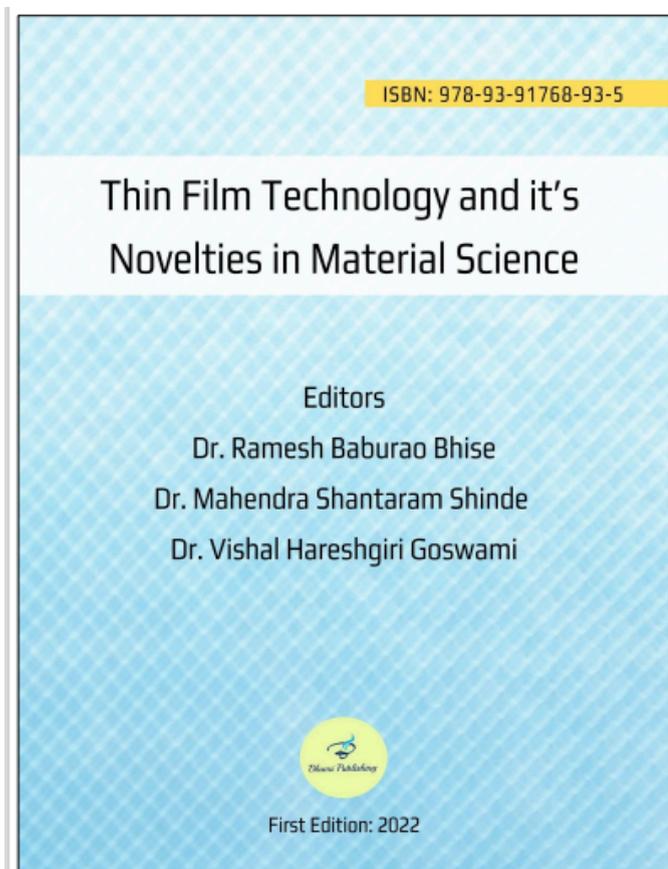


*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**



	<b>DIFFERENT DIELECTRIC PROPERTIES OF SYNTHESIZED MESOPOROUS MOLECULAR SIEVES USING ULTRASONIC TREATMENT</b>	
21.	S. B. Shete	147 -156
	<b>THIN FILM DEPOSITION BY SPRAY PYROLYSIS TECHNIQUE</b>	
22.	D. M. Sapkal	157 -162
	<b>EXPERIMENTAL DETAILS OF SPRAY PYROLYSIS TECHNIQUE</b>	
23.	P. M. Devshette	163 -166
	<b>RARE EARTH SUBSTITUTED CO-ZN FERRITES FOR NOVEL APPLICATIONS</b>	
24.	A. B. Mugutkar	167 -179
	<b>SYNTHESIS AND CHARACTERIZATION OF ZNS THIN FILMS BY CBD</b>	
25.	R. B. Bhise, M. S. Shinde and V. R. Pande	180 -183
	<b>THIN FILMS AND DEPOSITION TECHNIQUE</b>	
26.	P. M. Devshette	184 -190
	<b>VACUUM TECHNIQUES USEFUL FOR THIN FILMS</b>	
27.	Hemnaji Ashutosh Raut	191 -193
	<b>DETERMINATION OF WATER QUALITY INDEX IN INDUSTRIAL AREA OF WALUNJ MIDC AURANGBAD MAHARASHTRA, INDIA</b>	
28.	D. V. Sonawane and V. S. Kapase	194 - 205

Online Proof  
Link

<https://www.bhumipublishing.com/wp-content/uploads/2022/05/Thin-Film-Technology-and-its-Novelties-in-Material-Science.pdf>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



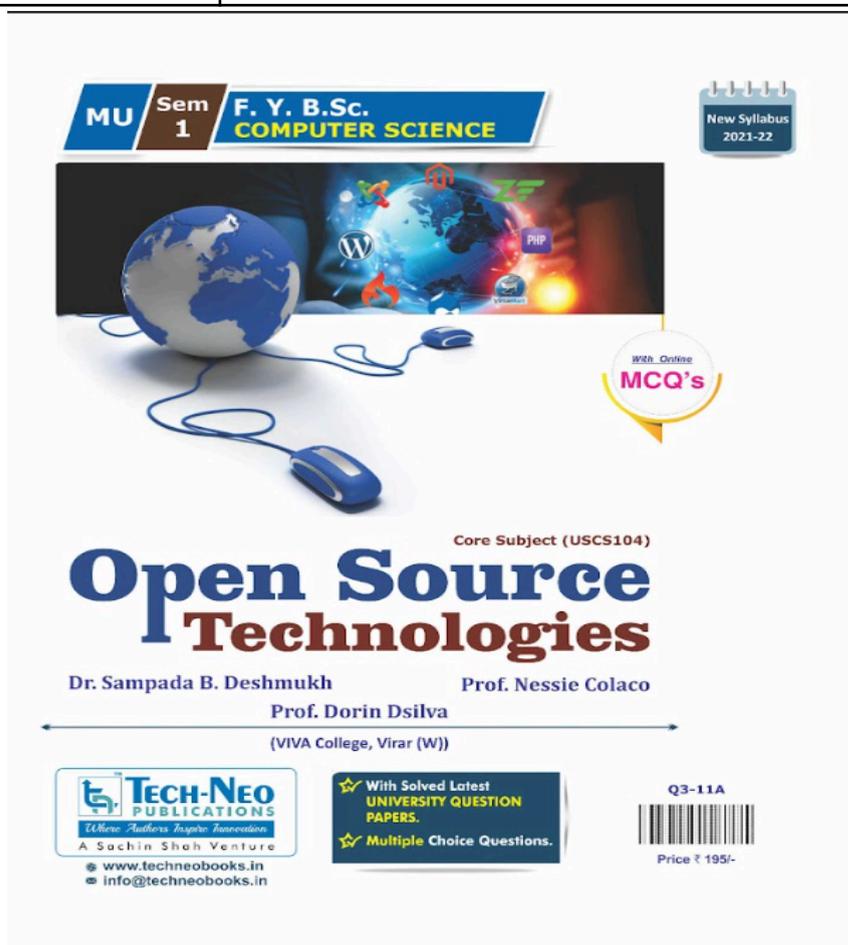
*Anojal*  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
6	Dr. Sampada Deshmukh Nessie Colaco Dorin D'silva	978-93-91472-94-8	2021-22
<b>Title of the chapter/Book Published</b>		Open-Source Technologies	
<b>Name of the publisher</b>		Tech-Neo Publications	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Certificate



01/07/2022

**TO WHOMSOEVER IT MAY CONCERN**

We, at **Tech-Neo Publications LLP**, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students.

It is our pleasure that **Prof. Nessie Colaco** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities. We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following book:

Book Code	Book Name	University	ISBN No	Year
Q3-11A	Open Source Technologies	B.Sc. Comp University of Mumbai	978-93-91472-94-8	2021-22

FOR Tech-Neo Publications LLP

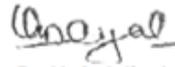


Authorised Signatory

**Tech-Neo Publications LLP**  
Sr. No. 3871, Behind Pari Compound, Khedekar Industrial Estate, Narhi, Pune, Maharashtra State, India.  
info@techneobooks.com www.techneobooks.com

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



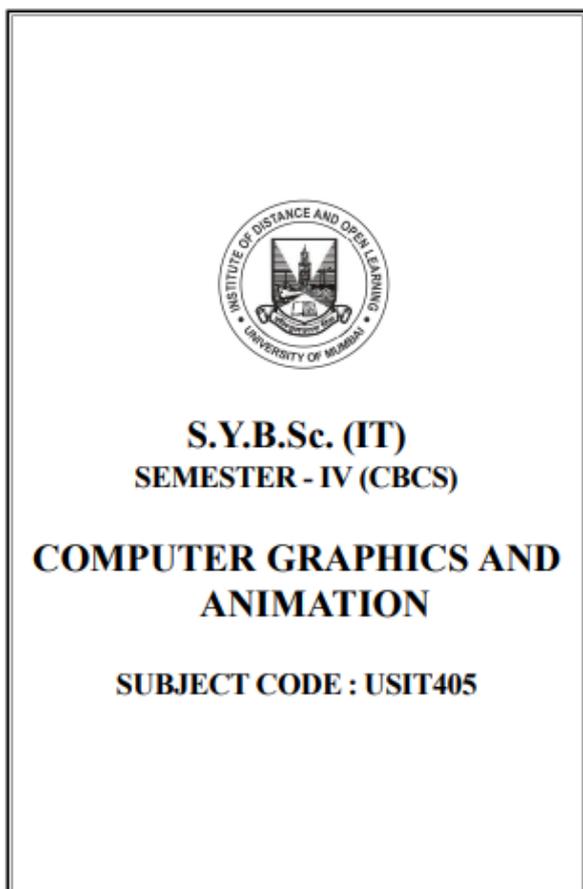
  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
7	Binita Thakkar	University of Mumbai Publication	2021-22
<b>Title of the chapter/Book Published</b>		Computer Graphics and Animations	
<b>Name of the publisher</b>		Institute of Distance and Open Learning, University of Mumbai, Vidyanagari	



© UNIVERSITY OF MUMBAI

**Prof. Suhas Pednekar**  
Vice Chancellor  
University of Mumbai, Mumbai.

**Prof. Ravindra D. Kulkarni**  
Pro Vice-Chancellor,  
University of Mumbai.

**Prof. Prakash Mahanwar**  
Director  
IDOL, University of Mumbai.

---

**Program Co-ordinator :** **Shri. Mandar Bhanush**  
Head, Faculty of Science and Technology,  
IDOL, University of Mumbai

**Course Co-ordinator :** **Ms. Gouri Sawant**  
Assistant Professor B.Sc.I.T,  
IDOL, University of Mumbai.

**Editor :** **Dr. Ghayathri**  
Associate Professor in Computer Science (PG),  
Kongu Arts and Science College (Autonomous)

**Course Writers:**

- Ms. Binita Thakkar**  
Assistant Professor,  
VIVA College of Arts, Commerce and Science, Virar W
- Ms. Rohini Desai**  
Assistant Professor, Vidyalankar School of Information Technology
- Ms. Pridi Pathak**  
Assistant Professor, Mulund College of Commerce,  
Sarojini Naidu Road, Mulund(West), Mumbai- 80
- Ms. Anjali Gaikwad**  
Assistant Professor, JES college of commerce, science and  
Information technology
- Ms. Kshitija Palav**  
Assistant Professor, VIVA College of Arts Commerce and Science,  
Virar(W), Tal: Vasai, Dist: Palghar

December 2021, Print I

**Published by**  
Director  
Institute of Distance and Open Learning, University of Mumbai, Vidyanagari, Mumbai - 400 098.

**DTP COMPOSED AND PRINTED BY**  
Mumbai University Press,  
Vidyanagari, Santa Cruz (E), Mumbai - 400098.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**CONTENTS**

<b>Chapter No.</b>	<b>Title</b>	<b>Page No</b>
<b>Unit I</b>		
1.	Introduction To Computer Graphics	1
2.	Display Technologies	15
3.	Scan Conversion Line And Circle	29
4.	Scan Conversion – Line And Polygon Clipping	45
<b>Unit II</b>		
5.	Two Dimensional Transformations	57
6.	Three Dimensional Transformations	75
<b>Unit III</b>		
7.	Viewing In 3d	99
8.	Light: - Light: Radiometry, Transport, Equation, Photometry	127
9.	Color: - Colorimetry, Color Spaces, Chromatic Adaptation, Color Appearance	143
<b>Unit IV</b>		
10.	Visible-Surface Determination And Plane Curves And Surfaces	157
11.	Plane Curves And Surfaces	171
<b>Unit V</b>		
12.	Computer Animation	186
13.	Image Manipulation And Storage	199

Online Proof Link

[USIT-405-Computer-Graphics-and-Animation.pdf \(mu.ac.in\)](https://www.mu.ac.in/USIT-405-Computer-Graphics-and-Animation.pdf)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
8	Kshitija Abhish Palav (Mane)	University of Mumbai Publication	2021-22
<b>Title of the chapter/Book Published</b>		Computer Graphics and Animations	
<b>Name of the publisher</b>		Institute of Distance and Open Learning, University of Mumbai, Vidyanagari	



**S.Y.B.Sc. (IT)**  
**SEMESTER - IV (CBCS)**

**COMPUTER GRAPHICS AND ANIMATION**

**SUBJECT CODE : USIT405**

© UNIVERSITY OF MUMBAI

**Prof. Suhaz Pednekar**  
Vice Chancellor  
University of Mumbai, Mumbai.

**Prof. Ravindra D. Kulkarni**  
Pro Vice-Chancellor,  
University of Mumbai.

**Prof. Prakash Mahanwar**  
Director  
IDOL, University of Mumbai.

**Program Co-ordinator** : **Shri. Mandar Bhanushe**  
Head, Faculty of Science and Technology,  
IDOL, University of Mumbai

**Course Co-ordinator** : **Ms. Gouri Sawant**  
Assistant Professor B.Sc.I.T,  
IDOL, University of Mumbai.

**Editor** : **Dr. Ghayathri**  
Associate Professor in Computer Science (PG),  
Kongru Arts and Science College (Autonomous)

**Course Writers:**

- : **Ms. Binita Thakkar**  
Assistant Professor,  
VIVA College of Arts, Commerce and Science, Virar W
- : **Ms. Rohini Desai**  
Assistant Professor, Vidyalankar School of Information Technology
- : **Ms. Priti Pathak**  
Assistant Professor, Mulund College of Commerce,  
Sarojini Naidu Road, Mulund(West), Mumbai- 80
- : **Ms. Anjali Gaikwad**  
Assistant Professor, JES college of commerce, science and  
Information technology
- : **Ms. Kshitija Palav**  
Assistant Professor, VIVA College of Arts Commerce and Science,  
Virar(W), Tal: Vasai, Dist:Palghar

December 2021, Print I

**Published by**  
Director  
Institute of Distance and Open Learning, University of Mumbai, Vidyanagari, Mumbai - 400 098.

DTP COMPOSED AND PRINTED BY  
Mumbai University Press,  
Vidyanagari, Santacruz (E), Mumbai - 400098.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**CONTENTS**

Chapter No.	Title	Page No
<b>Unit I</b>		
1.	Introduction To Computer Graphics	1
2.	Display Technologies	15
3.	Scan Conversion Line And Circle	29
4.	Scan Conversion – Line And Polygon Clipping	45
<b>Unit II</b>		
5.	Two Dimensional Transformations	57
6.	Three Dimensional Transformations	75
<b>Unit III</b>		
7.	Viewing In 3d	99
8.	Light: - Light: Radiometry, Transport, Equation, Photometry	127
9.	Color: - Colorimetry, Color Spaces, Chromatic Adaptation, Color Appearance	143
<b>Unit IV</b>		
10.	Visible-Surface Determination And Plane Curves And Surfaces	157
11.	Plane Curves And Surfaces	171
<b>Unit V</b>		
12.	Computer Animation	186
13.	Image Manipulation And Storage	199

Online Proof Link

[USIT-405-Computer-Graphics-and-Animation.pdf \(mu.ac.in\)](https://www.mu.ac.in/USIT-405-Computer-Graphics-and-Animation.pdf)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

<b>Sr. No</b>	<b>Name of the Faculty</b>	<b>ISBN</b>	<b>Year</b>
9	Dr. Gauri Vartak	978-93-91472-59-7	2021-22
<b>Title of the chapter/Book Published</b>		Digital System & Architecture	
<b>Name of the publisher</b>		Tech-Neo Publications	

**MU Sem 1 F. Y. B.Sc. COMPUTER SCIENCE**  
 New Syllabus 2021-22

**Mr. Sachin S. Shah**  
 Managing Director  
 Tech-Neo Publications LLP  
 B.E. in Industrial Electronics (1992 Batch)  
 Bhaurati Vidyaapeeth COE (Affiliated to University of Pune)  
 An Alumni of IIT Bombay  
 info@techneobooks.in

**Tech-Neo PUBLICATIONS**  
 Where Authors Inspire Innovation  
 A Sachin Shah Venture

**Sure Marks**  
 Where we help you excel  
 Elevating Excellence

**Sem 1 F. Y. B.Sc. COMPUTER SCIENCE**

Course Code	Compulsory Subjects
USCS101	Digital Systems & Architecture
USCS102	Introduction to Programming with Python
USCS103	LINUX Operating System
USCS104	Open Source Technologies
USCS105	Discrete Mathematics
USCS106	Descriptive Statistics

**Core Subject (USCS101)**  
**Digital Systems & Architecture**

**Dr. (Mrs.) Gauri G. Vartak**  
 Viva College of Arts, Commerce & Science,  
 Virar (W)

**Shrikant Velankar**  
 Vidyalankar Institute of Technology,  
 Mumbai

**Tech-Neo PUBLICATIONS**  
 Where Authors Inspire Innovation  
 A Sachin Shah Venture  
 www.techneobooks.in  
 info@techneobooks.in

**Self Explanatory Diagrams.**  
**Multiple Choice Questions.**

**Q3-08A**  
 Price ₹ 185/-

**For Orders Contact:**  
**Krishna Book Collections**  
 Ground Floor, Krishna Niwas Building, Behind BEST Niwas Building, Near Napoo Hall,  
 Chandavarkar Road, Matunga East, Mumbai 400019. E-mail : dharmeshsota05@gmail.com  
 Mobile No.: Dharmesh Sota - 98207 41455, Tulshidas Sota - 98331 33921 / 98330 82745 /  
 98330 82761

Books are available on **Flipkart** **amazon** **bookmylane**

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal  
 Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

operators

# Digital Systems and Architecture

(USCS101) (New Syllabus effective from academic year 2021-2022)

**F. Y. B.Sc. (Computer Science)**  
**Semester I - Mumbai University**

**Choice Based Credit System (CBCS) of Mumbai University with effect from the academic year 2021-2022**

<b>Gauri G. Vartak</b> M. Sc. IT Assistant Professor Viva College, Virar (W) Mumbai	<b>Prof. Shrikant Velankar</b> SPICEMEN COPY FOR REVIEW & ME (Electronics), F.I.E., F.I.E.T.E., C.E. (Chartered Engineer) Professor, Department of Electronics Engineering Vidyalankar Institute of Technology, Mumbai 400037
---	--

**TECH-NEO PUBLICATIONS**  
Where Authors Inspire Innovation  
A Sachin Shah Venture

Q3-08

## Index

<b>UNIT 1</b>	
▶ Chapter 1 : Fundamentals of Digital Logic	1-1 to 1-55
▶ Chapter 2 : Computer System	2-1 to 2-16
<b>UNIT 2</b>	
▶ Chapter 3 : Memory System Organization	3-1 to 3-24
▶ Chapter 4 : Processor Organization	4-1 to 4-25
<b>UNIT 3</b>	
▶ Chapter 5 : Control Unit	5-1 to 5-18
▶ Chapter 6 : Fundamentals of Advanced Computer Architecture	6-1 to 6-12



*Anayal*  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Certificate



01/07/2022

TO WHOMSOEVER IT MAY CONCERN

We, at **Tech-Neo Publications LLP**, specialize in the field of publishing books in Engineering, Polytechnic, Pharmacy, and Computer Science and Information Technology, where we believe that "Author's Inspire Innovation". We also believe in quality work and are keener on giving the quality contents to our students.

It is our pleasure that **Dr. Gauri Vartak** is one of our Author / Co-author. She is having more than 3 years' experience of writing technical books in the field of B.Sc. Computer, IT for Mumbai universities. We really appreciate the efforts taken by her to publish the books and always feel proud of associating with the well qualified and elite faculty like her.

She is the Author / Co-Author of following books:

Book Code	Book Name	University	ISBN No	Year
Q3-08A	Digital Systems & Architecture	B.Sc. Comp University of Mumbai	978-93-91472-59-7	2021-22
Q1-01A	Computer Organization and Design	B.Sc. Comp University of Mumbai	978-93-89366-87-7	2019-20

FOR Tech-Neo Publications LLP

Authorised Signatory

Tech-Neo Publications LLP

Sr. No. 38/1, Behind Pari Compound, Khedekar Industrial Estate, Nerhe, Pune, Maharashtra State, India.  
info@techneobooks.com www.techneobooks.com

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
10	Ms. Harshavardhini Arvind Borwankar	978-93-91735-97-5	2021-22
<b>Title of the chapter/Book Published</b>		स्थूल अर्थशास्त्र -II	
<b>Name of the publisher</b>		संचालक, दूर व मुक्त अध्ययन संस्था, मुंबई विद्यापीठ, विद्यानगरी, मुंबई ४०० ०९८	

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**



**एम. ए. अर्थशास्त्र**  
**सत्र -II (CBCS)**  
**स्थूल अर्थशास्त्र - II**  
**विषय कोड : 93408**

**अनुक्रमणिका**

क्रमांक	अध्याय	पृष्ठ क्रमांक
१)	अपूर्वपणे लवधिक किमती - I	०१
२)	अपूर्वपणे लवधिक किमती - II	१७
३)	नवसनातानवादी अर्थशास्त्र - I	२४
४)	नवसनातानवादी अर्थशास्त्र - II	३५
५)	नव केन्सवारी अर्थशास्त्र - I	५०
६)	नव केन्सवारी अर्थशास्त्र - II	५८
७)	समजलक्षी अर्थशास्त्रीय धोरणे - I	७२
८)	स्थूल आर्थिक धोरण -II	९२

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

© UNIVERSITY OF MUMBAI

प्राध्यापक सुहास पेढणेकर कुलपुत्र, मुंबई विद्यापीठ, मुंबई	
प्राध्यापक रविंद्र व. कुलकर्णी प्र-कुलपुत्र, मुंबई विद्यापीठ, मुंबई	प्राध्यापक ब्रजराज महानवार संचालक, दूर व मुक्त अभ्ययन संस्था, मुंबई विद्यापीठ, मुंबई

प्रकल्प समन्वयक आणि संपादक	: प्रा. राजश्री पंडित सहाय्यक प्राध्यापक आणि सहाय्यक संचालक दूर व मुक्त अभ्ययन संस्था, मुंबई विद्यापीठ, मुंबई
अभ्यास समन्वयक	: डॉ. गोपाल एकनाथ धुमटकर सहाय्यक प्राध्यापक (अर्थशास्त्र) दूर व मुक्त अभ्ययन संस्था, मुंबई विद्यापीठ, मुंबई ४०००९८
लेखक	: प्रा. अनिल झेंडे अर्थशास्त्र विभाग कर्मवीर भाऊराव पाटील कॉलेज, वासी, नवी मुंबई - ४००४०३ : प्रा. हर्षवर्धनी मोरबनकर अर्थशास्त्र विभाग, विद्या कॉलेज, विरार, मुंबई - ४०१३०३.

जानेवारी २०२२, मुद्रण - १, ISBN-978-93-91735-97-5

प्रकाशक :	संचालक, दूर व मुक्त अभ्ययन संस्था, मुंबई विद्यापीठ, विद्यानगरी, मुंबई - ४०००९८.
-----------	--

अक्षर जुळणी व मुद्रण :	मुंबई विद्यापीठ मुद्रणालय, विद्यानगरी, संतानुका (पूर्व), मुंबई - ४०००९८
------------------------	--

Online Proof Link

[MA-SEM-II-Macroeconomics-II-Marathi-Version.pdf \(mu.ac.in\)](https://mu.ac.in/MA-SEM-II-Macroeconomics-II-Marathi-Version.pdf)

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## **Books/Chapters Publication 2020-21**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*

**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
1	Delcy Lopes Jagruti Naukudkar Glorita Pereira	978-93-5407-891-0	2020-21
<b>Title of the chapter/Book Published</b>		Introduction to Wealth Management	
<b>Name of the publisher</b>		Raja Ram Mohan Roy National Agency for ISBN	

As Per The Revised Syllabus w.e.f.2016-17

Elective Courses (EC)

## Introduction to Wealth Management

**B.Com ( Investment Management)**

**Semester – II**

- JAGRUTI NAUKUDKAR
- DELCY LOPES
- GLORITA PEREIRA

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Revised Syllabus Of Course of B.Com. (Investment Management)

Programme at Semester II

With Effect from the Academic year 2016-17

Elective Courses (EC)

**Introduction to Wealth Management**

**Jagruiti Sanjay Naukudkar**

M.com, NET & MH SET, B.Ed, M.A.(Education), PGDM(Finance), Pursuing  
Ph.D.(SNDT University)

VIVA College of Arts, Commerce & Science, Virar (W)

**Delcy Justin Lopes**

M.com, NET, B.Ed, Pursuing Ph.D. (SNDT University)

VIVA College of Arts, Commerce & Science, Virar (W)

**Glorita Anthony Pereira**

M.A.(Economics), NET, Pursuing Ph.D.(SNDT University)

VIVA College of Arts, Commerce & Science, Virar (W)

**Contents**

UNIT	TOPICS	PAGE NOS.
1	Overview of Wealth Management	11 - 51
2	Role of Insurance in Wealth Management	52 - 145
3	Retirement Planning	146 - 189
4	Estate Planning	190 - 233
5	Question papers (University of Mumbai)	
	April 2018	234
	April 2019	238

Online Proof Link

Available Hard Copy Print Only

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



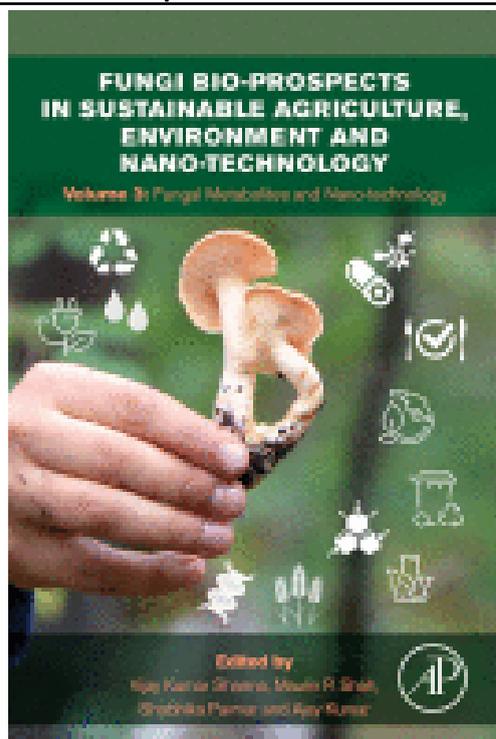
*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
2	Mr. Pratik Bhagwan Jagtap	978-0-12-821734-4	2020-21
<b>Title of the chapter/Book Published</b>		Chapter 14 - Mycogenic fabrication of nanoparticles and their applications in modern agricultural practices & food industries	
<b>Name of the publisher</b>		Academic press	



**Chapter 12 - Recent trends in fungal biosynthesis of nanoparticles**

Sougata Ghosh, Sejal Shah and Thomas J. Webster  
 Pages 403-452

Purchase  View abstract

Book chapter  Abstract only

**Chapter 13 - Role of fungi in bio-production of nanomaterials at megascale**

Mukesh Meena, Prashant Swapnil, ... Priyankaraj Sonigra  
 Pages 453-474

Purchase  View abstract

Book chapter  Abstract only

**Chapter 14 - Mycogenic fabrication of nanoparticles and their applications in modern agricultural practices & food industries**

Pratik Jagtap, Harshajit Nath, ... Sushma Dave  
 Pages 475-488

Purchase  View abstract

Book chapter  Abstract only

**Chapter 15 - Role of fungal endophytes in the green synthesis of nanoparticles and the mechanism**

Modhurima Misra, Ashish Sachan and Shashwati Ghosh Sachan  
 Pages 489-513

Purchase  View abstract

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**



ScienceDirect

**Fungi Bio-Prospects in Sustainable Agriculture,  
Environment and Nano-technology**

Volume 3: Fungal metabolites and Nano-technology

2021, Pages 475-488

**Chapter 14 - Mycogenic fabrication of nanoparticles  
and their applications in modern agricultural  
practices & food industries**

Pratik Jagtap<sup>1</sup>, Harshajit Nath<sup>2</sup>, Puja Bharti Kumari<sup>3</sup>, Shivani Dave<sup>4</sup>, Padmaja Mohanty<sup>5</sup>, Jayashankar Das<sup>6</sup>,  
Sushma Dave<sup>7</sup> 

Show more 

 Outline |  Share  Cite

<https://doi.org/10.1016/B978-0-12-821734-4.00007-1> 

[Get rights and content](#) 

**Abstract**

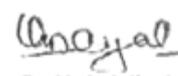
Green nanotechnology is very effective, emerging, and eco-friendly in the modern scientific field. Currently it is materializing an ample range of nanoparticles synthesized through various methods, that is, physical (thermal), chemical, and biological (using microbes, fungi, plant extract). Recently utilization of nanoparticles has been made in every field of commercialization due to their immense physicochemical properties and beneficial point of views. Nanoagriculture is a young field which is associated with novel nanopesticides, nanofertilizers for crop protection, nanosensors to track the precision farming and pathogens, and stress tolerating nanoparticles to maintain the soil conditions. There is increasing employment of nanoparticles in the food industries in food safety, packaging, self-life extension, detection of pathogens, and processing of food and food products. In addition to biological methods,

**Online Proof Link**

<https://doi.org/10.1016/B978-0-12-821734-4.00007-1>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## **Books/Chapters Publication 2019-20**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*

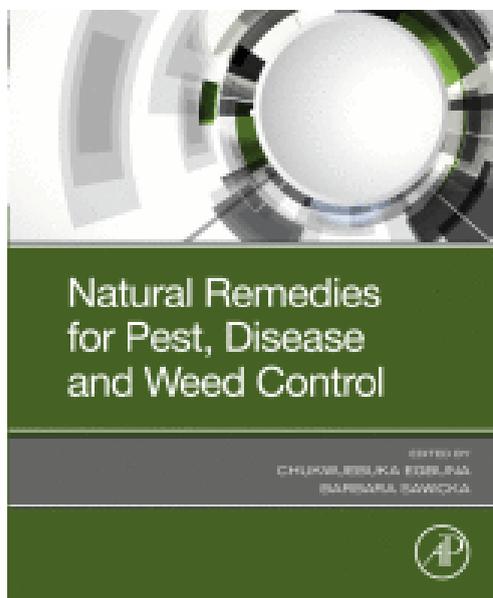
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
1	Dr. Rohan Gavankar Dr. Deepa Verma Nikhil Teli	9780128193044	2019-20
<b>Title of the chapter/Book Published</b>		Microbial Control of Pests and Weeds (Book Title: Natural Remedies for Pest, Disease and Weed Control)	
<b>Name of the publisher</b>		Academic press	



## Chapter 10 - Microbial Control of Pests and Weeds

[Deepa Verma MSc, B.Ed, M.A, M.Phil, MBA, PhD, Temitope Banjo PhD,](#)  
[Madhvi Chawan MSc, Nikhil Teli MSc, PhD, Rohan Gavankar MSc, B.Ed, PhD](#)

[Show more](#) ▾

+ Add to Mendeley   [Share](#)   [Cite](#)

<https://doi.org/10.1016/B978-0-12-819304-4.00010-5>

[Get rights and content](#) ↗

Abstract



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

**PART I**

**GREEN APPROACH TO PEST AND DISEASE CONTROL**

**1 Pests of Agricultural Crops and Control Measures, 1**

Barbara Sawicka, PhD and Chukwuebuka Egbuna, BSc, MSc

**2 Plant Diseases, Pathogens and Diagnosis, 17**

Barbara Sawicka, PhD, Chukwuebuka Egbuna, BSc, MSc, Ashish Kumar Nayak, PhD and Smriti Kala, PhD

**3 Pesticides, History, and Classification, 29**

Yusuf Abubakar, Habibu Tijjani, PhD, Chukwuebuka Egbuna, BSc, MSc, Charles Oluwaseun Adetunji, PhD, Smriti Kala, PhD, Toskè L. Kryeziu, Jonathan C. Ifemeje, PhD and Kingsley C. Patrick-Iwuanyanwu, PhD

**4 Biopesticides, Safety Issues and Market Trends, 43**

Chukwuebuka Egbuna, BSc, MSc, Barbara Sawicka, PhD, Habibu Tijjani, PhD, Toskè L. Kryeziu, Jonathan C. Ifemeje, PhD, Dominika Skiba, PhD and Colin B. Lukong, PhD

**5 Natural Compounds Against Plant Pests and Pathogens, 55**

Agnieszka Jamiołkowska, PhD and Marek Kopacki, PhD

**6 Phytochemicals of Plant-Derived Essential Oils: A Novel Green Approach Against Pests, 65**

Arvind Saroj, PhD, Olumayowa Vincent Oriyomi, MSc, Ashish Kumar Nayak, PhD and S. Zafar Haider, PhD

**7 Semiochemicals: A Green Approach to Pest and Disease Control, 81**

Shahira M. Ezzat, PhD, Jaison Jeevanandam, PhD, Chukwuebuka Egbuna, BSc, MSc, Rana M. Merghany, Muhammad Akram, PhD, Muhammad Daniyal, Jaweria Nisar and Amir Sharif

**8 Fungistatic Properties of Lectin-Containing Extracts of Medicinal Plants, 91**

Sergey V. Pospelov, PhD, Anna D. Pospelova, PhD, Valentina V. Onipko, Doctor of Sc. and Maxim V. Semenko

**PART II**

**BIOLOGICAL CONTROL MEASURES**

**9 Biological Control of Weeds by Allelopathic Compounds From Different Plants: A BioHerbicide Approach, 107**

Mohammad Mehdizadeh, PhD and Waseem Mushtaq, PhD

**10 Microbial Control of Pests and Weeds, 119**

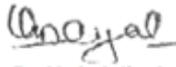
Deepa Verma, MSc, B.ED, M.A, M.PHIL, MBA, PhD, Temitope Banjo, PhD, Madhvi Chawan, MSc, Nikhil Teli, MSc, PhD and Rohan Gavankar, MSc, B.ED, PhD

Online Proof Link

<https://doi.org/10.1016/B978-0-12-819304-4.00010-5>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.

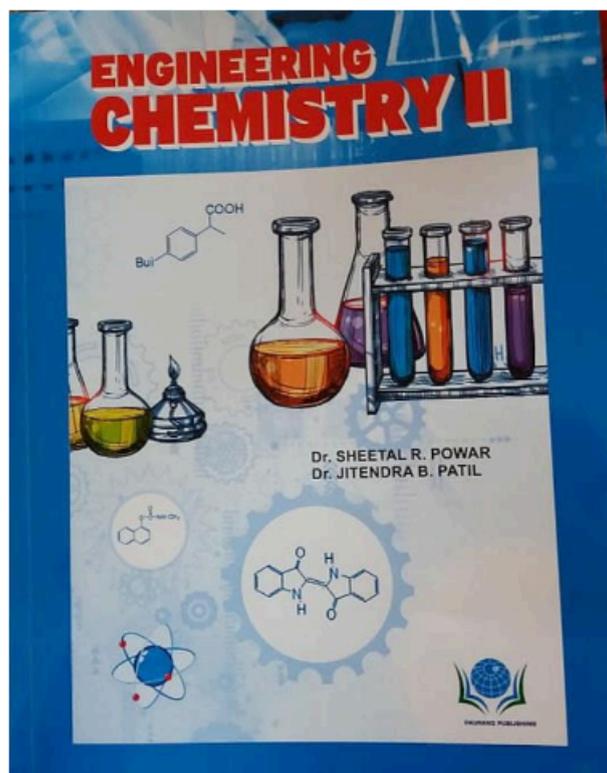


**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
2	Dr. Sheetal Powar	9788194469612	2019-20
<b>Title of the chapter/Book Published</b>		Engineering Chemistry II for First year Engineering Chemistry	
<b>Name of the publisher</b>		Gaurang Publications	

Book Authored

Engineering Chemistry II for First year Engineering, ISBN No. 9788194469612



**ENGINEERING CHEMISTRY II**

**Content (Syllabus)**  
As per Mumbai University

**CHAPTER 1**  
**PRINCIPLE OF SPECTROSCOPY**  
Introduction, Definition, Origin of spectrum  
Classification of spectroscopy – atomic and molecular, selection rules.  
Table of relation between electromagnetic spectrum, types of spectroscopy and energy changes.

**CHAPTER 2**  
**APPLICATIONS OF SPECTROSCOPY**  
Emission spectroscopy- Principle, instrumentation and applications (Flame Photometry), Introduction to fluorescence and phosphorescence, Jablonski diagram, applications of fluorescence in medicine only.

**CHAPTER 3**  
**CONCEPT OF ELECTROCHEMISTRY**  
Introduction, concept of electrode potential, Nernst equation, types of electrochemical cells, concept of standard electrode with examples, electrochemical series, simple numericals.

**CHAPTER 4**  
**CORROSION**  
**Definition, Mechanism of Corrosion-**  
(i) Dry or Chemical Corrosion-  
(i) Due to oxygen (ii) Due to other gases.  
(ii) Wet or Electrochemical corrosion-Mechanism  
(i) Evolution of hydrogen type (ii) Absorption of oxygen.  
**Types of Corrosion-** Galvanic cell corrosion, Concentration cell corrosion (differential aeration principle), Pitting corrosion, Intergranular corrosion, Stress corrosion.  
**Factors affecting the rate of corrosion-**  
(i) Nature of metal, (ii) Nature of corroding environment.

**Methods of corrosion control-**  
(i) Material selection and proper designing.  
(ii) Cathodic protection  
(i) Sacrificial anodic protection  
(ii) Impressed current method.  
(iii) Metallic coatings- only Cathodic coating (fining) and anodic coatings (Galvanizing)

**CHAPTER 5**  
**GREEN CHEMISTRY AND SYNTHESIS OF DRUGS**  
Introduction- Definition, significance  
Twelve Principles of Green chemistry, numerical on atom economy, Conventional and green synthesis of Adipic acid, Indigo, Carbaryl, Ibuprofen, Benzimidazole, Benzyl alcohol, % atom economy and their numerical. Green Fuel- Biodiesel.

**CHAPTER 6**  
**FUELS AND COMBUSTION**  
Definition, classification, characteristics of a good fuel, units of heat (no conversion).  
Calorific value- Definition, Gross or higher calorific value & Net or lower calorific value, Dulong's formulae & numerical for calculation of Gross and Net calorific values.  
Solid fuels- Analysis of coal- Proximate and Ultimate Analysis- numerical problems and signifi cance.  
Liquid fuels- Petro- Knocking, Octane number, Cetane number, Anti-knocking agents, unleaded petrol, oxygenates (MTBE), catalytic converter.  
Combustion- Calculations for requirement of only oxygen and air (by weight and by volume only) for given solid & gaseous fuels.

**About the Authors**

**Dr. Sheetal Rohan Powar** has completed her Ph.D and M. Phil Degree in the subject of Chemistry. Her specialization is Organic Chemistry. She holds a Masters Degree in Education from Mumbai University. She has a total 15 years of teaching experience along with 2 years of industrial experience. Presently she is working as an Assistant Professor in Viva College of Science, Virar. She believes education is not just confined to books; it helps one to gain better knowledge and vision. One should always strive to learn new things.  
Email id: sheetal80@yahoo.co.in

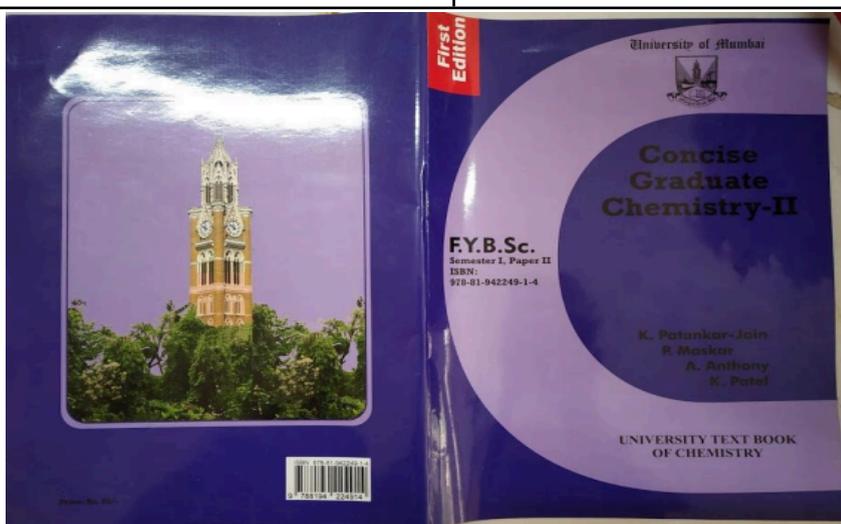
**Dr. Jitendra Baliram Patil** has completed his Ph.D and Master's Degree in the subject of Chemistry from Mumbai University. His specialization is in Organic Chemistry. He has a total 8 years of teaching experience along with 14 years multinational industrial experience in Research and Development Department. Presently he is working as an Assistant Professor in Universal College of Engineering, Vasai. He is always keen on learning new creative things. He believes education is a never ending process so be a student forever in Life.  
Email id: djpatil74@gmail.com

**GAURANG PUBLISHING GLOBALIZE PRIVATE LIMITED**  
 OFFICE : 1, Pt. J. J. SHESHAJI, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 308th, 309th, 310th, 311st, 312nd, 313th, 314th, 315th, 316th, 317th, 318th, 319th, 320th, 321st, 322nd, 323rd, 324th, 325th, 326th, 327th, 328th, 329th, 330th, 331st, 332nd, 333rd, 334th, 335th, 336th, 337th, 338th, 339th, 340th, 341st, 342nd, 343rd, 344th, 345th, 346th, 347th, 348th, 349th, 350th, 351st, 352nd, 353rd, 354th, 355th, 356th, 357th, 358th, 359th, 360th, 361st, 362nd, 363rd, 364th, 365th, 366th, 367th, 368th, 369th, 370th, 371st, 372nd, 373rd, 374th, 375th, 376th, 377th, 378th, 379th, 380th, 381st, 382nd, 383rd, 384th, 385th, 386th, 387th, 388th, 389th, 390th, 391st, 392nd, 393rd, 394th, 395th, 396th, 397th, 398th, 399th, 400th, 401st, 402nd, 403rd, 404th, 405th, 406th, 407th, 408th, 409th, 410th, 411st, 412nd, 413th, 414th, 415th, 416th, 417th, 418th, 419th, 420th, 421st, 422nd, 423rd, 424th, 425th, 426th, 427th, 428th, 429th, 430th, 431st, 432nd, 433rd, 434th, 435th, 436th, 437th, 438th, 439th, 440th, 441st, 442nd, 443rd, 444th, 445th, 446th, 447th, 448th, 449th, 450th, 451st, 452nd, 453rd, 454th, 455th, 456th, 457th, 458th, 459th, 460th, 461st, 462nd, 463rd, 464th, 465th, 466th, 467th, 468th, 469th, 470th, 471st, 472nd, 473rd, 474th, 475th, 476th, 477th, 478th, 479th, 480th, 481st, 482nd, 483rd, 484th, 485th, 486th, 487th, 488th, 489th, 490th, 491st, 492nd, 493rd, 494th, 495th, 496th, 497th, 498th, 499th, 500th, 501st, 502nd, 503rd, 504th, 505th, 506th, 507th, 508th, 509th, 510th, 511st, 512nd, 513th, 514th, 515th, 516th, 517th, 518th, 519th, 520th, 521st, 522nd, 523rd, 524th, 525th, 526th, 527th, 528th, 529th, 530th, 531st, 532nd, 533rd, 534th, 535th, 536th, 537th, 538th, 539th, 540th, 541st, 542nd, 543rd, 544th, 545th, 546th, 547th, 548th, 549th, 550th, 551st, 552nd, 553rd, 554th, 555th, 556th, 557th, 558th, 559th, 560th, 561st, 562nd, 563rd, 564th, 565th, 566th, 567th, 568th, 569th, 570th, 571st, 572nd, 573rd, 574th, 575th, 576th, 577th, 578th, 579th, 580th, 581st, 582nd, 583rd, 584th, 585th, 586th, 587th, 588th, 589th, 590th, 591st, 592nd, 593rd, 594th, 595th, 596th, 597th, 598th, 599th, 600th, 601st, 602nd, 603rd, 604th, 605th, 606th, 607th, 608th, 609th, 610th, 611st, 612nd, 613th, 614th, 615th, 616th, 617th, 618th, 619th, 620th, 621st, 622nd, 623rd, 624th, 625th, 626th, 627th, 628th, 629th, 630th, 631st, 632nd, 633rd, 634th, 635th, 636th, 637th, 638th, 639th, 640th, 641st, 642nd, 643rd, 644th, 645th, 646th, 647th, 648th, 649th, 650th, 651st, 652nd, 653rd, 654th, 655th, 656th, 657th, 658th, 659th, 660th, 661st, 662nd, 663rd, 664th, 665th, 666th, 667th, 668th, 669th, 670th, 671st, 672nd, 673rd, 674th, 675th, 676th, 677th, 678th, 679th, 680th, 681st, 682nd, 683rd, 684th, 685th, 686th, 687th, 688th, 689th, 690th, 691st, 692nd, 693rd, 694th, 695th, 696th, 697th, 698th, 699th, 700th, 701st, 702nd, 703rd, 704th, 705th, 706th, 707th, 708th, 709th, 710th, 711st, 712nd, 713th, 714th, 715th, 716th, 717th, 718th, 719th, 720th, 721st, 722nd, 723rd, 724th, 725th, 726th, 727th, 728th, 729th, 730th, 731st, 732nd, 733rd, 734th, 735th, 736th, 737th, 738th, 739th, 740th, 741st, 742nd, 743rd, 744th, 745th, 746th, 747th, 748th, 749th, 750th, 751st, 752nd, 753rd, 754th, 755th, 756th, 757th, 758th, 759th, 760th, 761st, 762nd, 763rd, 764th, 765th, 766th, 767th, 768th, 769th, 770th, 771st, 772nd, 773rd, 774th, 775th, 776th, 777th, 778th, 779th, 780th, 781st, 782nd, 783rd, 784th, 785th, 786th, 787th, 788th, 789th, 790th, 791st, 792nd, 793rd, 794th, 795th, 796th, 797th, 798th, 799th, 800th, 801st, 802nd, 803rd, 804th, 805th, 806th, 807th, 808th, 809th, 810th, 811st, 812nd, 813th, 814th, 815th, 816th, 817th, 818th, 819th, 820th, 821st, 822nd, 823rd, 824th, 825th, 826th, 827th, 828th, 829th, 830th, 831st, 832nd, 833rd, 834th, 835th, 836th, 837th, 838th, 839th, 840th, 841st, 842nd, 843rd, 844th, 845th, 846th, 847th, 848th, 849th, 850th, 851st, 852nd, 853rd, 854th, 855th, 856th, 857th, 858th, 859th, 860th, 861st, 862nd, 863rd, 864th, 865th, 866th, 867th, 868th, 869th, 870th, 871st, 872nd, 873rd, 874th, 875th, 876th, 877th, 878th, 879th, 880th, 881st, 882nd, 883rd, 884th, 885th, 886th, 887th, 888th, 889th, 890th, 891st, 892nd, 893rd, 894th, 895th, 896th, 897th, 898th, 899th, 900th, 901st, 902nd, 903rd, 904th, 905th, 906th, 907th, 908th, 909th, 910th, 911st, 912nd, 913th, 914th, 915th, 916th, 917th, 918th, 919th, 920th, 921st, 922nd, 923rd, 924th, 925th, 926th, 927th, 928th, 929th, 930th, 931st, 932nd, 933rd, 934th, 935th, 936th, 937th, 938th, 939th, 940th, 941st, 942nd, 943rd, 944th, 945th, 946th, 947th, 948th, 949th, 950th, 951st, 952nd, 953rd, 954th, 955th, 956th, 957th, 958th, 959th, 960th, 961st, 962nd, 963rd, 964th, 965th, 966th, 967th, 968th, 969th, 970th, 971st, 972nd, 973rd, 974th, 975th, 976th, 977th, 978th, 979th, 980th, 981st, 982nd, 983rd, 984th, 985th, 986th, 987th, 988th, 989th, 990th, 991st, 992nd, 993rd, 994th, 995th, 996th, 997th, 998th, 999th, 1000th, 1001st, 1002nd, 1003rd, 1004th, 1005th, 1006th, 1007th, 1008th, 1009th, 1010th, 1011st, 1012nd, 1013th, 1014th, 1015th, 1016th, 1017th, 1018th, 1019th, 1020th, 1021st, 1022nd, 1023rd, 1024th, 1025th, 1026th, 1027th, 1028th, 1029th, 1030th, 1031st, 1032nd, 1033rd, 1034th, 1035th, 1036th, 1037th, 1038th, 1039th, 1040th, 1041st, 1042nd, 1043rd, 1044th, 1045th, 1046th, 1047th, 1048th, 1049th, 1050th, 1051st, 1052nd, 1053rd, 1054th, 1055th, 1056th, 1057th, 1058th, 1059th, 1060th, 1061st, 1062nd, 1063rd, 1064th, 1065th, 1066th, 1067th, 1068th, 1069th, 1070th, 1071st, 1072nd, 1073rd, 1074th, 1075th, 1076th, 1077th, 1078th, 1079th, 1080th, 1081st, 1082nd, 1083rd, 1084th, 1085th, 1086th, 1087th, 1088th, 1089th, 1090th, 1091st, 1092nd, 1093rd, 1094th, 1095th, 1096th, 1097th, 1098th, 1099th, 1100th, 1101st, 1102nd, 1103rd, 1104th, 1105th, 1106th, 1107th, 1108th, 1109th, 1110th, 1111st, 1112nd, 1113th, 1114th, 1115th, 1116th, 1117th, 1118th, 1119th, 1120th, 1121st, 1122nd, 1123rd, 1124th, 1125th, 1126th, 1127th, 1128th, 1129th, 1130th, 1131st, 1132nd, 1133rd, 1134th, 1135th, 1136th, 1137th, 1138th, 1139th, 1140th, 1141st, 1142nd, 1143rd, 1144th, 1145th, 1146th, 1147th, 1148th, 1149th, 1150th, 1151st, 1152nd, 1153rd, 1154th, 1155th, 1156th, 1157th, 1158th, 1159th, 1160th, 1161st, 1162nd, 1163rd, 1164th, 1165th, 1166th, 1167th, 1168th, 1169th, 1170th, 1171st, 1172nd, 1173rd, 1174th, 1175th, 1176th, 1177th, 1178th, 1179th, 1180th, 1181st, 1182nd, 1183rd, 1184th, 1185th, 1186th, 1187th, 1188th, 1189th, 1190th, 1191st, 1192nd, 1193rd, 1194th, 1195th, 1196th, 1197th, 1198th, 1199th, 1200th, 1201st, 1202nd, 1203rd, 1204th, 1205th, 1206th, 1207th, 1208th, 1209th, 1210th, 1211st, 1212nd, 1213th, 1214th, 1215th, 1216th, 1217th, 1218th, 1219th, 1220th, 1221st, 1222nd, 1223rd, 1224th, 1225th, 1226th, 1227th, 1228th, 1229th, 1230th, 1231st, 1232nd, 1233rd, 1234th, 1235th, 1236th, 1237th, 1238th, 1239th, 1240th, 1241st, 1242nd, 1243rd, 1244th, 1245th, 1246th, 1247th, 1248th, 1249th, 1250th, 1251st, 1252nd, 1253rd, 1254th, 1255th, 1256th, 1257th, 1258th, 1259th, 1260th, 1261st, 1262nd, 1263rd, 1264th, 1265th, 1266th, 1267th, 1268th, 1269th, 1270th, 1271st, 1272nd, 1273rd, 1274th, 1275th, 1276th, 1277th, 1278th, 1279th, 1280th, 1281st, 1282nd, 1283rd, 1284th, 1285th, 1286th, 1287th, 1288th, 1289th, 1290th, 1291st, 1292nd, 1293rd, 1294th, 1295th, 1296th, 1297th, 1298th, 1299th, 1300th, 1301st, 1302nd, 1303rd, 1304th, 1305th, 1306th, 1307th, 1308th, 1309th, 1310th, 1311st, 1312nd, 1313th, 1314th, 1315th, 1316th, 1317th, 1318th, 1319th, 1320th, 1321st, 1322nd, 1323rd, 1324th, 1325th, 1326th, 1327th, 1328th, 1329th, 1330th, 1331st, 1332nd, 1333rd, 1334th, 1335th, 1336th, 1337th, 1338th, 1339th, 1340th, 1341st, 1342nd, 1343rd, 1344th, 1345th, 1346th, 1347th, 1348th, 1349th, 1350th, 1351st, 1352nd, 1353rd, 1354th, 1355th, 1356th, 1357th, 1358th, 1359th, 1360th, 1361st, 1362nd, 1363rd, 1364th, 1365th, 1366th, 1367th, 1368th, 1369th, 1370th, 1371st, 1372nd, 1373rd, 1374th, 1375th, 1376th, 1377th, 1378th, 1379th, 1380th, 1381st, 1382nd, 1383rd, 1384th, 1385th, 1386th, 1387th, 1388th, 1389th, 1390th, 1391st, 1392nd, 1393rd, 1394th, 1395th, 1396th, 1397th, 1398th, 1399th, 1400th, 1401st, 1402nd, 1403rd, 1404th, 1405th, 1406th, 1407th, 1408th, 1409th, 1410th, 1411st, 1412nd, 1413th, 1414th, 1415th, 1416th, 1417th, 1418th, 1419th, 1420th, 1421st, 1422nd, 1423rd, 1424th, 1425th, 1426th, 1427th, 1428th, 1429th, 1430th, 1431st, 1432nd, 1433rd, 1434th, 1435th, 1436th, 1437th, 1438th, 1439th, 1440th, 1441st, 1442nd, 1443rd, 1444th, 1445th, 1446th, 1447th, 1448th, 1449th, 1450th, 1451st, 1452nd, 1453rd, 1454th, 1455th, 1456th, 1457th, 1458th, 1459th, 1460th, 1461st, 1462nd, 1463rd, 1464th, 1465th, 1466th, 1467th, 1468th, 1469th, 1470th, 1471st, 1472nd, 1473rd, 1474th, 1475th, 1476th, 1477th, 1478th, 1479th, 1480th, 1481st, 1482nd, 1483rd, 1484th, 1485th, 1486th, 1487th, 1488th, 1489th, 1490th, 1491st, 1492nd, 1493rd, 1494th, 1495th, 1496th, 1497th, 1498th, 1499th, 1500th, 1501st, 1502nd, 1503rd, 1504th, 1505th, 1506th, 1507th, 1508th, 1509th, 1510th, 1511st, 1512nd, 1513th, 1514th, 1515th, 1516th, 1517th, 1518th, 1519th, 1520th, 1521st, 1522nd, 1523rd, 1524th, 1525th, 1526th, 1527th, 1528th, 1529th, 1530th, 1531st, 1532nd, 1533rd, 1534th, 1535th, 1536th, 1537th, 1538th, 1539th, 1540th, 1541st, 1542nd, 1543rd, 1544th, 1545th, 1546th, 1547th, 1548th, 1549th, 1550th, 1551st, 1552nd, 1553rd, 1554th, 1555th, 1556th, 1557th, 1558th, 1559th, 1560th, 1561st, 1562nd, 1563rd, 1564th, 1565th, 1566th, 1567th, 1568th, 1569th, 1570th, 1571st, 1572nd, 1573rd, 1574th, 1575th, 1576th, 1577th, 1578th, 1579th, 1580th, 1581st, 1582nd, 1583rd, 1584th, 1585th, 1586th, 1587th, 1588th, 1589th, 1590th, 1591st, 1592nd, 1593rd, 1594th, 1595th, 1596th, 1597th, 1598th, 1599th, 1600th, 1601st, 1602nd, 1603rd, 1604th, 1605th, 1606th, 1607th, 1608th, 1609th, 1610th, 1611st, 1612nd, 1613th, 1614th, 1615th, 1616th, 1617th, 1618th, 1619th, 1620th, 1621st, 1622nd, 1623rd, 1624th, 1625th, 1626th, 1627th, 1628th, 1629th, 1630th, 1631st, 1632nd, 1633rd, 1634th, 1635th, 1636th, 1637th, 1638th, 1639th, 1640th, 1641st, 1642nd, 1643rd, 1644th, 1645th, 1646th, 1647th, 1648th, 1649th, 1650th, 1651st, 1652nd, 1653rd, 1654th, 1655th, 1656th, 1657th, 1658th, 1659th, 1660th, 1661st, 1662nd, 1663rd, 1664th, 1665th, 1666th, 1667th, 1668th, 1669th, 1670th, 1671st, 1672nd, 1673rd, 1674th, 1675th, 1676th, 1677th, 1678th, 1679th, 1680th, 1681st, 1682



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
3	Dr. Sheetal Powar	978-81-942249-1-4	2019-20
<b>Title of the chapter/Book Published</b>		F.Y.B.Sc. Sem I, Paper II Concise Graduate Chemistry -II, University Textbook of Chemistry.	
<b>Name of the publisher</b>		University Press, University of Mumbai	



**TEAM OF REVIEWERS**  
 Following experts have reviewed periodically the draft of the texts prepared by the authors at various times and have helped in discussions and suggestions in preparing these text books.

Sr. No.	Name of Faculty	Name of College
1.	Mrs. Sureshpa Salvi	Solapur College, Mumbai
2.	Dr. Prakash Desai	B. V. S. College, Bhiwandi
3.	Dr. Pradyumn Shrivastav	Gogate Jagadkar College, Ratnagiri
4.	Dr. Magesh Desai	Dept. of Chemistry, University of Mumbai
5.	Dr. Vishwanath Patil	Maharashtra College, Mumbai
6.	Dr. Mrs. Jyotsna Shaikh	S. P. K. College, Sawarwadi
7.	Dilip Godkar	Amruthi Pradhan College, Pughar
8.	Dr. Dinesh Bhagat	Shri J. N. Patilwala College, Pali
9.	Dr. Suresh Juvarekar	S. L. S. College, Mumbai
10.	Dr. Madhukar Badigjar	S. Xavier's College, Mumbai
11.	Dr. George Abraham	
12.	Dr. Prasad Rajge	

Available Hard Copy Print Only

**VIVA College Road, Virar (West), Pin – 401303**  
**Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)**



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.

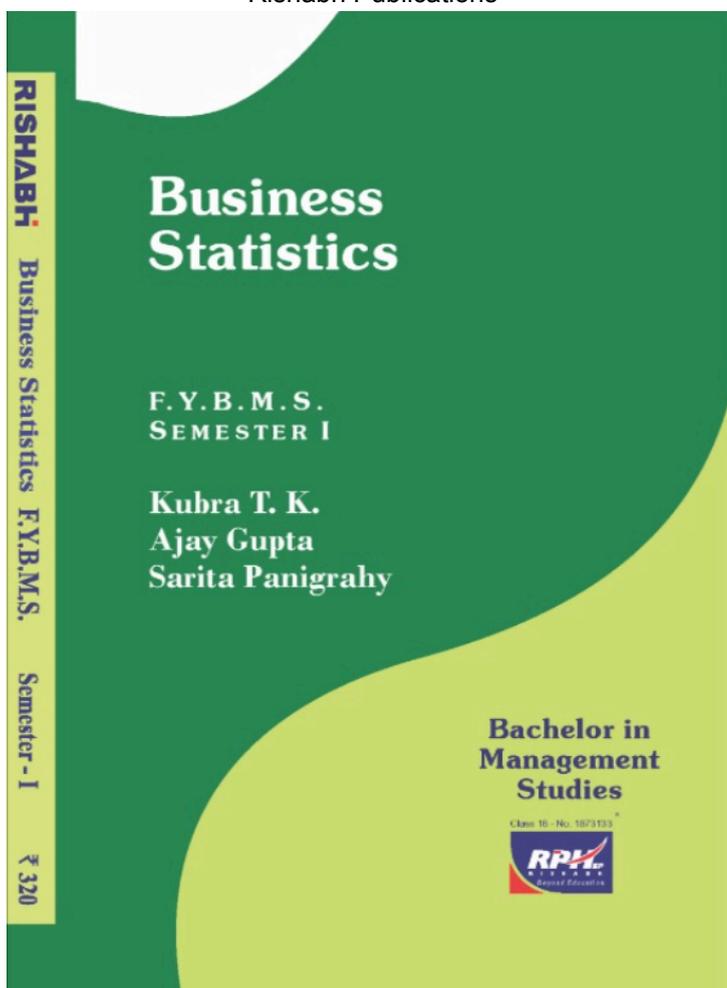


**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
4	Sarita Panigrahy	978-93-83072-32-3	2019-20
Title of the chapter/Book Published		Business Statistics	

Name of the publisher

Rishabh Publications



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

<b>CONTENTS</b>		
Unit Chapter No	Chapter Name	Page No.
<b>Unit - I</b>		
1.	Interest	1
2.	Annuity	33
3.	Functions and Their Applications	59
4.	Permutation and Combination	86
<b>Unit - II</b>		
5.	Matrices - I	105
6.	Determinants	126
7.	Matrices - II	152
8.	Input Output Analysis	173
<b>Unit - III</b>		
9.	Derivatives	184
10.	Application of Derivative	195
<b>Unit - IV</b>		
11.	Numerical Analysis (Interpolation)	231

<b>SYLLABUS</b>		
Unit	Name of the Topic	No. of Lectures
Unit I	<b>Elementary Financial Mathematics.</b> 1) <b>Simple and Compound Interest:</b> Interest compounded once a year, more than once a year, continuous, nominal and effective rate of interest. 2) <b>Annuity</b> -Present and future value-sinking funds 3) <b>Depreciation of Assets:</b> Equated Monthly Instalments (EMI)-using flat interest rate and reducing balance method. 4) <b>Functions:</b> Algebraic functions and the functions used in business and economics, Break Even and Equilibrium point. 5) <b>Permutation and Combination:</b> (Simple problems to be solved with the calculator only)	13
Unit II	<b>Matrices and Determinants.</b> 1) <b>Matrices:</b> Some important definitions and some important results. Matrix operation (Addition, scalar multiplication, matrix multiplication, transpose of a matrix) 2) <b>Determinants of a matrix of order two or three</b> -properties and results of Determinants 3) Solving a system of linear equations using Cramer's rule 4) Inverse of a Matrix (up to order three) using ad-joint of a matrix and matrix inversion method 5) <b>Case study</b> - Input Output Analysis	12
Unit III	<b>Derivatives and applications of Derivatives</b> 1) <b>Introduction and Concept</b> - Derivatives of constant function, logarithmic functions, polynomial and exponential function 2) <b>Rules of derivatives:</b> addition, multiplication, quotient 3) Second order derivatives 4) <b>Application of Derivatives:</b> Maxima, Minima, Average Cost and Marginal Cost. Total revenue, Marginal revenue, Average revenue. Average and Marginal profit. Price elasticity of demand	13
Unit IV	<b>Numerical Analysis [Interpolation]</b> Introduction and concept – Finite differences – forward difference operator – Newton's forward difference formula with simple examples Backward Difference Operator. Newton's backward interpolation formula with simple examples.	12

Online Proof Link <https://rphep.com/books-and-publications/businesss-statistics/>

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## **Books/Chapters Publication 2018-19**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*

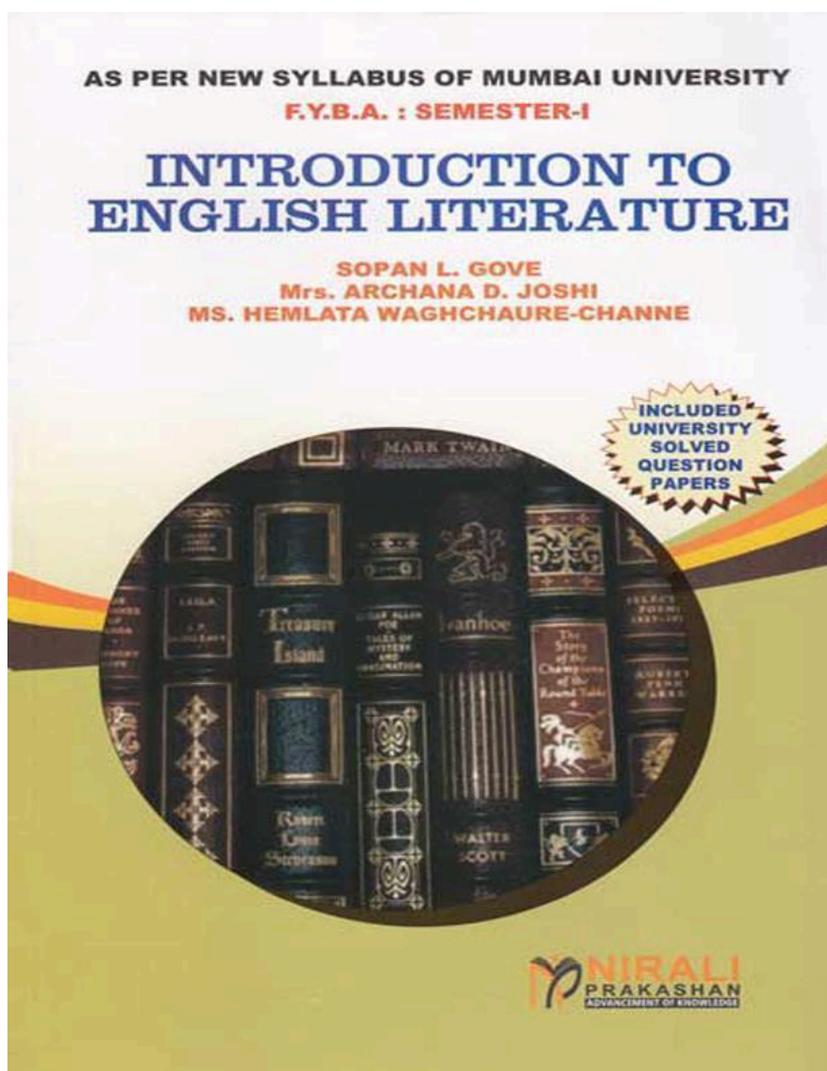
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
1	Dr. Archana Joshi	978-93-86700-53-7	2018-19
Title of the chapter/Book Published		F.Y.B.A. English: Introduction to English Literature	
Name of the publisher		NIRALI PRAKASHAN	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

**F.Y.B.A. English**

**INTRODUCTION  
TO  
ENGLISH LITERATURE**

**Semester I**

**Mr. Sopan L. Gove**

M.A., B.Ed., SET  
Assistant Professor  
Rayat Shikshan Sanstha's Mahatma Phule  
Arts, Science and Commerce College,  
Panvel, District - Raigad.

**Mrs. Archana D. Joshi**

M.A., M.Phil,  
Co-ordinator,  
Department of English  
VIVA College,  
Virar, District - Palghar.

**Ms. Hemlata Waghchaure - Channe**

M.A., B.Ed., SET  
Head, Dept. of English  
DSPM's K. V. Pendharkar College  
of Arts, Science and Commerce.  
MIDC, Dombivali (W). District - Thane.

**Price ₹ 85.00**

 **NIRALI**  
PRAKASHAN  
ADVANCEMENT OF KNOWLEDGE

**N0449**

**SYLLABUS AND CONTENTS**

**Programme: B.A.**

**Course: Introduction to Literature**

(Choice Based Credit System with effect from the academic year 2016-2017)  
Semester One: Introduction to Literature – (Short Stories and Novel)

**Unit 1: Terms: 1.1 - 1.38**

**Section A: Elements of Novel and Short Story**

1. Plot
2. Character
3. Setting
4. Narrative
5. Theme
6. Point of View

**Section B: Types of Novel**

1. Bildungsroman
2. Picaresque Novel
3. Epistolary Novel
4. Stream-of-Consciousness Novel
5. Novel of Social Reality
6. Psychological Novel
7. Historical Novel
8. Science Fiction
9. Gothic Novel
10. Graphic Novel

**Unit 2: Short Stories: 2.1 - 2.76**

1. O'Henry : "The Last Leaf"
2. H.H. Munro : "The Open Window"
3. Oscar Wilde : "The Nightingale and the Rose"
4. Edgar Allan Poe : "The Tell-tale Heart"
5. Katherine Mansfield : "The Doll's House"
6. Kate Chopin : "The Story of an Hour"

**Unit 3: Novel: 3.1 - 3.70**

1. Jane Austen: 'Pride and Prejudice'  
**OR**
2. Robert Louis Stevenson: 'Dr. Jekyll and Mr. Hyde'

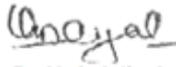
**Question Papers P.1 - P.4**

\*\*\*

**Available Hard Copy Only**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



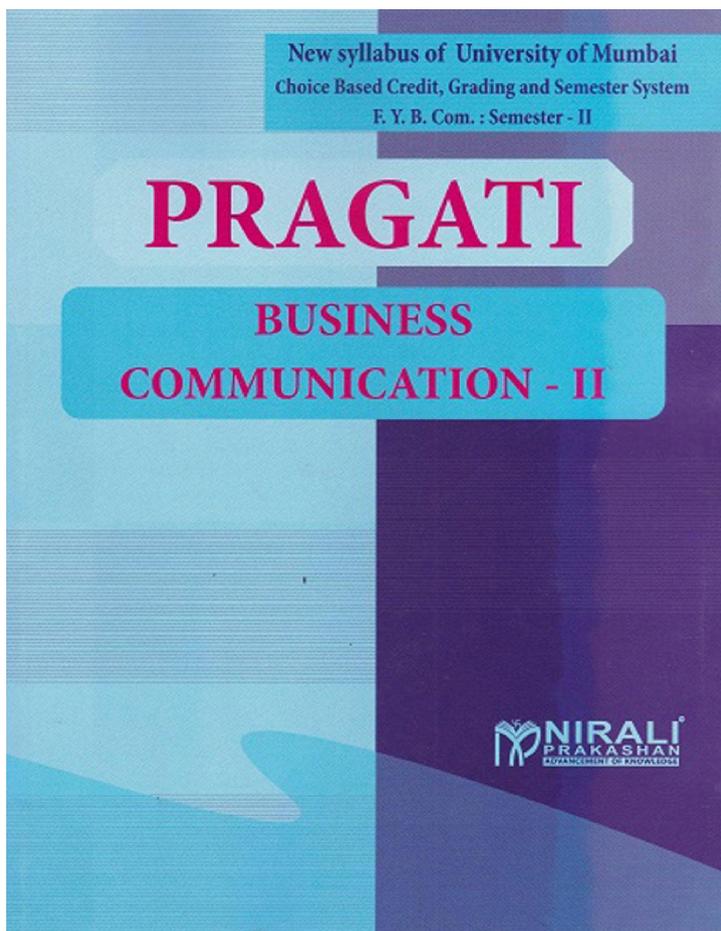
  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

2	Dr. Archana Joshi	978-9388-89741-9	2018-19
<b>Title of the chapter/Book Published</b>		Business Communication Paper II – University of Mumbai	
<b>Name of the publisher</b>		NIRALI PRAKASHAN	



**ACCORDING TO NEW SYLLABUS**

Prepared as per the New Syllabus of University of Mumbai Under Choice Based Credit, Grading and Semester System with Effect from the Academic Year 2016 - 17

**PRAGATI**

**BUSINESS COMMUNICATION – II**

**F. Y. B. COM. – Semester II**

● SALIENT FEATURES ●

- + 'Easy to Learn' Approach
- + Pointwise answers with simple and lucid language.
- + Complete Coverage of the Syllabus
- + This book will provide perfect guidance to the students preparing for their examination.

By

<b>Mrs. ARCHANA D. JOSHI</b> M. A., M. Phil Pursuing Ph.D VIVA COLLEGE VIRAR	<b>Mrs. PADMAJA N. JOSHI</b> M. A., B. ED VIVA COLLEGE VIRAR
--	---

**Price : ₹ 100.00**

**NIRALI PRAKASHAN**  
ADVANCEMENT OF KNOWLEDGE

P0588

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## CONTENTS

1. Group Communication	1.1 – 1.60
2. Business Correspondence	2.1 – 2.28
3. Language and Writing Skills	3.1 – 3.19
* University Question Papers	P.1 – P.4

## SYLLABUS

(New Syllabus w.e.f. June 2016)

*F.Y.B. Com : Sem – II : Business Communication II*

### 1 GROUP COMMUNICATION

- (A) **Interview** : Group Discussion, Preparing for an Interview, Types of Interviews-Selection, Appraisal, Grievance, Exit, Online
- (B) **Meetings** : Need and Importance of Meetings, Conduct of Meeting and Group Dynamics, Role of the Chairperson, Role of the Participants, Drafting of Notice, Agenda and Resolutions, Types of Secretaries - Company Secretary/Private Secretary, Functions of Secretaries (Only to be discussed and not to be assessed)
- (C) **Committees and Conference** : Importance & Types of Committees, Meaning and Importance of Conference, Organising a Conference, Modern Methods : Skype and Webinar
- (D) **Public Relations** : Meaning, Function of PR Department, External and Internal Measures of PR, Crisis Management, Press Release

### 2. BUSINESS CORRESPONDENCE :

(A) **Trade Letters** :

Letter of Inquiry, Letters of Complaints, Claims, Adjustments, Sales Letters, Promotional Leaflets and Fliers, Consumer Grievance Redressed Letters, Letters under Right to Information (RTI) Act.

Online Proof  
Link

Available Hard Copy Only

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



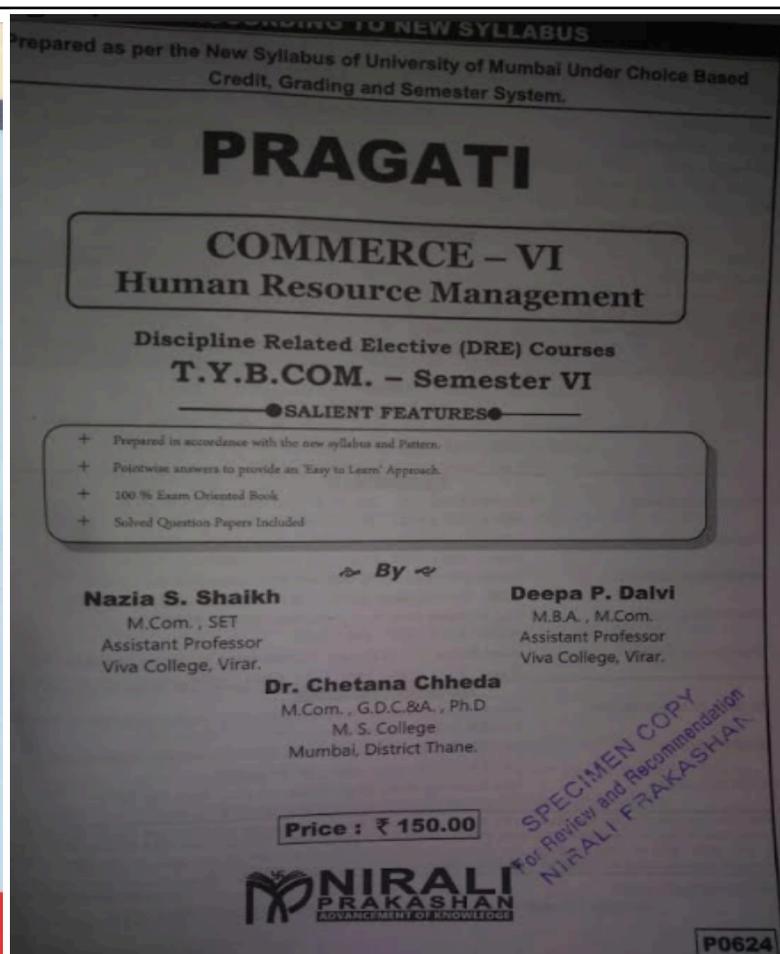
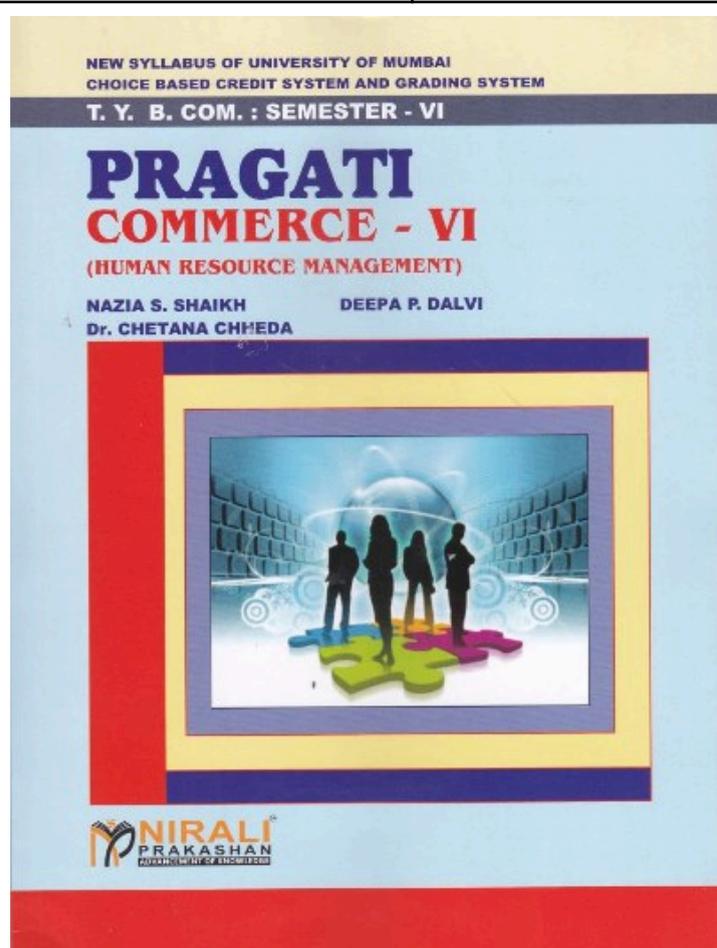
*Anojal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
3	Deepa Dalvi	9789388293617	2018-19
Title of the chapter/Book Published		Commerce VI - Human Resource Management – University of Mumbai	
Name of the publisher		NIRALI PRAKASHAN	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## CONTENTS

1. Human Resource Management	1.1 – 1.38
2. Human Resource Development	2.1 – 2.42
3. Human Relations	3.1 – 3.38
4. Trends in Human Resource Management	4.1 – 4.46
5. Model Question Papers	P.1 – P.8

## SYLLABUS

*Human Resource Management*  
T.Y.B.Com. : Sem. VI : Commerce – VI

Online Proof  
Link

<https://pragationline.com/commerce-vi-human-resource-management-2/>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



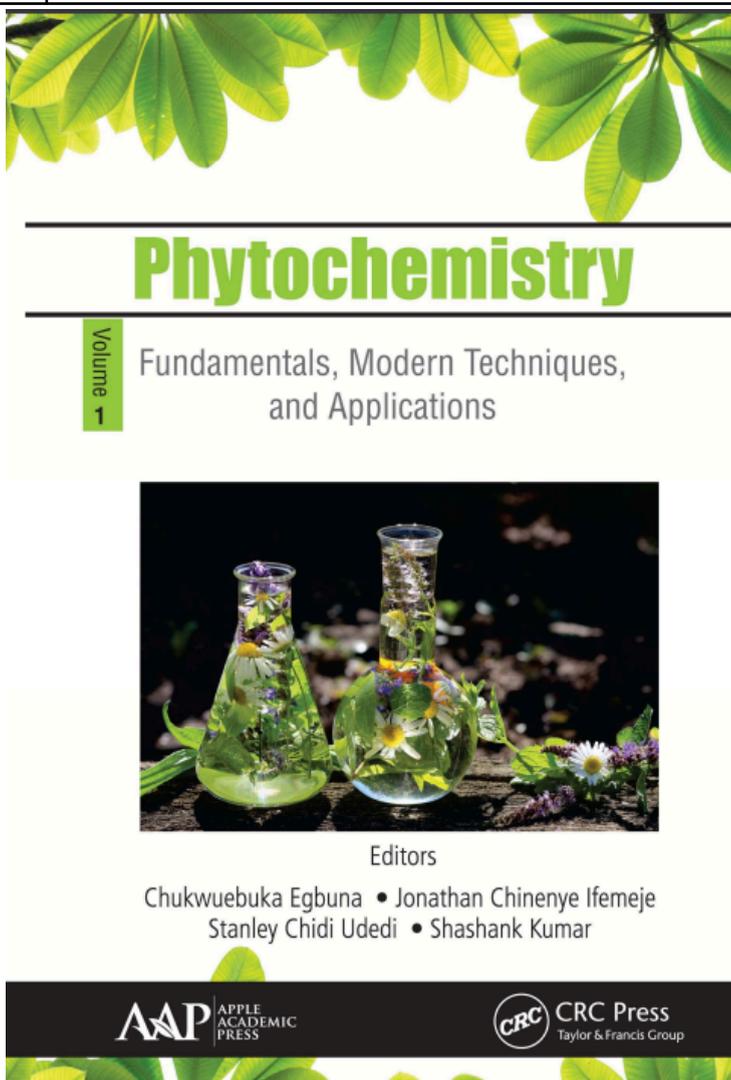
*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



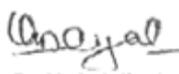
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr. No	Name of the Faculty	ISBN	Year
4	Dr. Deepa Verma Dr. Rohan Gavankar	978-0-429-42622-3	2018-19
<b>Title of the chapter/Book Published</b>		High-Performance Liquid Chromatography and High-Performance Thin-Layer Chromatography as Sophisticated Tools in Phytochemical Analysis.	
<b>Name of the publisher</b>		Taylor & Francis Group	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
**Principal**  
 Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Chapter 12   36 pages Ultraviolet/Visible Spectroscopy and HPLC in Phytochemical Analysis: An Introduction By Ade Kujore Abstract ▾	<a href="#">GET ACCESS</a>
Chapter 13   26 pages High-Performance Liquid Chromatography and High-Performance Thin- Layer Chromatography as Sophisticated Tools in Phytochemical Analysis By Deepa R. Verma, Rohan V. Gavankar Abstract ▾	<a href="#">GET ACCESS</a>
Chapter 14   14 pages Analytical Techniques in Elemental Profiling By Andrew G. Mtewa, Annu Amanjot Abstract ▾	<a href="#">GET ACCESS</a>

## Phytochemistry

Volume 1: Fundamentals, Modern Techniques, and Applications

*Edited By Chukwuebuka Egbuna, Jonathan Chinenye Ifemeje, Stanley Chidi Udedi, Shashank Kumar*

Edition	1st Edition
First Published	2018
eBook Published	14 December 2018
Pub. Location	New York
Imprint	Apple Academic Press
DOI	<a href="https://doi.org/10.1201/9780429426223">https://doi.org/10.1201/9780429426223</a>
Pages	684
eBook ISBN	9780429426223
Subjects	Bioscience

[Share](#)

[66](#)  
Citation

**Online Proof Link**

<https://doi.org/10.1201/9780429426223>

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher during last five year**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

**Index**  
**Bookmark Links**

<u><a href="#">Conference Proceedings 2022-23</a></u>			
SR. No	Name of the teacher	Title of the paper	Title of the proceedings of the conference
1	Swati Patil	<u><a href="#">New era of learning through social media platform (teaching-learning perspective)</a></u>	Recent trends in the field of commerce, management, humanities & social sciences
<u><a href="#">Conference Proceedings 2021-22</a></u>			
1	Dr. Basil Dmello	<u><a href="#">Assessment of pH, temperature and nitrogen concentration variation on pigment composition of thermotolerant microalgae.</a></u>	PROCEEDINGS OF THE INTERNATIONAL VIRTUAL CONFERENCE ON BIOLOGICAL INNOVATIONS & COMPUTATIONAL EXPLORATION FOR PANDEMIC CHALLENGES (BICPAC'22)
2	Jagruti Raut	<u><a href="#">Crop yield prediction using Machine Learning and Deep Learning Techniques: A Review</a></u>	Advances in Computing Science and Technology

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

3	Dr. Zeba siddiqui	<a href="#">Violence as the instrument of patriarchy in Arudhati Roys novel</a> <a href="#">THE GOD OF SMALL THINGS</a>	Excels International Journal of social science & Humanities
4	Delcy Lopes, Jagruti Naukudkar	<a href="#">An empirical study on fostering teaching activities for enthusiastic teaching</a>	Fostering Teaching learning practices for quality enhancement in higher educational institutions, Edition I: 5th July 2021, pg.32
5	Jagruti Naukudkar, Glorita Perira	<a href="#">A study on students approach towards economics and identifying student friendly practices for quality learning</a>	Fostering Teaching learning practices for quality enhancement in higher educational institutions, Edition I: 5th July 2021, pg.27
6	Dr. Rohan Gavankar	<a href="#">Fingerprinting analysis of phytosterols from Madhuca longifolia (Koenig) J. P. MACB Var. latifolia (Roxb) cheval leaves using high performance thin layer chromatography (HPTLC) analysis</a>	Fingerprinting analysis of phytosterols from Madhuca longifolia (Koenig) J. P. MACB Var. latifolia (Roxb) cheval leaves using high performance thin layer chromatography (HPTLC) analysis
<b><u>Conference Proceedings 2020-21</u></b>			
1	Jagruti Naukudkar Glorita Pereira Delcy Lopes	<a href="#">A STUDY ON MODERN APPROACH TOWARDS THE FINANCIAL LITERACY OF GENERATION Z</a>	INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

2	Delcy Lopes Jagruti Naukudkar	<a href="#">A Study on Role of Educational Institute for Integrated Financial Planning Program for Youth</a>	International Journal of Advance and Innovative Research
<b><u>Conference Proceedings 2018-19</u></b>			
1	Dr Basil D'Mello	<a href="#">Isolation of heterotrophic lipid producing strain of Scenedesmus ecornis from hot springs</a>	International Journal of Advance and Innovative Research
2	Dr. Shraddha Khamkar	<a href="#">ENZYME – ASSAY GUIDED ISOLATION OF AN A-AMYLASE INHIBITOR FLAVANOID FROM ALLIUM SATIVUM LEAVES, INVITRO</a>	International Journal of Advance and Innovative Research
3	Rohan D'Souza	<a href="#">DETERMINATION OF HEAVY METALS IN SURFACE AND GROUND WATER IN VASAI REGION</a>	International Journal of Advance and Innovative Research
4	Niyanta Dave, Dr. Hemangi Raut	<a href="#">CHARACTERIZATIONS OF CDS THIN FILMS PREPARED BY CHEMICAL BATH DEPOSITION AT DIFFERENT TEMPERATURE</a>	International Journal of Advance and Innovative Research
5	Prof. Deepak Gupta	<a href="#">An Analytical study of the customers attitude and satisfaction towards investment in Life insurance policies</a>	International Journal of Advance and Innovative Research
6	Prof. Snehal patil	<a href="#">Innovative Techniques in Higher Education'</a>	International Journal of Advance and Innovative Research

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

7	Victoria M, Tanvi Bore, Deepa Verma	<a href="#">screening of antibiotics in Poultry liver, kidney, Gall bladder and muscles</a>	International Journal of Advance and Innovative Research
8	Dr. Rohan Gavankar	<a href="#">POTENTIAL SCREENING OF LAB FOR PROBIOTIC PROPERTIES FROM MILK SAMPLES OF BUFFALO AND GOAT</a>	International Journal of Advance and Innovative Research
9	Mrs Delcy Lopes, Swati Patil Miss. Alina D'costa,	<a href="#">Interactive Media: An Opportunity for Entrepreneurs from Developing Region</a>	International Journal of Advance and Innovative Research
10	Shruti B. Basare Prof. Sayali Patil Shruti Patil	<a href="#">Awareness among the college students about the harmful effects of cell phone radiation and its precautionary measures</a>	International Journal of Advance and Innovative Research
11	Prof. Sachin Arjun Kadam	<a href="#">The Vision of A Smart City</a>	International Journal of Advance and Innovative Research
12	Prof. Aaradhana Singh Prof. Nikita jogle	<a href="#">New horizons and challenges faced in digital marketing</a>	International Journal of Advance and Innovative Research
13	Dr. Rakhee Oza Amol Vaze	<a href="#">Self Help Group- Empowering Women</a>	International Journal of Advance and Innovative Research

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

14	Prof.Rupali patil	<a href="#">ऊर्जा साधने ,हवामानातील बदल आणि शाश्वत विकास</a>	Aarhat Multidisciplinary International Education Research Journal
15	Manasi Gawand	<a href="#">Food security in India with innovative Agricultural Technology</a>	International journal of Advance and innovative Research
16	Dr. Archana Devendra Joshi	<a href="#">SOFTSKILLS AN OPPORTUNITY: - A GATEWAY FOR EMPLOYABILITY</a>	International Journal of Advance and Innovative Research
17	S. Shivapriya Achari	<a href="#">ECOCRITICISM PERSPECTIVES IN INDIAN FICTION WITH REFERENCE OF SUDHAMURTI</a>	International Journal of Advance and Innovative Research
18	Dr. A. P. Pandey	<a href="#">LITERARY AESTHETICS TO FORESEE THE COURSE OF NATURE</a>	International Journal of Advance and Innovative Research
19	Ambujam Kurup	<a href="#">OVERVIEW - CAN INDIA BECOME A CASHLESS ECONOMY</a>	International Journal of Advance and Innovative Research
20	Deepa Pradeep Dalvi	<a href="#">TRENDS AND CONSUMER PERCEPTION TOWARDS ONLINE FOOD ORDERING SERVICES IN VASAI TALUKA</a>	International Journal of Advance and Innovative Research
21	Smita Khaire (Jadhav)	<a href="#">A GATEWAY OF OPPORTUNITIES TOWARDS WASTE MANAGEMENT</a>	International Journal of Advance and Innovative Research
22	Padma R. Chari	<a href="#">MIS-SELLING OF FINANCIAL PRODUCT</a>	International Journal of Advance and Innovative Research

**VIVA College Road, Virar (West), Pin – 401303**  
**Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)**



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**VIVA College Road, Virar (W), Pin-401303.**



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

23	Prof. Rashmi Mehbubani	<a href="#"><u>USE OF DIGITAL TECHNOLOGY IN BUSINESS AND FINANCE: ONLINE MARKETING</u></a>	International Journal of Advance and Innovative Research
24	Prof. Firoz K. Khan	<a href="#"><u>A STUDY ON INVESTORS AWARENESS TOWARDS DERIVATIVE MARKET IN BOMBAY STOCK EXCHANGE (BSE)</u></a>	International Journal of Advance and Innovative Research
25	Shalaka Patil	<a href="#"><u>DETERMINATION OF HEAVY METALS IN SURFACE AND GROUND WATER IN VASAI REGION</u></a>	International Journal of Advance and Innovative Research
26	Vishwanath Vinod Pawar	<a href="#"><u>CYBER CRIME AND SECURITY</u></a>	International Journal of Advance and Innovative Research
27	Dr. Neeta Rath	<a href="#"><u>A STUDY ON SOCIO-CULTURAL IMPACT OF TOURISM</u></a>	International Journal of Advance and Innovative Research
28	Dr. Vidya P. Verma	<a href="#"><u>INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN QUALITY TEACHING AND LEARNING</u></a>	International Journal of Advance and Innovative Research
29	Alina Alex Dcosta	<a href="#"><u>NEW MEDIA AND CONTENT CREATORS: A CONTEMPORARY COMBINATION REDEFINING SUCCESS</u></a>	International Journal of Advance and Innovative Research
30	Madhura Surve	<a href="#"><u>TREND OF NUTRACEUTICAL PRODUCTS IN YOUNG GENERATION &amp; ITS IMPACT ON HEALTH</u></a>	International Journal of Advance and Innovative Research

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

31	Nazia S. Shaikh	<a href="#">IMPACT OF DIGITAL MARKETING ON FASHION INDUSTRY</a>	International Journal of Advance and Innovative Research
32	Prof. Sandesh Akre Prof. Anuja Patil	<a href="#">GREEN AIRPORT, THE NEW ERA OF SUSTAINABILITY</a>	International Journal of Advance and Innovative Research
33	Jagruti S. Raut	<a href="#">A STUDY OF SENTIMENT ANALYSIS - ITS APPROACHES AND CHALLENGES</a>	International Journal of Advance and Innovative Research
34	Nileshwari V. Ghumre	<a href="#">SOCIO-ECONOMIC IMPACT OF MOBILE WALLETS ON THE URBAN YOUTH OF INDIA</a>	International Journal of Advance and Innovative Research
35	Mala khanchandani	<a href="#">Museum, A Media for learning Indian History Without Textbooks</a>	International Journal of Advanced and Innovative Research
36	Glorita Pereira Claretta Lopes Jagruti Naukudkar	<a href="#">A Study on Price Hike of Crude Oil and Coping up Strategies by households</a>	International Journal of Advance and Innovative Research

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Conference Proceedings 2022-23

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*

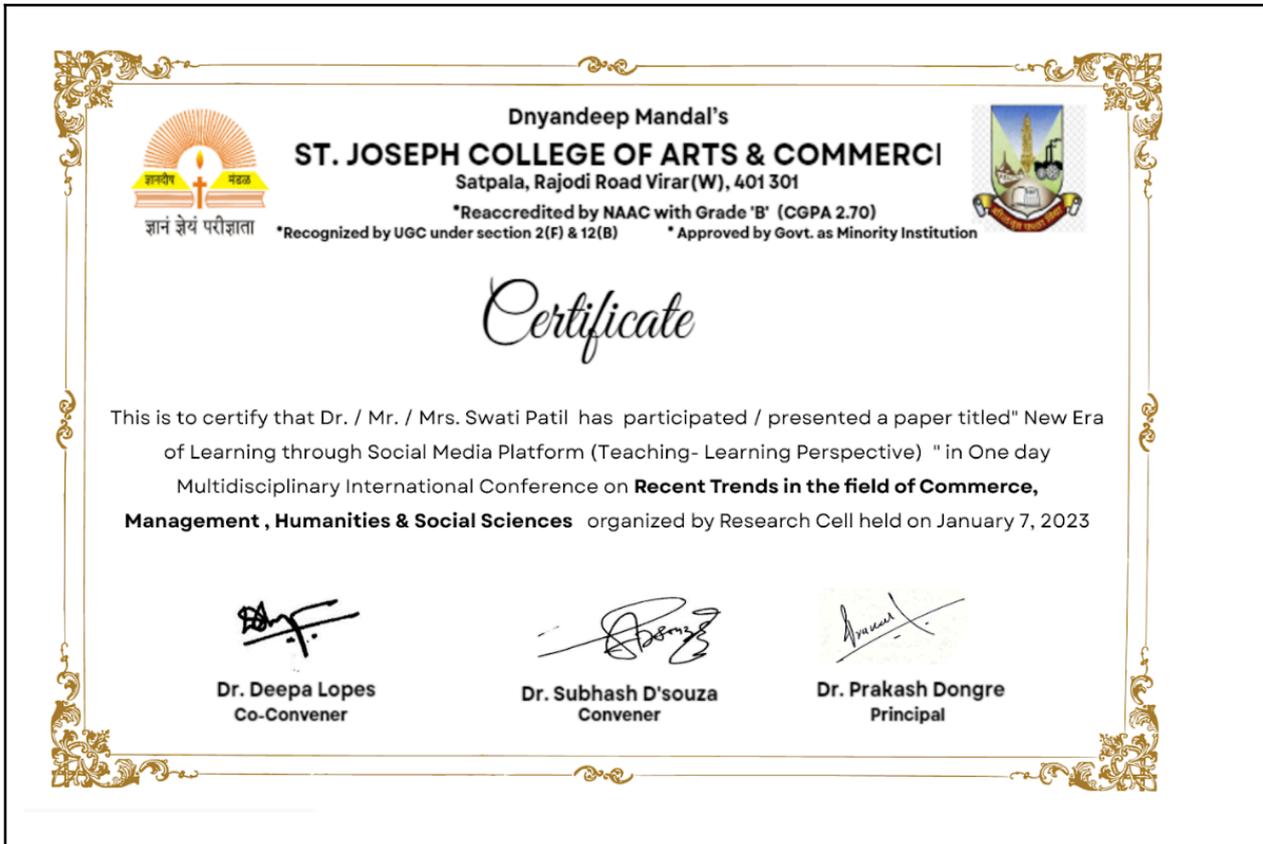
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN	Year
1	Swati Patil	978-81-930752-8-9	2022-23
<b>Title of the proceedings of the conference</b>	Recent trends in the field of commerce, management, humanities & social sciences		
<b>Title of the paper</b>	New era of learning through social media platform (teaching-learning perspective)		



VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Conference Proceedings 2021-22

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*

**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
2	Delcy Lopes, Jagruti Naukudkar	978-81-952413-1-6	2021-22
Title of the proceedings of the conference		Fostering Teaching learning practices for quality enhancement in higher educational institutions, Edition I: 5th July 2021, pg.27	
Title of the paper		An empirical study on fostering teaching activities for enthusiastic teaching	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



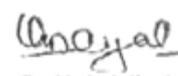
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
3	Jagruti Naukudkar, Glorita Perira	978-81-952413-1-6	2021-22
Title of the proceedings of the conference		Fostering Teaching learning practices for quality enhancement in higher educational institutions, Edition I: 5th July 2021, pg.27	
Title of the paper		A study on students approach towards economics and identifying student friendly practices for quality learning	



VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Sr No	Name	ISSN/ ISBN	Year
4	Jagruti Raut	978-93-562018-8-0	2021-22
Title of the proceedings of the conference		Advances in Computing Science and Technology	
Title of the paper		Crop yield prediction using Machine Learning and Deep Learning Techniques: A Review	

**IARJSET** ISSN (O) 2393-8021, ISSN (P) 2394-1588

 International Advanced Research Journal in Science, Engineering and Technology  
ISO 3297:2007 Certified  $\approx$  Impact Factor 7.105  $\approx$  Vol. 9, Issue 5, May 2022  
DOI: 10.17148/IARJSET.2022.95107

## CROP PRICE PREDICTION USING MACHINE LEARNING TECHNIQUES

**Neeraj Soni<sup>1</sup>, Jagruti Raut<sup>2</sup>**

Student, M.Sc. (CS), Department of Computer Science, Viva College of Arts, Commerce, Science Virar(W), India<sup>1</sup>  
Assistant Professor, Department of Computer Science, Viva College of Arts, Commerce, Science Virar(W), India<sup>2</sup>

**Abstract:** Farmers play a very important role in the agriculture sector. When the prices fall after the harvesting of the crops, farmers face massive amounts of losses because this country's GDP is affected by the price fluctuations of agricultural products. Crop price evaluation and estimation are done to take an intelligent decision before farming a specific type of seasonal crops. Predicting the price of a crop will help in making better decisions which results in minimizing the losses and managing the risk of price fluctuations. In this research paper, we had predicted the price of different crops by analysing the previous rainfall and Wholesale Price Index (WPI) data. We used the Decision Tree Regressor and Random Forest, a Supervised machine learning algorithm to analyse the previous data and Time Series Analysis to estimate the crop price for upcoming twelve months.

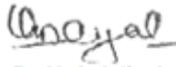
**Keywords:** Decision Tree Regressor, Random Forest, Machine Learning, Time Series Forecasting

### I. INTRODUCTION

India is understood as an Agrarian country as about 55% of India's population depends on agriculture or related activities for his or her livelihood. Agriculture features a significant contribution to the first sector of India's economy. At present farmers face massive loss, its reasons are infertile soil, global climate change, oversupply within the market and there are tons of other uncertainties involved. Prediction of expected price in the future is very much needed to manage and sell the products at the right time to maximize revenue and minimize loss.[2]. In past years, price prediction was done by judging the farmers experience on particular crop and field. Suppose that we have the previous data available in which various corresponding price predictions are recorded and these recorded price predictions are used to classify future price predictions [8]. The price forecasting is important for farmers also as they base their production and marketing decisions on the expected prices that may have financial repercussions many months later [9]. This prediction is based on data obtained from government sources and it uses Machine Learning techniques. Data mining is also useful for predicting the crop price. Generally, data mining is the process of analysing data from different perspectives and summarizing it into useful information. Crop price prediction is an important agricultural problem. Each and every farmer always tries to

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN	Year
5	Dr.Rohan Gavankar	9789324457316	2021-22

<b>Title of the proceedings of the conference</b>	ICCCEFS-2021 SOUVENIR/e-ABSTRACT BOOK
<b>Title of the paper</b>	Fingerprinting analysis of phytosterols from Madhuca longifolia (Koenig) J. P. MACB Var. latifolia (Roxb) cheval leaves using high performance thin layer chromatography (HPTLC) analysis

**ICCCEFS-2021**

**2nd International Conference on Climate Change and Its Effect on Environment, Food & Society**

15-16 June 2021

Sponsored By  
University Grants Commission (UGC), New Delhi

Jointly Organized by  
Savitribai Phule Pune University, Pune  
&  
Department of B. Voc & Biological Sciences  
Mula Education Society's

**ARTS, COMMERCE AND SCIENCE COLLEGE, SONAI**

Tal. Newasa, Dist. Ahmednagar, Maharashtra, India

NAAC Reaccredited with 'A' Grade DBT Star College Scheme ISO 9001: 2015 Certified

*Certificate*

This is to Certify that **DR. ROHAN VILAS GAVANKAR** of **BHASKAR WAMAN THAKUR COLLEGE OF SCIENCE, YASHVANT KESHAV PATIL COLLEGE OF COMMERCE, VIDHYA DAYANAND PATIL COLLEGE OF ARTS, VIVA COLLEGE, MAHARASHTRA, INDIA** has actively participated in 2nd International Conference on Climate Change and Its Effect on Environment, Food and Society held on 15th and 16th June 2021 and presented article entitled **FINGER PRINTING ANALYSIS OF PHYTOSTEROLS FROM MADHUCA LONGIFOLIA (KOENIG) J.F. MACB. VAR.LATIFOLIA (ROXB.) CHEVAL LEAVES USING HIGH-PERFORMANCE THIN LAYER CHROMATOGRAPHY (HPTLC) ANALYSIS**, via **ORAL** Presentation.

**Dr. Rajendra Dandwate**  
Organizing Secretary

**Dr. Ashok Tuwar**  
Convener

**Dr. Shankar Laware**  
Principal

Virtual Mode

ICCCEFS-2021

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*  
**Dr. V. S. Adigal**  
Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN	Year
6	Dr.Zeba Siddiqui	2277-7539	2021-22

<b>Title of the proceedings of the conference</b>	Excels International Journal of social science & Humanities
<b>Title of the paper</b>	Violence as the instrument of patriarchy in Arudhati Roys novel THE GOD OF SMALL THINGS



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Conference Proceedings 2020-21

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Dr. V. S. Adigal*

**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



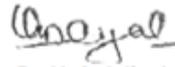
**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
1	Jagruti Naukudkar Glorita Pereira Delcy Lopes	2455 – 0620	2020-21
Title of the proceedings of the conference		International Journal For Innovative Research In Multidisciplinary Field	
Title of the paper		A Study On Modern Approach Towards The Financial Literacy Of Generation Z	



VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



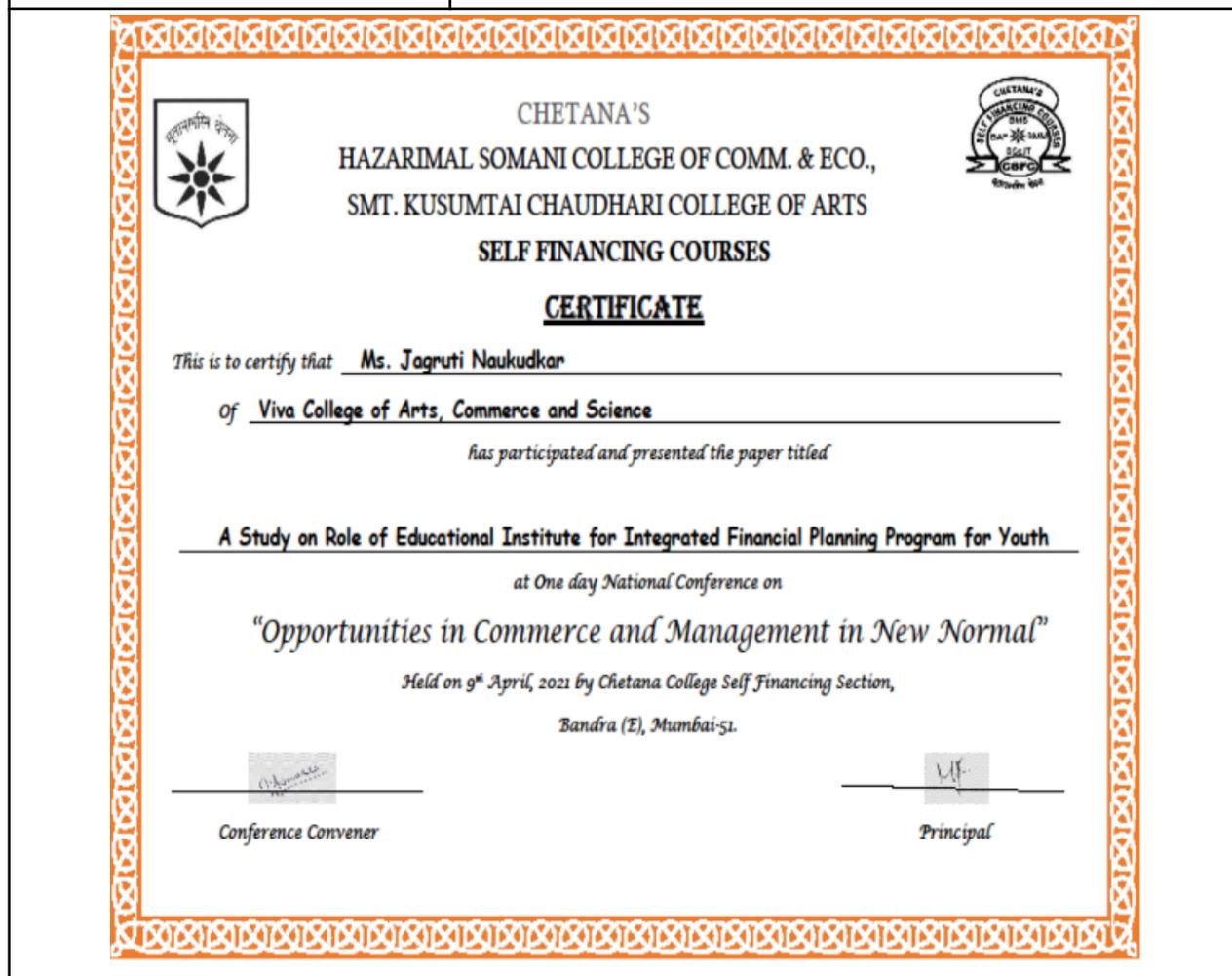
  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
2	Jagruti Naukudkar Delcy Lopes	2394-7780	2020-21
Title of the proceedings of the conference		International Journal of Advance and Innovative Research	
Title of the paper		A Study on Role of Educational Institute for Integrated Financial Planning Program for Youth	



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

## Conference Proceedings 2018-19

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*

**Dr. V. S. Adigal**  
**Principal**

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
1	Dr Basil D'Mello	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Isolation of heterotrophic lipid producing strain of <i>Scenedesmus ecornis</i> from hot springs	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1 ISSN 2394 - 7780

**ISOLATION OF HETEROTROPHIC LIPID PRODUCING STRAIN OF *SCENEDESMUS ECORNIS* FROM HOT SPRINGS**

**Basil D'mello<sup>1,2</sup> and Maya Chemburkar<sup>2</sup>**  
<sup>1</sup>VIVA College, Virar (W)  
<sup>2</sup>Bhavan's College, Andheri (W)

**ABSTRACT**

*Renewed interest in biofuels over the last decade due to a sharp rise in fossil fuel prices and increasing concerns about the global climate change has catapulted research in the field of microalgal biofuels. The present study was aimed at isolation of lipid producing microalgae capable of heterotrophic growth from hot springs. Scenedesmus ecornis was isolated from a hot spring and was evaluated for its lipid producing ability. It was found that the isolate was able to produce 14.49% of lipid of its dry weight. The optimum pH and Temperature were found to be 7 and 30°C for lipid production under heterotrophic conditions. GC-MS analysis of the lipid produced showed the presence of C14:0, C16:0, C18:0, C16:1, C18:1, C18:2 and C18:3 fatty acids which makes the lipid a good candidate for biodiesel production.*

*Keywords: Microalgae, Scenedesmus, Heterotrophic, Lipid*

**INTRODUCTION**

Fossil fuel is now widely recognized as unsustainable resource with depleting supplies and increasing cost. Moreover, accumulation of carbon dioxide due to fossil fuels in the environment is getting higher. Therefore, renewable fuels are necessary for environmental and economic sustainability. (Khan & Dessouky, 2009, Krawczyk., 1996, Nwafor, 2004).

Biodiesel, as an alternative fuel, has attracted major interest worldwide in recent years. Conventional sources of biodiesel include plant oils and animal fats. The energy content, cetane number and viscosity of biodiesel are similar to those of petroleum-based diesel fuel (Sheehan et al., 1998). Renewed interest in biofuels over the last decade due to a sharp rise in fossil fuel prices and increasing concerns about the global climate change has catapulted research in the field of microalgal biofuels (Chisti, 2008). But, growing algae for biofuel production is still debatable because of its feasibility and economic practicability (Van Beilen, 2010). Hence, a major price gap still remains in between microalgae-derived biofuels and fossil fuels despite the tremendous efforts to reduce the costs of microalgae production and processing.

Microalgal bioprospecting encompasses searching and collection of unique microalgal strains from different aquatic environments for exploiting the potential applications of value-added products like polyunsaturated fatty acids (Olatzola, 2003; Spolaore et al., 2006). For successful biofuel production using microalgae as feedstock for biomass and lipid accumulation, the crucial step is to search, collect and identify hyper-lipid producing strains. Selection of fast-growing, productive strains, optimized for the local climatic conditions are of fundamental importance to the success of any algal mass culture and biodiesel production. (Mutanda et al. 2011)

Research on isolation of novel strain and the methods to acclimatize microalgal strains to the cultivation environment is needed. In order to effectively cultivate algae in the local climate, selection and establishment of a pool of microalgae strains from local habitats becomes particularly important and necessary. An increase in microalgal lipid content can also be induced as response to unexpected change of growth conditions. Growth-limiting stresses such as nutrient deprivation, temperature change or UV radiation, activate the production of lipids and/or starch reserves, which have been considered a cellular survival mechanism (Sheehan et al. 1998).

Some strains of algae can grow both autotrophically and heterotrophically if organic carbon is supplied (Huang et al. 2010). High biomass and high lipid yield have been demonstrated when heterotrophic algae were placed in low light with an organic carbon (Miao and Wu 2004; Xu et al. 2006)

Microalgae adaptation and survival to different environments occurs with a variety of biochemical and structural changes. Several microalgal strains can produce up to 30–70% of total lipids to that of the dry cell weight (Ward & Singh, 2005). The accumulation of lipids is closely linked to growth phases, functioning as an energy store during unfavourable conditions or cell proliferation (Adarme-Vega et al, 2012). When microalgae are grown in media with optimized nutrient concentrations, and controlled conditions (e.g., pH and temperature), high biomass densities and commercially acceptable DHA and EPA productivities can be

133

**VIVA College Road, Virar (West), Pin – 401303**  
**Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)**



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
2	Dr. Shraddha Khamkar	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Enzyme – Assay Guided Isolation Of An A-Amylase Inhibitor Flavanoid From Allium Sativum Leaves, Invitro	

	<p><b>International Journal of Advance and Innovative Research</b>          Volume 6, Issue 2 (VII): April - June, 2019 Part - 1          ISSN 2394 - 7780</p> <hr/> <p><b>ENZYME – ASSAY GUIDED ISOLATION OF AN A-AMYLASE INHIBITOR FLAVANOID FROM ALLIUM SATIVUM LEAVES, INVITRO</b></p> <p><b>Dr. Shraddha Khamkar</b>          VIVA College of Arts, Science and Commerce, Virar West</p> <hr/> <p><b>ABSTRACT</b>  <i>The management of post prandial hyperglycemia is an important strategy in the control of Diabetes Mellitus Type 2 and complications of the disease. To control post-prandial hyperglycemia by the inhibition of enzymes required during the process of starch degradation is a very effective therapeutic approach to manage Diabetes Mellitus. Phytochemicals from medicinal sources can open new avenues to develop an attractive strategy for the purpose. Allium sativum (Garlic) bulbs have been researched and well known for its therapeutic uses. The leaves of A. sativum are less investigated and their role is still to be explored. In our research, we found that the ethyl acetate extract of leaves of A. sativum displayed a potent inhibitory activity on porcine pancreatic α-amylase. The bioassay guided fractionation of the extract resulted in the isolation of Kaempferol as an active amylase inhibitor. Kaempferol showed an inhibitory effect with IC<sub>50</sub> value 80.76µg/mL as compared to the standard acarbose.</i></p> <p><i>Keywords: α-amylase, A. sativum</i></p> <hr/> <p><b>INTRODUCTION</b>          Diabetes is a serious health problem and the prevalence of Type II Diabetes is rapidly increasing in most parts of the world. Non-insulin dependent Diabetes Mellitus (NIDDM) is a common disease of the endocrine system in which the body is unable to produce enough or decreased secretion of insulin by the pancreatic Langerhans β-cells or by decreasing insulin resistance due to excessive absorption of glucose<sup>1</sup>. To control hyperglycemia is critical in the management of diabetes as there are acute and chronic complications which occur if the blood glucose level is not maintained at normal levels<sup>2,3</sup>. A therapeutic approach to treat Type 2 Diabetic patient is by retarding the absorption of glucose by inhibiting carbohydrate hydrolyzing enzymes, such as α-amylase and α-glucosidases. This leads to decrease in the digestion and absorption of carbohydrates, thus, decreasing the postprandial hyperglycemia<sup>4</sup>.</p> <p>Plant based medicinal products can be used as complementary approach to medications for the treatment of Diabetes Mellitus. There are a wide array of plant species all around the world which are known to have antidiabetic effects<sup>5,6</sup>. The role of α-amylase inhibitors is very important in the management of post-prandial hyperglycemia. The inhibition of α-amylase enzyme leads to a reduction in hydrolysis of starch to maltose thus decreasing post-prandial hyperglycemia<sup>7</sup>. There are oral hypoglycemic agents available for the treatment of Type 2 Diabetes such as biguanides, sulfonylureas, thiazolidinediones, etc. These drugs have undesired side effects associated with their uses. Plants have been the primary source of drugs in the treatment of various diseases including DM particularly in developing countries like India, because of high cost and poor availability of current therapies<sup>8</sup>.</p> <p>Garlic is commonly known as <i>Allium sativum L.</i> The plant is a member of <i>Liliacea</i> family. Garlic is used as a traditional favoring agent and it also possesses therapeutic effect for many diseases including hypertension, cardiovascular diseases, atherosclerosis, hyperlipidemia, and various cancers<sup>9</sup>. Garlic is an annual, herbaceous and a bulbous plant grown for its pungent, edible bulb the flowers are hermaphrodite in nature<sup>10</sup>. The leaves of garlic are elongated, contracted and flat. The cloves of <i>A. sativum</i> have been used in traditional medicine in many countries for a long time<sup>11</sup>. In pharmacological research, there is a lot of evidence about a wide spectrum of pharmacological effects of <i>A. sativum</i> and its active compounds with low toxicity. The strong odour of garlic is largely due to sulphur-containing compounds (e.g. S-allylcysteine sulphoxide), which are believed to account for most of its medicinal properties<sup>12</sup>. Garlic contains a variety of effective compounds that exhibit anticoagulant (anti-thrombotic), antioxidant, antibiotic, hypocholesterolaemic, hypoglycaemic, as well as hypotensive activities<sup>13</sup>.</p> <p>There have been numerous investigations on the phytochemistry of garlic bulbs (<i>A. sativum</i>) but the chemistry of garlic leaves has not been investigated, and because of the history of the uses of <i>Allium</i> species as both condiments and phytopharmaceuticals, we have investigated a flavanoid from leaves of garlic and explored its effect on α-amylase.</p>	
--	---	--

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
3	Rohan D'Souza	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal Of Advance And Innovative Research	
<b>Title of the paper</b>		Determination Of Heavy Metals In Surface And Ground Water In Vasai Region	

**International Journal of Advance and Innovative Research**

Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**DETERMINATION OF HEAVY METALS IN SURFACE AND GROUND WATER IN VASAI REGION**

**Rohan D'Souza<sup>1</sup>, Shalaka Patil<sup>2</sup>, Dr. Geetha Unnikrishnan<sup>3</sup>**

<sup>1</sup>Department of Biotechnology, B. K Birla College (Autonomous), Kalyan (W)

<sup>2</sup>Department of Environmental Sciences, VIVA College, Virar (W)

<sup>3</sup>Department of Zoology, B. K Birla College (Autonomous), Kalyan (W)

**ABSTRACT**

*Sustainability of good health depends upon purity of water. The toxic heavy metals presence in water bodies arises from the discharge of untreated effluents or dumping of solid waste containing heavy metal salts. Leaching of these heavy metals into water bodies causes various health hazards. Urbanization of rural areas has led to contamination of ground as well as surface water rendering it not suitable for human consumption. Vasai was selected for the study as it is rapidly developing area in terms of urbanization as well as industrialization. The study involved determination of heavy metal contamination in local water bodies i.e. three ground water sources Killa Road Koliwada (Site A), Bhaskar Alley (Site B), Palmar wadi (Site C) and three surface water sources Papdi Talav (Site D), Tamtalav (Site E) & Dhuri Talav (Site F) respectively. The water samples were tested for contamination of heavy metals like Lead (Pb), Cadmium (Cd), Chromium (Cr), Zinc (Zn), Iron (Fe) and Copper (Cu) using Atomic Absorption Spectroscopy. Comparison of the results with Indian Standard for Drinking Water (IS 10500: 1991) showed that ground waters were more contaminated than surface waters. Site A, B and C showed high level of Lead and Cadmium as compared to permissible ranges. Site D showed high levels of Iron and Copper, whereas Site F was found to be have lower Iron concentration. The results showed that urbanization in the Vasai region has had a deep impact on water bodies and sustainable development should be implemented for future developmental planning.*

*Keywords: Urbanization, Heavy Metal Contamination, Ground Water, Surface Water, AAS.*

**INTRODUCTION**

Water is one of the most essentials that supports all forms of plant and animal life on this planet. The two main natural sources of drinking water are; surface water such as freshwater, lakes, streams, rivers etc. and groundwater such as borehole water and well water 1,6. Only a small fraction (about 2.5%) of earth's water is fresh and suitable for human consumption.

About 13% of this division is groundwater; an important source of drinking water for many people worldwide 4. In rural and small communities groundwater serves as the only source of drinking water. According to UNESCO, more than 50% of the world population depends on groundwater for domestic use 3. One of the most important aspects in groundwater studies and concerns with respect to human health is to make it mandatory to analyze the drinking water prior to consumption.

Over the years, groundwater pollution due to contaminants leaking from the disposal sites is a big problem in many countries. Industries such as ceramic, painting, glass, mining, battery and manufacturing are considered the main sources of heavy metals in local water streams, which eventually contaminate groundwater with heavy metals. Landfill leachates site is another source of heavy metal contamination in groundwater 5. Increase in human activities such as industrialization coupled with over population and increase in ambient temperature are among other factors that have become major environmental issues in recent years.

Nonpoint sources as well as point sources are major reasons for surface water heavy metal contamination. Nonpoint sources include city sewage and agricultural run-off, which has fertilizers and pesticides fortified with various heavy metals. Point source pollution of surface water in semi-urban area mostly consist of small-scale industries 9.

Exposure to very low levels of elements such as lead, cadmium and mercury have been shown to have a cumulative effects on humans since there is no homeostatic mechanism that can operate to regulate the levels of these toxic substances 2. The increase of industrial activities has intensified environmental pollution problems and the deterioration of several aquatic ecosystems with the accumulation of metals in biota. Although some trace metals at low concentrations are essential to life, at high concentrations, may become hazardous. High concentrations of trace elements are dangerous because they tend to bio-accumulate resulting in heavy metal poisoning. However, at higher concentrations they can lead to poisoning. Heavy metal poisoning could result, for instance, from drinking-water contamination (e.g. lead pipes), high ambient air concentrations near emission sources, or intake via the food chain. Heavy metals such as Pb, Cd, Cr, Ni, Zn, Cu and Fe are not biodegradable and their existence in water bodies causes bioaccumulation in living organisms, which leads to several health

118

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
4	Niyanta Dave, Dr. Hemangi Raut	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Characterizations Of Cds Thin Films Prepared By Chemical Bath Deposition At Different Temperature	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

**ISSN 2394 - 7780**

**CHARACTERIZATIONS OF CDS THIN FILMS PREPARED BY CHEMICAL BATH DEPOSITION AT DIFFERENT TEMPERATURE**

**Dr. Hemangi A. Raut, Cephas A. Vanderhyde and Niyanta Dave**  
 Shri Jagdishprasad Jhabermal Tibrewala University, Rajasthan

**ABSTRACT**

Cadmium Sulphide (CdS) thin films are deposited at 25 °C, 45 °C, 65 °C and 85°C using Chemical Bath Deposition (CBD) and they are characterized for their crystallinity, morphology, spectroscopy and composition. The role of temperature has been very evident in the crystalline and morphological development of the thin films. The temperature also affected the band gap of the thin films. The Energy Dispersive Spectroscopy was used to analyze the composition of the thin films.

*Keywords: Chemical Bath deposition, Crystallinity, EDS, Morphology, Energy Band Gap.*

**INTRODUCTION**

Cadmium sulphide (CdS) possesses a direct band gap of the value  $E_g = 2.42$  eV. It is one of the most important II–VI group semiconductors, which has many vital applications in the several fields that includes light emitting diodes, solar cells, biological imaging and labeling devices, photoelectrochemical cells, catalysts and other optoelectronics devices [1-8]. The CdS nano-material in thin film and powder form with different morphologies were synthesized using countless techniques such as hydrothermal method [9-11], micro-emulsion [12], chemical bath deposition [13, 14], using coordination solvents [15, 16], electro-deposition [17, 18], vapor liquid solid (VLS) [19], etc. Among these methods CBD method stands out and is used to deposit CdS thin films due to its numerous advantages over the other methods.

In this context, we are reporting the preparation of cadmium sulfide thin films by chemical bath deposition using an aqueous alkaline solution. In an attempt, to study the influence of deposition temperature CdS thin films are deposited at different temperature i.e. 25, 45, 65 and 85 °C for optimized time duration. The results are reported for optimized preparative parameters that were used to deposit evenly distributed and well adherent thin films with interesting nanostructures

**Chemical Bath Deposition of CdS Thin Films at Different Temperatures**

The precursors were added in a beaker in 0.05 M concentrations and were kept at stand still with the glass slides immersed in them. The baths were kept at suitable temperatures. The deposition of CdS thin film is basically a gradual release of  $Cd^{2+}$  and  $S^{2-}$  ions in the solution that slowly crystallizes on the substrate. For this, Cd salt in an aqueous alkaline medium forming a suitable complexing reagent is used as  $Cd^{2+}$  ion source and thiourea as  $S^{2-}$  ion source.

Chemicals used for the deposition of CdS thin film were cadmium acetate, thiourea and aqueous ammonia (25 %). All the chemicals that were used were of A. R. grade from by s. d. fine chem. Ltd. Mumbai.

The films were deposited at different temperature for optimal time duration.

**RESULTS AND DISCUSSION**

**Optimization of the Preparative Parameters**

To optimize the deposition time for a particular temperature, concentration of cadmium acetate, concentration of thiourea and ammonia (25 %) were kept constant. The deposition temperatures were varied from 25 to 85 °C and deposition time was optimized for each temperature and the preparative parameters are depicted in table 1.

**Growth and reaction mechanism**

Here in the synthesis process,  $NH_4OH$  is used as a complex reagent to control the  $Cd^{2+}$  and  $S^{2-}$  ions in the solution. When a small amount of aqueous ammonia was added in the cadmium precursor, which resulted into formation of a turbid solution due to presence of colloidal  $Cd(OH)_2$ . Further, addition of excess ammonia causes the initially formed turbidity to vanish and the solution gets converted to clear and transparent solution. In this present research work, sufficient amount of ammonia has been added and hence due to the formation of cadmium tetra-ammine  $[Cd(NH_3)_4]^{2+}$  complex, the solution couldn't contain colloidal  $Cd(OH)_2$  in the deposition solution. The rate of CdS formation is mainly governed by the concentration of  $Cd^{2+}$  provided by  $[Cd(NH_3)_4]^{2+}$  and the concentration of  $S^{2-}$  slowly released from  $SC(NH_2)_2$ .

The various reaction steps involved in the deposition of CdS thin films are as follows:



146

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
5	Prof. Deepak Gupta	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		An Analytical study of the customers attitude and satisfaction towards investment in Life insurance policies	

**International Journal of Advance and Innovative Research** ISSN 2394 - 7780  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

**AN ANALYTICAL STUDY OF THE CUSTOMER'S ATTITUDE AND SATISFACTION TOWARDS INVESTMENT IN LIFE INSURANCE POLICIES**

**Deepak Kumar Ramnath Gupta<sup>1</sup> and Dr. Vinod S. Khapne<sup>2</sup>**  
 Research Scholar<sup>1</sup>, RTM Nagpur University, Nagpur  
 Research Supervisor<sup>2</sup>, Taywade College, Mahadula, Koradi, Nagpur

**ABSTRACT**

*Human life is most important Assets and the protection and safety of individuals plays an Vital role in the life of human being.*

*Insurance is one of the important options for the investors for earning long term returns, more tax benefits as well as maximum risk coverage. Insurance policy provide there millions of customers protection against risk of life such as unfortunate death or accident The most important type of insurance policy which provides financial security to any person and his family at the time of the uncertain situation is life insurance policy.*

*As the majority of Indian population cannot understand the meaning of life insurance it is considered intangible. A history shows more than 200 years of life insurance in India and still it is underrated with almost 30 percentage.*

*Study area is limited to Palghar district of Maharashtra and the sample size is 200 policy holders of LIC and different private life insurance companies have been selected*

*Keywords: Consumer Attitude, Customer Satisfaction, Insurance Policy, Investment, Life Insurance.*

**INTRODUCTION**

Human life is most important Assets and the protection and safety of individuals plays an Vital role in the life of human being.

Insurance is one of the important options for the investors for earning long term returns, more tax benefits as well as maximum risk coverage. Insurance policy provide there millions of customers protection against risk of life such as unfortunate death or accident The most important type of insurance policy which provides financial security to any person and his family at the time of the uncertain situation is life insurance policy.

As the majority of Indian population cannot understand the meaning of life insurance it is considered intangible. A history shows more than 200 years of life insurance in India and still it is underrated with almost 30 percentage.

Study area is limited to Palghar district of Maharashtra and the sample size is 200 policy holders of LIC and different private life insurance companies have been selected

Palghar is newly established district and separated from Thane District on 1st August, 2014. At the 2011 Census, 8 (Palghar, Vada, Vikramgad, Jawhar, Mokhada, Dahamu, Talasari and Vasai-Virar) talukas now comprising the district had a population of 2,990,116. In Palghar, 11.8% of the population is under 6 years of age. It is popularly known for adivasis. Palghar has an urban population of 1,435,210 that is 48% of total population is living in Urbanized Area. Literacy rate is 78% on an average. Major population is located in urban area of Palghar District. Investment attitude of the people is still far from the progress places like Mumbai and Thane. So the researcher has a wider scope to analyze the habit and preferences for life insurance investments

**REVIEW OF LITERATURE**

Jayankar (2003) gave importance to that new products innovation; distribution and better use of technology are helping the new private life insurers to increase market share as compare to LIC, a only public insurance company before liberalization of insurance industry. With the privatization of insurance sector and with the entrance and cut throat competition with the private sectors gaining an ever increasing edge over the public sector.

Athma. P and kumar. R (2007) in his research paper titled "an explorative study of life insurance purchase decision making: influence of product and non-product factors". The factual based study conducted on 200 sample size comprising of both rural and urban market. The various product and non-product related factors have been identified and their impact on life insurance purchase decision-making has been studied. Based on the survey analysis; urban market is more influenced with product based factors like risk coverage, tax benefits, return etc. Whereas rural population is influenced with non-product related factors such as: credibility of agent,



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
6	Prof. Snehal patil	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Innovative Techniques in Higher Education'	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**INNOVATIVE TECHNIQUES IN HIGHER EDUCATION**

**Prof. Prajakta Paranjape<sup>1</sup> and Snehal S Patil<sup>2</sup>**

Research Scholar<sup>1</sup>, Pacific University, Assistant Professor<sup>2</sup>, Department of English, VIVA College of Arts  
 Commerce and Science, Virar (W)

**ABSTRACT**

*"Higher Education is not a Destination but a Journey."*

*This paper highlights the scope of Innovative Techniques in Higher Education such as illustrations, graphics, demonstrations, experiments etc. Information Communication Technology (ICT) includes the internet, wireless networks, cell phones, and other communication mediums. ICT has become an integral part of today's teaching learning process and will continue to be so with still advanced version of its existence.*

*Education is a lifelong investment towards preparing us for any change the future may hold. As we evolve, so does our thirst for knowledge. There was a time when becoming a graduate was the ultimate goal. But now, people aspire for even higher qualifications. The more they learn, the more they want to – and there is no end to this learning. This lifelong learning needs to strike a note of harmony and balance between heart and mind to establish and found a newer set of society which can achieve an elevated pedestal of ethical values. Fortunately, to quench this seemingly insatiable thirst for knowledge, there is a rich variety of opportunities available across academic disciplines, both in India and abroad. And today you can reach for the moon, literally.*

*Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. The purpose of the education is not only to make the students literate but also to make them creative, knowledgeable, think of their own and to meet the workforce. The success of a student depends on the teacher and the innovative methods which they incorporate in teaching. Learning in the 21<sup>st</sup> Century demands innovative pedagogical methods. There is a growing demand among the youth for greater access to higher education, which is seen as a means to better job, more security and better life prospects. However knowledge is about empowering people. The higher education system has to cultivate minds among the youth, so that they learn to respect others, are tolerant and perseverant for realizing their goals in life. Former Prime Minister Manmohan Singh decided to set up the National Knowledge Commission (NKC) in 2005 with a vision of transforming India into a knowledge powerhouse. As part of NKC, our role is to recommend to the government what needs to be done in different areas to build excellence in the education system.*

*Keywords: Higher Education, Teaching, Learning, Knowledge, Innovative.*

**INTRODUCTION**

India now has a larger network of around 634 Universities and 33,000 colleges with 8,17,000 teachers spread across the length breadth of the country. The story of this massive geographical reach has not been without its share of problems; one of the most serious being a very high degree of inequity – between different social groups, men and women, rural and urban areas, and the rich and the poor. Against this backdrop, Higher Education in India analyses these issues in present – day India.

Tracing the history of universities in India from the time of Nalanda, the introduction puts in perspective the challenges in higher education today and the need for reforms under rapidly changing national and global socio – economic, political and technological circumstances. Acknowledging development, this brings to the fore the urgent need to have a vision and roadmap for higher education.

India has a rich and glorious tradition of higher education from ancient times, Nalanda, Takshashila, Vikramshila, and Vallabhi were some of the ancient India and they occupy a special place in the history of higher education in the country, which stretches over more than 2000 years. These venerable institutions, some of which were the oldest ones in the world and had a glorious record as centres of higher learning, attracted scholars from not only many regions of India, but also several parts of the world.

In recent years, with the growth of the information technology (IT) – related service sector, the nature of demand for higher education has changed dramatically. The present scenario is the result of technological revolution, Web technology and Web Culture.

Education plays an important role in today's world. Over the decades there had been rapid increase in the higher education system. Our education system is geared towards teaching and testing knowledge at every level as opposed to teaching skills. Teaching and learning are dynamic complements of knowledge sharing at a time of

187

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
7	Victoria M, Tanvi Bore, Deepa Verma	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Screening of antibiotics in Poultry liver, kidney, Gall bladder and muscles	
<p>Volume 6, Issue 2 (VII): April - June, 2019 Part - 3</p> <p style="text-align: center;"><b>SCREENING OF ANTIBIOTICS IN POULTRY LIVER, KIDNEY, GALL BLADDER AND MUSCLE</b></p> <p style="text-align: center;"><b>Tanvi Bore<sup>1</sup>, Victoria M. and Dr. Deepa Verma<sup>2</sup></b>  <sup>1</sup>Department of Biotechnology, VIVA College of Arts, Commerce and Science, Virar (W)</p> <hr/> <p><b>ABSTRACT</b>  <i>Antibiotics are extensively used in different livestock farms for various purposes such as prophylactic preservation, control of diseases and also as growth stimulant. Some of the antibiotics used are not completely eliminated from different body parts of the livestock. The presence of antibiotics in livestock causes maximum production of superbugs, which cannot be killed easily and also leads to different disease conditions in humans which cannot be treated easily. In the current study, surveillance was done using chicken samples from different shops and was tested by disc diffusion assay. Also comparative analysis was done between organisms used for surveillance purpose. Tests were also carried out to study the effects of high temperature on antibiotics treated chicken sample. Also it was observed that 20% of antibiotics were present in its native form even after treating it with high temperature.</i></p> <p><i>Keywords: Antibiotics, Livestock, Surveillance, Disc diffusion assay, High temperature, Superbugs.</i></p> <hr/> <p><b>INTRODUCTION</b>  Poultry industry is the major part of livestock production throughout the world. It is rapidly expanding to fulfil the demands of animal protein in the form of meat and eggs. In India, this industry is a major contributor of food supply (79.55% of meat consumption) and maintaining the countries economy, because it is a cheap and easy source of protein for human consumption. Antibiotics are being excessively used in the different animal farms for various purposes: such as prophylactic prevention and control of disease, and as growth stimulant [Hind, A. Elnasri <i>et al</i>]. Antibiotics are substances that can destroy or inhibit the growth of microorganisms. They are widely used in the prevention and treatment of infectious diseases. [H. D. Chapman and Z. B. Johnson].</p> <p>They are therapeutically used to protect the health and welfare of humans and animals. Some antibiotics are produced by microorganisms but most of them are now manufactured synthetically. [Ramakant Sahu <i>et al</i>].</p> <p>About one-third of two lac children are victims of antibiotic resistance, about 15% of those when re-treated for TB are resistant to multiple drugs. [Antibiotics and chicken TOI].</p> <p>Two types of analytical methods are commonly used, the screening methods that includes tests such as disc assay, test tube method, modified Premi and Delvotest methods and the confirmatory test can be done using more complex and advanced techniques such as ELISA and HPLC. The microbial inhibition tests were the earliest test used and are still in use because they are inexpensive and can cover entire antibiotic spectrum but are less specific than other tests. [Hind A. Elnasri <i>et al</i>]</p> <p>India has no regulations or standards for antibiotics given to farm animals. Some European countries banned use of penicillin, streptomycin and tetracycline as growth promoters in 1970s. In 1986, Sweden banned antibiotic growth promoters and Denmark followed it. EU prohibited antibiotic growth promoters in 2006. [Antibiotics and chicken TOI]</p> <p>The goal of present study is to screen the antibiotics in liver, kidney and muscle of livestock as well as study the relation between different bacterial species namely <i>Escherichia Coli</i> and <i>Bacillus subtilis</i> used for screening of livestock and also to study the effect of high temperature on antibiotics present in poultry.</p> <p><b>MATERIALS AND METHODS</b>  <b>Sampling collection</b></p>			

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
8	Dr. Rohan Gavankar	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Potential Screening Of Lab For Probiotic Properties From Milk Samples Of Buffalo And Goat	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 2 ISSN 2394 - 7780

**POTENTIAL SCREENING OF LAB FOR PROBIOTIC PROPERTIES FROM MILK SAMPLES OF BUFFALO AND GOAT**

**Rohan Gavankar**  
 VIVA College of Arts, Commerce and Science, Virar (W)

**ABSTRACT**

*Lactic Acid Bacteria (LAB) are indigenous habitants of the human Gastro Intestinal Tract and have a long history of use in foods and fermented products as starter cultures. A variety of Lactic acid bacteria have been assessed for their potential use as probiotics and are tested as an aide in various types of food products or in therapeutic preparations. Therefore, the present study was aimed at isolation of lactic acid bacteria from buffalo and goat milk and their characterization for probiotic potential. Three different LAB Species were isolated from buffalo milk and two different species were isolated from goat milk sample. The isolates were all found to be tolerant to acidic pH=3, tolerant to bile and simulated pancreatic fluid. Antimicrobial activity testing showed that most of the isolates were able to produce antimicrobial compounds. These isolates may be further used as probiotics to promote health of hosts, protect hosts from intestinal pathogens and maintain the natural balance of intestinal microflora during antibiotic treatments.*

*Keywords: Lactic acid bacteria, Acid tolerance, Bile tolerance, pancreatic fluid test.*

**INTRODUCTION**

Human beings as well as animals are normally born sterile but shortly after birth, colonization begins with different body parts being occupied by the fittest microbes from the environment, thus creating a balanced ecological system. The normal microflora changes dramatically during the lifetime of the host. The Lactic Acid Bacteria (LAB), if present, constitutes the dominant flora population due to their ability to colonize the human and animal intestinal tract. However, exogenous bacteria, either of probiotic or pathogenic origin, influence the intestinal bacterial flora. The acid in the stomach keeps bacterial load low in the upper part of the digestive tract and destroys pathogenic microbes. Interactions that occur between various bacterial species are also important in maintaining the equilibrium of the intestinal microflora (Olanrewaju, 2007).

Milk and milk products are usually associated with LAB, which provide supplements in maintaining beneficial intestinal balance (Isolauri, 2001). Generally, the LAB are the most implicated of the probiotic organisms with respect to intestinal bacterial colonization particularly those of Lactobacilli and Bifidobacterium, which attributes antagonistic property by secreting acids to lower the pH, thereby creating an environment unfavorable to disease-causing bacteria. LAB, a probiotic, must tolerate low pH and high bile concentration, which enables selected strains to survive, grow and perform their therapeutic roles in the intestinal tract (Gilliland & Walker, 1989; Usman & Hosono, 1999), and produce substances that inhibit pathogenic, non-pathogenic and spoilage organisms in fermenting foods and beverages.

Lactic Acid Bacteria (LAB) are indigenous habitants of the human Gastro Intestinal Tract and have a long history of use in foods and fermented products as starter cultures. A variety of Lactic acid bacteria have been assessed for their potential use as probiotics and are tested as an aide in various types of food products or in therapeutic preparations. Numerous health benefits of LAB have made them promising probiotic candidates and being extensively studied to explore their safety and other desirable properties and contribute to add value to products. New product categories, and thus novel and more complex raw materials with regards to probiotics technology, are certainly a key research and development area for the functional foods market. (Wedajo B., 2015)

Milk is a potent source of lactic acid bacteria. Apart from their fermentative ability, Lactic acid bacteria are commercially relevant organisms known for their health and nutritional benefits. Lactic acid bacteria are a heterogeneous group of bacteria that are gram positive, non-spore forming, cocci or rods. Fastidious, acid tolerant and strictly fermentative as the major end product during sugar fermentation. LAB's are most likely to grow in the nutrient rich habitats such as various food products (Milk, meat, beverages and vegetables), whereas some are also a part of natural flora of mammals. They are found to be in mouth, intestine and vagina of mammals. Lactic acid bacteria comprise the following genera: *Aerococcus*, *Allococcus*, *Lactococcus*, *Lactosphaera*, *Leuconostoc*. (Y. Widyastuti, R. and A. Febrisiantosa., 2014)

Because of the growing interest in probiotics, LAB are a focus of intensive international research into their essential role in fermented foods and for their ability to produce various antimicrobial compounds promoting probiotic properties like favorably altering the intestinal microflora balance, inhibiting the growth of pathogenic

284

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
9	Mrs Delcy Lopes, Swati Patil Miss. Alina D'costa,	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Interactive Media: An Opportunity for Entrepreneurs from Developing Region	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**INTERACTIVE MEDIA: AN OPPORTUNITY FOR ENTREPRENEURS FROM DEVELOPING REGION**

**Delcy Lopes<sup>1</sup>, Swati Patil<sup>2</sup> and Alina Dcosta<sup>3</sup>**

Assistant Professor<sup>1</sup>, Assistant Professor<sup>2</sup>, Assistant Professor<sup>3</sup> VIVA College, Virar East

**ABSTRACT**

*Cyber Media Creations e-learning glossary defines Interactive Media as a method of communication that "allows two-way interaction with multimedia course material, another computer, or another user with direct response to the input, as opposed to one-way communication from TV, Video, and other non-responsive media. Interactive attributes commonly includes data or text entry, mouse input, touch screens, voice commands, video capture, and real time interaction."*

*New media is one of the most interesting trends for entrepreneurship in the world today. It is considered vital in driving economic growth, creating jobs, and narrowing the gender gap in the society. The question is how can the new media drive and develop entrepreneurial opportunities and advancement in Vasai-Virar region. Having known the significant role of new media, the study established the requirement for a concrete approach for the implementation of development strategies. There are many upcoming projects in the Vasai-Virar region which will transform it from being a satellite city to a metropolitan city in coming years. Increasing opportunities for various businesses in Vasai-Virar has resulted in a shift of focus from developed regions to Vasai-Virar.*

*This paper analyses the opportunities and advantages of interactive media in developing business and promoting new tools of communication which will lead to over-all growth of entrepreneurs from this developing region.*

*For this study, secondary data was used which was taken from multiple sources.*

*Keywords: Interactive Media, Entrepreneurs, Developing Region*

**INTRODUCTION**

*Interactive media: Technology is such an essential part of human life as we are inextricably drawn on it for*

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
10	Shruti B. Basare Prof. Sayali Patil Shruti Patil	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Awareness among the college students about the harmful effects of cell phone radiation and its precautionary measures	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

---

**AWARENESS AMONG THE COLLEGE STUDENTS ABOUT THE HARMFUL EFFECTS OF CELL PHONE RADIATIONS AND ITS PRECAUTIONARY MEASURES**

**Shruti P. Patil, Sayli Patil and Shruti Basare**  
 Assistant Professor, Viva College, Virar

---

**ABSTRACT**  
*The use of the modern means of communication has become an indispensable part of college student's life. College students are connected to global networks through cell phones and internet. Since, cell phones and internet access is getting cheaper and easily available, the number of students using the cell phones is increasing. Hence, the objective of the study is to find out the awareness among the college students about the harmful effects of cell phone radiations and its precautionary measures. A survey of 100 Commerce students was conducted by collecting data through dichotomous questionnaire. It has been observed that the students have various degree of awareness about different kinds of cell phone hazards. The maximum no. of students were aware about deafness caused by cell phones, but they showed less awareness about other issues like male infertility caused by them and the precautionary measures that should be taken to minimize such harmful effects.*

*Keywords: Awareness, cell phone radiations, harmful effects, precautionary measures.*

---

**1. INTRODUCTION**  
 A cell phone is a wireless device which allows users to carry out multiple activities like calling, messaging, internet surfing etc. Its use and user base has increased over the years. At the end of January 2019, there were total 1,181.97 million wireless subscribers (GSM, CDMA & LTE) in India (TRAI,2019). These cell phones use non-ionizing electromagnetic radiation in the microwave range (450–3800 MHz). The human body absorbs energy from cell phone's radiation. The dose of the absorbed energy is estimated using the specific absorption rate (SAR), which is expressed in watts per kilogram of body weight. The exposure to radiation because of the cell phone use has raised concern as it has the potential to cause certain types of cancer or other health problems like deafness, infertility etc.

**1.1. Effects of cell phone radiation on human health**  
 Cell phones EMF can possibly be carcinogenic (NCI, 2019). The radiofrequency radiation from cell phones can cause biological effects like heating of the ear and head where the cell phone is being held. (Mitra et.al,2014). The study conducted by Velayutham, Govindasamy& Raman (2011) has shown that the cell phone radiations have caused hearing loss in the dominant ear i.e. the ear which is often used with or exposed to the cell phones. The degree of hearing loss depends upon the length of usage of cell phone.

Phone radiations can also cause Transient Smartphone Blindness due to the long-term exposure in darkness. (Alim-Marvasti A.et.al,2016). Long-term exposure to cell phone radiations can significantly decrease number of sperms. Cell phone radiations may cause DNA fragmentation if directly exposed to such radiations for a longer period. (Gorpinchenko,Nikitin,2014). Radiofrequency energy (RF) causes electromagnetic interference (EMI) in some electronic devices like pacemaker or Implantable cardioverter-defibrillators (ICDs) which is dangerous for heart patients. (Raghu.N.et.al 2016)

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
11	Prof. Sachin Arjun Kadam	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		The Vision of A Smart City	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**THE VISION OF A SMART CITY – VIRAR**

**Sachin Arjun Kadam**  
 Student, VIVA College of Arts, Science & Commerce

**1) ABSTRACT**

*In 2011, the number of people living in city will be almost as large about 1,221,234 populations today. That's why we need completely new approaches to be taken in order to make our cities to be Smart City.*

*Approach*

- ❖ *The mission adopts a projects based approach to make sure basic infrastructure services concerning,*
- ❖ *Water supply,*
- ❖ *Sewerage,*
- ❖ *Transport and*
- ❖ *Development of green spaces.*

*Smart Cities gained importance as a means of making ICT enabled services and applications available to be citizens, and authorities that are part of a city's system. It aims at increasing citizen's quality of life, and improving the efficiency and quality of the services provided by governing entities and businesses. Smart City is a type of city that uses new technologies to make them more liveable, functional, competitive and modern through the use of new technologies, the promotion of innovation and knowledge management. City today are facing significant challenges including increasing populations, infrastructure and declining budgets.*

*Keywords: smart cities, rainwater harvesting, wastewater reuse, sanitation, open defecation, behavioural change.*

**INTRODUCTION**

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
12	Prof. Aaradhana Singh Prof. Nikita Jogle	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		New horizons and challenges faced in digital marketing	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

**ISSN 2394 - 7780**

**A STUDY ON: NEW HORIZONS AND CHALLENGES FACED IN DIGITAL MARKETING**

**Aaradhana R Singh and Nikita S Jogle**  
 VIVA College of Arts, Science and Commerce

**ABSTRACT**

*With the emergence of digital age market has witnessed tremendous change over the last decade. Digitalisation is reshaping the markets and businesses. Marketers come across new challenges and opportunities. This paper examines various forms & trends in digital marketing. The paper also discusses various challenges faced by the marketer while marketing goods and services through digital platforms. It also suggests new horizons and opportunities of digital marketing to the marketer in exploring the market.*

*Keywords: Digital Marketing, Visibility, SEO, Virtual, ROI*

**INTRODUCTION**

Digital marketing is promotion of goods and services through electronic media i.e. Internet, mobile phones, social media, electronic billboards, television as well as radio channels. Under digital marketing, marketer focuses on informing and attracting customers with the help of electronic media. In recent times we have seen a shift from mass marketing to segment marketing to niche marketing and further to one to one marketing. Then CEO of General Electronics Jack Welch rightly quoted "Change or die" i.e. the ability to change or adapt faster than your competitors. Following are some of the new happenings in the field of digital marketing.

**OBJECTIVES**

- > The main purpose of this paper is to study the dynamic trends in digital marketing.
- > To study the challenges faced by the marketers in marketing goods & services through digital marketing.

**METHODOLOGY APPLIED**

Secondary data: Secondary data is collected from books, journals, magazines and websites.

**REVIEW OF LITERATURE**

1. P Sathya has published an article "A Study on Digital Marketing and its Impact" in **International Journal of Science and Research (IJSR) (2015)**

The way in which digital marketing has developed since the 1990s and 2000s has changed the way brands and businesses utilize technology and digital marketing for their marketing. Digital marketing campaigns are becoming more prevalent as well as efficient, as digital platforms are increasingly incorporated into marketing plans and everyday life, and as people use digital devices instead of going to physical shops.

2. Afrina Yasmin, Sadia Tasneem, Kaniz Fatema have published an article "Effectiveness of Digital Marketing in the Challenging Age: An Empirical Study" in **International Journal of Management Science and Business Administration Volume 1, Issue 5, April 2015, Pages 69-80**

Marketers increasingly bring brands closer to consumers' everyday life. The changing role of customers as co-producers of value is becoming increasingly important remarked that technology plays a vital role in improving the quality of services provided by the business units. According to Hoge (1993), electronic marketing (EM) is a transfer of goods or services from seller to buyer involving one or more electronic methods or media. E-Marketing began with the use of telegraphs in the nineteenth century. With the invention and mass acceptance of the telephone, radio, television, and then cable television, electronic media has become the dominant marketing force.

**NEW TRENDS IN DIGITAL MARKETING**

**1-SEO- SEARCH ENGINE OPTIMIZATION**

SEO is a technique to get your business or product ranked in Google, Yahoo, Bing, Amazon and manipulate search results to rank higher and to bring more traffic to your website so that you get customers. Marketer needs to alter its SEO strategy to Appear at the top of the search results whenever any customer tries to search for the product that the marketer deals in.

**2-VIRTUAL VOICE ASSISTANTS**

Introduction of virtual voice assistants like Alexa by Amazon, Siri by Apple, Google Assist by Google and many more have increased the love for voice search. These voice assistants use natural language

**108**

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
13	Dr. Rakhee Oza Amol Vaze	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Self Help Group- Empowering Women	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**SELF HELP GROUPS – EMPOWERING WOMEN**

**Dr. Rakhee Oza<sup>1</sup> and Prof. Amol Vaze<sup>2</sup>**

<sup>1</sup>HOD Commerce, Viva College of Arts, Commerce and Science

<sup>2</sup>Co-ordinator (Financial Management, Investment management), Viva College of Art's, Commerce and Science

**ABSTRACT**

*Nowadays, Self-Help Groups (SHGs) are increasingly becoming an important method of constituting women collectively to take action and transform their social status. The people who are facing problems are likely to be the most committed to solve their problems as they become strength of SHG. The women get an opportunity to become a member by joining the group and mobilize their savings, manage savings for future and reduce financial exploitation by participating in financial accountability decisions. SHG enhances the socio-economic status of women thereby leading to empowering them socially and economically*

*Keywords: SHG, NRLM, empowerment.*

**INTRODUCTION**

In India NABARD initiated SHGs in the year 1986-87. But the real effort was taken after 1991-92 from the linkage of SHGs with the banks. A SHG is a small economically homogeneous affinity group of the rural poor voluntarily coming forward to save a small amount of money regularly, which is deposited in a common fund to meet the members' emergency needs and to provide collateral free loans decided by the group. The SHGs have been recognized as useful tool to help the poor and as an alternative mechanism to meet the urgent credit needs of poor through thrift.

A self-help group can be viewed as a social mobilization process which empowers the poor to constitute their own organization in which they participate freely, fully and directly and take decision on all issues regarding generating income by creating employment opportunities and removing poverty. The SHG constitutes a group of about 10-20 members. The members meet at regular intervals i.e. monthly or weekly. At the meeting, all members commonly agree an amount as savings. The group then lends these savings to its members, stores them in a cashbox, or deposits them in a group bank account in order to facilitate a group loan. Members can access a loan quickly from their group's fund in cases of emergency or need. To overcome the shortcomings and weaknesses of individual level, by the collective responsibility and security afforded by the formation of a group of members is the basic philosophy to form SHG. The SHG members collectively used for a number of purposes: education and awareness building, collective bargaining power and peer pressure, among others in the society. After the group maturity tenure, income enhancement and entrepreneurial activities are initiated. These can be both individual as well as group level activities.

Initially in Tamil Nadu, the Self Help Groups scheme was introduced in 1989 which had an outspread later on. As one of the major strategies for the convergence of services and activities different Self Help Groups in different states have focused on: Development of skills, Generate awareness, Gain access to credit from financial institutions for projects financing the micro enterprises and inculcate the thrift and management of credit for the economically backward sections of women and society as a whole.

The principle "for the people, by the people and of the people" is followed under the concept of SHG. The Self Help Groups is the brain child of Grameen Bank of Bangladesh, which was founded by Prof. Mohammed Yunus of Chittagong University in the year 1975.

**LITERATURE REVIEW**

To create a strengthening financial policy environment by involving voluntary organizations in social mobilization, micro finance can enlarge the scope for a rational movement. The SHG is very important to bring together society as a whole and strengthen financially (Thangamani & Muthuselvi). SHGs play an empathetic role in poverty removal in the rural areas of India. The SHG model is meant for rural development, empowering women and removal of poverty. It also focuses on social development by enhancing human associations, self-dependency and directing social actions towards regulated financial moves. To rise up from the social issues and empower the society by community participation, SHG's form groups and develops egalitarian relationships that bring overall well-being. SHG's also take care of providing micro credit to its members (Das). Women status in India is comparatively not so favorable and to empower them financially SHGs have provided a platform so that they express their views, participate in decision making and interact with each other with the help of micro credit. In spite of such provisions women members of SHGs still face some major problems in overcoming accountability and getting credit (Savitha & Rajashekar). The SHG also proves to be an important

90

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Sr No	Name	ISSN/ ISBN	Year
14	Prof.Rupali patil	2278-5655	2018-19
Title of the proceedings of the conference		Changing perspectives in commerce ,Management ,Economics & Technology	
Title of the paper		ऊर्जा साधने ,हवामानातील बदल आणि शाश्वत विकास	

<p><b>सौ. रुपाली प्रशिल पाटील</b> सहाय्यक प्राध्यापिका अर्थशास्त्र विभाग, विवा महाविद्यालय, विरार (पश्चिम)</p>			
<p><b>प्रस्तावना</b></p> <p>मानवाच्या भोवतालची परिस्थिती म्हणजे पर्यावरण होय. मानव आणि पर्यावरण यांचा आंतरसंबंध अनादिकालापासून आहे. मानवी जीवन खऱ्या अर्थाने सुखी समाधानी राहावे म्हणून निकोप आणि सुंदर पर्यावरणची नितांत गरज आहे. निसर्गचक्राचा एक भाग असलेल्या सौरऊर्जा, पाणी, वनस्पती या संपदेची पर्यावरणात चक्रीय निर्मिती होत असते. पण काही जलसंपदा उदा. कोळसा खनिजतेल, खनिज इ. मात्र मानवाला निर्माण करता येत नाहीत. खऱ्या अर्थाने या ऊर्जा साधनांवरच मानवी विकास अवलंबून आहे. परंतु लोकसंख्येची बेसुमार वाढ व ऊर्जा साधनांचा अनियोजित वापर यामुळे सद्यकाळात मानवाला ऊर्जासाधनांचा तुटवडा भासू लागला आहे. ऊर्जासाधनांच्या टंचाईमुळे मानवाला सामाजिक, राजकीय, आर्थिक स्तरावर अनेक समस्या भेडसावत आहेत. तसेच ऊर्जासाधनांच्या बेसुमार वापरामुळे पर्यावरणीय प्रदुषणाचे प्रमाण धोक्याची पातळी ओलांडू लागले आहे. त्यामुळे हवामानात लक्षणीय प्रतिकूल परिणाम जाणवू लागले आहे.</p> <p>सदरच्या अभ्यास विषयात विविध ऊर्जा स्रोत व त्याचे पर्यावरणावर होणारे परिणाम यांचा वेध घेण्यात आलेला असून हे परिणाम कमी करण्यासाठी शाश्वत विकासाची संकल्पना कशी महत्त्वाची ठरेल याचा आढावा घेतला आहे.</p> <p><b>अभ्यासाची उद्दिष्टे</b></p> <ol style="list-style-type: none"><li>१) पुनर्नवीकरणीय व अपुनर्नवीकरणीय ऊर्जा साधनांची माहिती मिळविणे.</li><li>२) पुनर्नवीकरणीय व अपुनर्नवीकरणीय ऊर्जास्रोतांचे पर्यावरणावर होणारे परिणाम अभ्यासणे.</li><li>३) हरितगृह वायूच्याप्रमाणात वाढ होण्याची कारणमिमांसा अभ्यासणे.</li><li>४) हरितगृह वायूंचे वाढते प्रमाण व जागतिक तापमान वाढीचा संबंध विषद करणे.</li><li>५) जागतिक तापमानवाढीचे परिणाम व हवामानातील बदलांचा आढावा घेणे.</li><li>६) जागतिक तापमान वाढ नियंत्रित करण्यासाठी योजण्यात येणाऱ्या उपायांची माहिती मिळविणे.</li></ol>			
<p>SJIF Impact Factor 6.236 Peer Reviewed Journal Aarhat Multidisciplinary International Education Research Journal (AMIER) Page 206</p>			





**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
15	Manasi gawand	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Food security in India with innovative Agricultural Technology	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**FOOD SECURITY IN INDIA WITH INNOVATIVE AGRICULTURAL TECHNOLOGY**

**Mansi Gawand**

Department of Economics, VIVA College of Arts, Commerce and Science, Virar (West)

**INTRODUCTION**

The National Food Security Act, 2013 (also Right to Food Act) is an Act of Parliament of India which targets to cater subsidized food grains to approximately two thirds of India's 1.2 billion people. It was signed on September 12, 2013, retroactive to July 5, 2013. Under the provisions of the bill, beneficiaries are to be able to purchase 5 kilograms per eligible person per month of cereals.

The bill has been greatly contentious. It was laid to into India's parliament in December 2012, promulgated as a presidential ordinance on July 5, 2013, and enacted into law in August 2013. India's high economic growth rate in the past decade has not been fully highlighted in the health status of its people, with 22 per cent of its population undernourished. According to the National Family Health Survey 2005-06, 40.4 per cent of children under the age of three are underweight, 33 per cent of women in the age group of 15-49 have a body mass index below normal and 78.9 per cent of children in the age group of 6-35 months are anemic. These are alarming statistics which point to nutritional deficiencies. The NAC proposal for a National Food Security Bill is possibly the most significant national effort yet to deal with these deficiencies in India. It is at times implicit that the relationship between economic growth and health is unidirectional with improving economic conditions leading to better health. In reality, and as long-established by recent research, the reverse is evenly true and health is an 'economic engine.' That is, better health which is an important end in itself leads to and may, in certain cases, be a necessary precondition for economic development. Hence moreover being an end in itself, the economic role of health and nutrition thus serves an additional and compelling rationale for public policy to sustain well embattled nutrition improving interventions in ways directly equivalent to the support given for increasing other forms of capital investments. The NFSB proposed by the NAC is a potentially radical bill that can have a huge effect on the economy. Well-crafted and successfully executed, it can transform the lives of people.

New technologies are key solutions for Agricultural productivity improvement. There are several ways for anticipatory research including new technologies. We should capitalize on them to ensure the wellbeing of farmers and farming so that productivity can be improved and target of the food security can be achieved.

**SALIENT FEATURES OF THE FOOD AND SECURITY ACT, 2013**

1. 75% rural and 50% of the urban population are entitled for three years from enactment to five kg food grains per month.
2. Eligibility of the beneficiaries is determined by the state.
3. Pregnant women and lactating mothers have the right of "take home ration" of 600 Calories and a benefit of at least Rs 6,000 for six months for reasons of maternity.
4. Children 6 months to 14 years of age are entitled to get "take home rations" of free hot meals.
5. In case of food grain shortage funds will be provided by central government to the states.
6. Central government shall protect the current food grain allocation of the states.
7. Food security allowance would be provided by the state governments to the beneficiaries in case of nonsupply of food grains
8. Reformation of public distribution system.
9. The issuance of the ration card is headed by the eldest women in the household who should of the age not less than 18 years.
10. Redressal mechanisms would be established at state level as well as district level. The destitute who are covered under the Antodaya Yojna will remain entitled to the 35 kg of grains fixed to them under the mentioned scheme.

**OBJECTIVES OF THE STUDY**

1. To study various challenges in implementing Food Security in India.
2. To study various measures to resolve the problem of Food Security In India with Innovative Agricultural Technology

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
16	Dr. Archana Devendra Joshi	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Soft Skills An Opportunity A Gateway For Employability	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394-7780

**SOFTSKILLS AN OPPORTUNITY: - A GATEWAY FOR EMPLOYABILITY**

**Dr. Archana Devendra Joshi**

Assistant Professor, Department of English, Viva College of Arts, Commerce and Science, Virar (West)

**ABSTRACT**

*This paper discusses the linkages between soft skills and employability. Traditional education is not enough to develop well-round individuals capable of handling a volatile, complex and dynamic employability. It requires the addition of soft skills to make the changes from awareness to the realization of the self-perception. It is this intelligence that aids to awaken the firm to its potential and greater role in terms of corporate social responsibility. Furthermore, the learners and teachers opt for soft skills to improve the attributes for employment. This paper is an extensive opportunity study for with the aim of bringing out the soft skills which are needed by the employers in the corporate world. Samuel Johnson says, he who has so little knowledge of human nature as to seek happiness by changing anything but his own disposition will waste his life in fruitless efforts. Soft skills a burning issue in corporate world, has received wide attention from the researchers and practitioners. Great soft skills happen to be one of the most expensive assets one can have mainly in the business world. Soft skills are their domineering attitude for employability. They are extremely ambitious and demanding. Soft skills are equally important along with other skills for employability.*

*Keywords: soft skills, employability, education, corporate.*

**INTRODUCTION**

Soft skill is personal attributes that enable someone to interact effectively and harmoniously with other people. In present age employability demand dynamism from its employer. To be able for employability one feature is soft skills. Employability has become the current concern of the entire world. Skills define the personality of an individual. They are considered necessary for employment but in today's competitive world soft skill or personality people's skill have become important for successful employability. Soft skills are necessary for employability in present context at all the stages of professional carrier. Soft skills include communication skills, leadership skills, team building skills, strategic thinking skills, critical skills, analytical & problem-solving interpersonal skills, imagination or creativity skills, and last but not least presentation skills. Soft skills have been defined in different context and included different perspectives, as per various authors at various times. Soft skills are nontechnical and not reliant on abstract reasoning involving interpersonal and intrapersonal abilities to facilitate mastered performance in particular contexts.

Employability skills are those basic skills necessary for getting, keeping and doing well on job. They are just transferable and teachable skills to assets abilities, personal attributes, knowledge and achievements that assist to gain employment. Employability has become the current concern of the entire world. It has turned out to be the determining factor of nations. The conflict between employability and employment in the current scenario has moved to the extent of replacing the problem of employment with employability. Employability has become a universal problem of the nations. Soft skills form an essential aspect of the employability. Higher education is entrusted with the responsibility of inculcating soft skills beyond technical knowledge that students acquire. The education system has since been held responsible to prepare qualified for the industry, equipped them with the appropriate skills essential for accomplished success at work place. The necessity to develop employability competency came because the industry demand job ready employers with both technical knowledge and soft skills to add value instantly to the work place.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
17	S. Shivapriya Achari	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Ecocriticism Perspectives In Indian Fiction With Reference Of Sudhamurti	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**ECOCRITICISM PERSPECTIVES IN INDIAN FICTION WITH REFERENCE OF SUDHAMURTI**

**S. Shivapriya Achari**

Assistant professor, Department of English, Viva College Virar (w)

**ABSTRACT**

*Ecocriticism, a literary theory, is crucial in the current scenario, as reading a literary work under ecocriticism lens is one of the functions of ecocriticism. It not only but it magnifies the works that appreciate nature but also explores the linguistic and literary exemplifications of the environment. Writing about the ecology and environment is documented in ancient Indian literature, hence ecocriticism is not new to Indian literary context. In contemporary Indian writing, there seems to be an imbalance between fiction and nonfiction environment writings, focus on ecological imbalance due to urbanization and westernization is seen in many unexplored Indian novels. The no. of nonfictional writing famed for their "green" colours is quite high compared to fiction. Selvamony's classification, Chinua Achebe's path breaking novel things fall a part and explains how Christian colonization irrevocably changed the integrative oikos of Umuofia into the anarchic oikos.*

**INTRODUCTION**

ECOCRITICISM means the study of literature and the environment from an interdisciplinary points of view, where literature scholar's analyses texts that illustrate environment concerns and examine the various ways in literature treats the subject of nature. Ecocriticism has emerged as a major critical tool in recent decades. It does not offer a unified single principle of critics differ on its definitions and range. It implies more ecological literacy than its advocates now possess. Its advocates now possess. It is derived from the greek words oikos and kritic, which together mean "house judge". The etymology of ecology defines "okologic" as "the study of a dwelling place", where the study is not limited to science. Gloyfely (1996,xviii) defines ecocriticism as the study of the relationship between literature and the physical environment. It takes an earth-shattering approach to literary studies. William Ruckert (ibid) expounds it as "application of ecology and ecological concepts to the study of literature". Ecocriticism ramified into ecofeminism, ecomarxism, deep ecology, ecosophy, bioregionalism and so on. It is unique amongst contemporary literary and cultural theories because of its close relationship with science of ecology.

Ecological balance is vivid in the detailing of *Aintinai* or five landscapes, a Tamil equivalent of the Greek oikos, which is represented in the Sangam literature. Ecological concern in Tamil classical literature has been highlighted by Selvamony through the *Tinat* concept. The propagators period of ecocriticism that led to the formation of well organized groups in India such as the Chennai based organization's for studies in literature and environment (OSLE) and the Puducherry based environment (ASLE) which organize conference and symposiums and encourage research in Ecocriticism writing by publishing articles in "limitation of western ecocriticism."

**OBJECTIVES**

- To gain a critical understanding of and appreciation for ecocriticism.
- To apply ecocriticism to the reading of literary texts.
- To produce a major research paper that synthesized, reflects and builds upon work and can complete in an English major.
- To initiative to plan and organizers your seminar research paper.
- To participate in a community of writers and to critique each other's work in an engaged and constructive manner.
- To demonstrate awareness of the wider critical, historical and artistic contexts informing your research paper.

**BENEFITS**

While it's mainstay is still the study of culture in a more narrow sense (literature, visual arts and music.) Ecocriticism is by its nature and interdisciplinary enterprise which seeks to engage with environment history, philosophy, sociology and science studies with ecology and the life sciences.

SUDHA MURTY was born in 1950 in a town called shiggao in north Karnataka. She did her MTech in computer science and is now the chairs person of the INFOSYS FOUNDATION. A prolific writer in English and kannada, she has written novels, technical books, travelogues, collection of short stories and non-fictional

231

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
18	Dr. A. P. Pandey	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		LITERARY AESTHETICS TO FORESEE THE COURSE OF NATURE	

**International Journal of Advance and Innovative Research**  
Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**LITERARY AESTHETICS TO FORESEE THE COURSE OF NATURE**

**Dr. A. P. Pandey**

Principal, VIVA College of Arts, Commerce and Science, Virar West

Present paper tends to focus on new trend as to how literary artists across the globe envisage and appeal mankind to preserve and procure the pristine glory of Nature being terribly exploited by the surge of new inventions, scientific and technical advancements and innovations. It was perceived by the creative artists through the lens of imagination that exploitation and misuse of natural resources needs to be stopped otherwise nature will take its own recourse to retaliate over doings of mankind.

Greek philosopher Aristotle attaches the highest importance to an artist portraying an ideal world based on his thorough intuition and imaginative faculty. His ideal and artistic presentation of world percolates from the streams of deep insight and genuine perception. In the light of literary and scriptural expression, an artist picturizes the multifarious facets of nature and evaluates how they are beneficial and at the same time dangerous for human race. Whereas an artist glorifies nature with its all bounty and beauty, he also presents traumatic situations of global warming, flood, famine and other forms of divine displeasure. Such natural calamities stirred by mankind need to be introspected through prism of the literary and scriptural works which undertake the task to literate mankind to deck and don the beautiful earth as an excellent creation of God.

The world is passing through the most crucial phase of seamless happenings accounted for irrational and vitiating faculty of mankind that tries to coerce the overpowering spirit of nature. The dire consequences of man's rash act of challenging the divine scheme and striking sharply at the propensity of nature can be experienced in the divine displeasure exhibited through floods, famine, earthquakes, global warming etc. This has posed the greatest threat to the world, which if not properly handled and timely dealt with, the most beautiful planet, which is the abode of excellent human race created by God, will gradually be moving towards its extinction.

If one gears back into the literary and scriptural details, one come across a number of references and illustrations where divine manifestations of nature have been invoked to quell the soaring furies to enjoy the blessings of nature eternally. The Vedas and other literatures have been directing human race to be kind to nature and help it to preserve its modesty and serenity. In the Vedas, a number of *suktas* entitled as *Prithvi Sukta*, *Purush Sukta*, *Indra Sukta* etc have been devoted to promote worship of nature. The Yayurveda has a number of *Ritchas* (hymns) which are mainly cited to offer prayers to appease the spirit earth, air, sky, mountain, medicine and plants, being indispensable constituents of the divine scheme of nature:

*Dyauh shaantirantariksh shaantih, Prithvi shaantiraapah shaantiroshadhayah shaantih.*

*Vanaspatayah shaantirvishve devaah shaantirbraham shaantih sarvam shaantih shaantirev shaantih saa maam shaantiredhi.1*

The above hymn has been offered to heaven, sky, earth, air, medicines and vegetation to keep them cool so that man is privileged to enjoy the boons of nature in its entirety. It shows that the author of the Vedas had an insight into the fact that man in succeeding course of time might venture to violate the chastity of nature by exploiting its prized resources to his own end. It is now felt that our modernized myopic vision has taken away our ability to see the living spirit in the tree, in the river, in the mountain-and to know that the life energy sustaining them and us is the same. The environmental crisis is thus a spiritual crisis which needs to be immediately addressed to save the human race from recurring furies of nature.

In Sanskrit Literature, poets like Kalidas, Magh, Bharavi, Bhavbhuti and host of other literary luminaries have presented nature as human being with all its grace and grandeur. Kalidas in his epic poetry *Kumarsambhavam* depicts the Himalaya and the oceans as gods that ensures the boundaries of the country and save it from the spell of undesirable happenings:

*Astyutrasyaam disi devaatmaa, Himalayonaam nagaadhiraajah*

*Poorvaaparau toynidhivagaahyah, sthit prithivyamiv maandandah.2*

(English)-There is to the North, a mountain, named, Himalaya, whose soul is deity, with his spurs dividing into the eastern and western oceans. He stands as a measuring rod to earth.

Similarly, a number of writers of other literatures have expressed the same attitude towards nature and lay stress on preserving its immaculate glory in order to enjoy its perpetual blessings showered on mankind.

260

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
19	Ambujam Kurup	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		OVERVIEW - CAN INDIA BECOME A CASHLESS ECONOMY	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

**ISSN 2394 - 7780**

**OVERVIEW - CAN INDIA BECOME A CASHLESS ECONOMY**

**Ambujam Kurup**

Assistant Professor, Department of Commerce, Viva College, Virar

**ABSTRACT**

*Being Cashless is not a new concept as it existed long before the concept of money, and it was known as barter system, where goods and services were given in exchange for goods and services. Digital transactions are a bit similar to that of barter system as in both the cases there is no transaction of physical money. Cashless transactions have become possible with the use of debit cards, credit cards, and mobile wallets like Tez, Phone pay, Paytm, online bank account transaction and also through digital currencies such as bitcoin.*

*"Is India ready for cashless economy"- Though cashless transactions have increased these days, right now India cannot completely become a cashless economy considering its high proportion of digital illiteracy and cash transactions. But Indian Government is working towards increasing the share of cashless transactions, which is a good thing for any economy. This paper provides some detail about India's movement towards cashless economy, it also emphasis on the benefits, issues of going cashless. It also throws light on the steps taken by the Indian government to increase cashless transaction.*

*Keywords: Cashless, Transaction, Digital, Barter system.*

**INTRODUCTION**

An economic state where financial transactions are not conducted with cash or physical money is considered as a Cashless economy. The transactions are done digitally between the parties, through an electronic form. India is a land of contradictions and the best example of this would be the existence of two different worlds in the same nation: India and Bharat. While, India is tech and Internet savvy, our Bharat is far behind. It even lacks the basic amenities. While India is talking about bullet trains and hyper-loops, one can still find people earning their livelihood from cycle-rickshaws in 'Bharat'. Given such a wide spectrum of disparity, the fact that 90% of our workforce is in the unorganized sector, comes as no shock. And amidst all these disparities, Prime Minister Modi announced the demonetization of Rs. 500 and Rs. 1000 notes. The demonetization step has had both positive and negative impacts on the economy. While many see 'curbing black money' as the main goal of the demonetization process, they miss out on the most obvious result, which is - **financial inclusion** and shift towards a **cashless economy**. Going cashless is also a function of literacy, net connectivity and will take time to scale.

India has almost half-a-dozen methods for cashless payments. And yet users can't leave home without cash. Demonetization accelerated a shift to digital payments, but will take lot more time to become the prime payment option.

**OBJECTIVES**

To study about importance of going cashless economy and its impact on the people in the economy.

**METHODOLOGY**

The data is purely secondary and has been collected from various websites and journals, articles, survey reports as well as published books.

**India Is Cash Obsessed Economy:**

The Indian economy is cash based. So much, that, MNCs like Amazon had to incorporate 'cash on delivery', just to be able to tap into the Indian market. The rate of cash to GDP is the highest, i.e. 12.42% in India. In fact, in the year 2015, 78% of all consumer payments were in cash in India, whereas in US, it was 20% and in UK it was 25%. India is the 4th largest user of cash in the world. And in this era of technology, this is not only backward, but also unscientific and 'un'-economic.

**Why Is Moving Towards A Cashless Economy Important?**

To put it in a straight forward manner - cashless economies tend to be less corrupt, and have lesser black money. Let's examine these reasons in detail.

**1. Cash is costly**

A significant amount of time and effort is expended in shepherding them through the system and finally into the consumer's hands. RBI has spent Rs.32.1 billion just for printing the currencies that are in circulation. Add to it the costs of setting up and maintaining ATMs. Also, paper currency has a shelf life after which it is renewed. It is said that the direct cost of running a cash based economy is close to 0.25% of India's GDP.

111

VIVA College Road, Virar (West), Pin - 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
20	Deepa Pradeep Dalvi	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		TRENDS AND CONSUMER PERCEPTION TOWARDS ONLINE FOOD ORDERING SERVICES IN VASAI TALUKA	

**International Journal of Advance and Innovative Research** ISSN 2394 - 7780  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

---

**TRENDS AND CONSUMER PERCEPTION TOWARDS ONLINE FOOD ORDERING SERVICES IN VASAI TALUKA**

**Deepa Pradeep Dalvi**  
 Assistant Professor, VIVA College of Arts, Commerce and Science, Virar (W)

---

**ABSTRACT**  
*This paper provides an overview of online food ordering services. Now a days online food ordering services are fast growing and popular in cities of India. This paper will emphasis on latest trends in this sector. This paper will also study consumer perception regarding various online food ordering system like Swiggy, Zomato, Food Panda and many more. The purpose of this study is to find out relationship between online food ordering services and various demographic factors like age, gender, income level. This study will also help to find out further growth in this sector.*

---

**INTRODUCTION**  
 First of all, what is Online Food Ordering Service (OFOS)? Online food ordering system is a process to order the food from nearby restaurants through mobile application or website. Due to technological development, online food ordering system is moving at higher pace. In this system, consumer can order online food by few clicks. It works similar like ordering goods online. Consumer can order the food from his favorite restaurant by filtering different options; also he can compare the restaurants by viewing ratings given by other customers.

In India, there are various online food ordering portals like Zomato, Swiggy, Food Panda, Uber Eats, Faaso's , Tasty Khana , Just Eat, and many more. For ordering online food, person needs to download the apps from play store/app store and get registered on it. By selecting the menu, he can place the order and get the food delivery at his doorstep.

In cities like Delhi, Mumbai, Bangalore, Chennai, people are busy with their daily busy routine and they don't get sufficient time to cook the food and even to visit the restaurants frequently. They found this ordering system so easy to place online food order which saves their time. Also customers have a choice to select and compare menu and prices, offers on food before placing the order. Customers can provide special cooking instructions to restaurants and track their food online.

**ADVANTAGES OF ONLINE FOOD ORDERING SERVICES TO THE CUSTOMERS**

1. It makes the ordering process easier.
2. Consumers get best prices for the food also no minimum order quantity is required.
3. Easy payment modes are available.
4. 24/7 availability
5. Consumers get wider choices.
6. Consumer can order food at his convenient place and preferred time.
7. No need to stand in queue or sitting in waiting area.
8. GPS to track online delivery of food.

**ADVANTAGES OF ONLINE FOOD ORDERING SERVICES TO THE ONLINE FOOD ORDERING SERVICE PROVIDER**

1. It is easy, less time consuming and less cost effective to start online business.
2. Promotions can be done by using social networking sites.
3. Lesser mistakes in ordering compare to orders over phones.
4. It helps them to stay ahead in competition.
5. Mobile friendly application or website will make sure that they will not lose a customer.

**LIMITATIONS OF ONLINE FOOD ORDERING SERVICES TO CUSTOMERS**

1. One of the limitations in online food ordering system is to find the exact place or location of the customer.
2. The next disadvantage is the menu choice. Mostly the menu choices are limited. If we stick to the system, for few months it will become repetitive.

152

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
21	Smita Khaire (Jadhav)	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		A GATEWAY OF OPPORTUNITIES TOWARDS WASTE MANAGEMENT	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

**ISSN 2394 - 7780**

**A GATEWAY OF OPPORTUNITIES TOWARDS WASTE MANAGEMENT**

**Smita Khaire (Jadhav)**  
 Assistant Professor, Viva College of Arts, Commerce and Science, Virar (W)

**ABSTRACT**

*Waste comes in many different forms, such as domestic, industrial, bio-medical, agricultural etc. Nowadays, the rate of consumption of resources by the society is increasing due to increase in population, development of science and technology, and the changes in the standard of living. This has led to tremendous increase in the amount of waste generated. Accumulation of wastes due to its improper disposal is a major problem in our country. Poorly managed waste has an enormous impact on health, local and global environment, and economy. If they are not cleared regularly at the earliest, it can spread dangerous diseases and causes pollution. Waste Management, plays an important role in sustainable development. Recently solid waste management practices have incorporated with updated technologies to tackle modern challenges in the field of waste management.*

*Keywords: waste, sources and types, waste management, latest technologies, sustainable Development.*

**INTRODUCTION**

**WASTE:** Waste is any substance which is discarded after primary use, or it is worthless, defective and of no use. According to the Basel Convention, on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal of 1989, Art. 2(1), "Wastes' are substance or objects, which are disposed of or are intended, to be disposed of or are required to be disposed of by the provisions of national law".

**WASTE MANAGEMENT:** The collection, transportation, and disposal of garbage, sewage, and other waste products. Waste management encompasses management of all processes and resources for proper handling of waste materials, from maintenance of waste transport trucks and dumping facilities to compliance with health codes and environmental regulations.

**RESEARCH METHODOLOGY OF STUDY**

The study is based on secondary data which is collected from reference books, newspaper, journals, websites etc.

**OBJECTIVES**

1. To describes waste and waste management
2. To describes different sources and types of waste
3. To describes recent and innovative trend in waste management
4. To protect and conserve all our environmental resources, including forest, land water etc.,

**SOURCES AND DIFFERENT TYPES OF WASTE**

Waste comes in many different forms and may be categorized in a variety of ways.

**Domestic Wastes:** It includes the wastes generated in houses. Household garbage includes paper, plastic, glass, ceramics, polythene, textiles, vegetable waste, etc.

**Commercial Wastes:** It includes the waste generated in commercial establishments like shops, printers, offices, etc.. It includes packing materials, spoiled goods, vegetable and meat remnants, polythene, printer paper, etc.

**Animal Wastes:** It includes the dung of the animals that are left to find food for themselves on the streets Their reject feed also add to the wastes.

**Agricultural Waste:** Waste generated by agriculture field includes waste from crops and livestock.

**Biomedical Wastes:** These wastes are generated from the hospitals and related bio-medical sources like pathological laboratories, blood banks etc. It includes expired drugs, plastic syringes, needles, gloves, mercury spilled out from broken thermometer, surgical dressings, surgically removed body parts etc. Bio-medical waste is highly infectious.

**Construction Waste:** With increasing population, there is also increasing construction activity going on in the urban areas. They also generate garbage like metal rods, bricks, cement, concrete, roofing materials, etc.

**Industrial Wastes:** It is the waste produced by industrial activity which includes any material that is rendered useless during a manufacturing process such as that of factories, industries, mills, and mining operations.. Some examples of industrial wastes are chemicals, sludge, metals, ash, paints, paper products, etc.

233

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
22	Padma R. Chari	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		MIS-SELLING OF FINANCIAL PRODUCT	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**MIS-SELLING OF FINANCIAL PRODUCT**

**Padma R. Chari**  
 BMS Department, Viva College, Virar (W)

The financial sector in recent times has witnessed several mis-selling episodes. In one of the studies conducted it is seen that India has lost \$28 Billion between 2008-2015. In India this has been responded by strengthening consumer protection regulations.

We often heard news that insurance agents are not providing full information of some of the insurance products. They just give important info like premium to be paid, about the policy etc. Many times, due to some or other reasons we don't get info of what to do when we are not able to pay premium in time & policy lapses. Also, we are not able to talk to company representative regarding this. Sometimes also happens that we come to know that some of friends or investor who wanted a some specific type of policy landed up in some other policy. Many times, we are having specific knowledge of financial product but later on it turns out to be something else. All these are examples of Misselling of Financial Product. In country like India where literacy of financial product is less & also with regulatory norms slackened many investors are in haywire. Banks who are into Bancassurance do tend to practice this. Private sector banks mostly recommend the 'highest commission product' (insurance, 75% of the time) while public sector banks (PSBs) recommend the default product (fixed deposits, 72% of the time). This is because while private sector banks incentivize employees for selling high commission products, PSBs focus on deposit mobilization.

One of the main reasons for this is Sellers's own lack of knowledge & understanding of product, many times in bank's frontline staff lacks knowledge vis a vis also due to more commissions attached with the product.

**Theoretical Info**

Banks one of the main focal point are main source of link between borrowers & lenders. It mobilizes saving from people. Decades has seen that how Indian banks efficiently doing this job. There is impressive growth of bank branches since independence. People believe banks, the trust banks get is overwhelming. To this end banks now sell insurance products. While customers who go for regular banking activities get interested in many tax saving products offered by them. Here comes twist. Relationship Mgr. Instead of selling tax saving product tend to sell some other product to get more commission. Like if we go for Fixed Deposit for 5 years & interest components to be paid every month which is quite safe for retired or senior citizen because it is completely safe with no risk. But when we are being told that if we invest in Balanced Fund, we get more returns. Far more than FDs But what about risk attach in Balanced Fund. This is being covered by a simple answer that their when market goes down, they shift funds from there to some other options. Which is not easy & here invertors tend to lose money. Clearly this is a false statement & has been given to increase sale of Balanced Fund. This is a case of mis selling of financial products. Many investors realize this later that returns which they should get is not proportionate to what they have been told & when they come to Bank. Bank simply washes its hands away that that RM has been transferred or any other excuses. Most of the mis-selling happens at foreign banks and new generation private sector banks. The relationship managers are trained to well I any question from the customer. When I wanted to invest Rs 5 lakh in a fixed deposit in a foreign bank, the salesperson started pushing FDs from NBFCs. I have been told since interest rate in NBFC are far more than their banks. What about the risk, I asked? They simply said it is from highly reputed company so less risk, here it is mis selling. **Mis-selling is defined as sale of units of a Mutual Fund Scheme by any person, directly or indirectly by a) making a false or misleading statement, b) concealing or omitting material facts of the scheme, c) concealing the associated risk factors of the scheme, or d) not taking reasonable care to ensure suitability of the scheme to the buyer.** India, financial sector regulation is product specific. This means that financial products get regulated by different regulators, all of whom operate in silos. For example, the Securities Exchange Board of India (SEBI) is the capital markets regulator, while the Insurance Regulatory Development Authority of India (IRDAI) is the insurance regulator. Very often, this means that similar products have different caps on permissible commissions and other benefits because technically they come under different regulatory regimes. Distributors, thus face an environment with very skewed incentive structures for the sale of similar financial products.

Academic research has shown that when commissions differ, agents overwhelmingly sell the product that has the highest rewards for them. Evidence in India also points to a similar result. Anagol and Kim (2012) have found that for a brief period in 2006, when commissions on closed-end mutual funds were higher than on open-ended funds, inflows into the more expensive funds were much higher, and that investors paid approximately

64

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
 Principal

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
23	Prof. Rashmi Mehbubani	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Use Of Digital Technology In Business And Finance: Online Marketing	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

**ISSN 2394 - 7780**

**USE OF DIGITAL TECHNOLOGY IN BUSINESS AND FINANCE: ONLINE MARKETING**

**Prof. Rashmi Mehbubani**

Viva College of Arts, Science and Commerce, Virar (west)

**ABSTRACT**

*Online Marketing is the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, digital advertising and any other digital medium. Online marketing is a set of tools and methodologies used for promoting products and services through the internet. Online marketing includes a wider range of marketing elements than traditional business marketing due to the extra channels and marketing mechanisms available on the internet. Online marketing is no longer an option; it is a necessity. Still that's not at all bad news- planning your Internet marketing strategy does not have to be a difficult task, particularly if the competition doesn't fully understand that the rules of Internet marketing are not the rules of Traditional Marketing. The broad online marketing spectrum varies according to business requirements. Effective online marketing programs leverage consumer data and customer relationship management systems. Online Marketing connects organizations with qualified potential customers and takes business development to a much higher level than traditional marketing.*

*Keywords: Internet, Digital-Marketing, E-Marketing*

**1. INTRODUCTION:**

There is no doubt about it that internet has changed the world we live in never before has it been so easy to assess information communicate with people all over the globe and share articles videos photos and all manner of media. E-marketing is referred to those Strategies and techniques which utilised online ways to reach target customers there are millions of internet users that daily assess different website using a variety of tools like computers laptops tablet and smart or Android phone devices and the number of internet users are increasing very rapidly so every business seems to be jumping on the Internet marketing bandwagon the internet is most powerful tool that can put any business on solid footing with market leader companies there are free as well as economical Way Or internet to promote your business successful companies must ask himself some tough questions about how they will promote their business online what the company expectations are and what will be the plan to meet those Expectations after answer all these questions a company should design an effective marketing plan.

**2. OBJECTIVE OF THE STUDY**

- a. To understand the concept of Digital Technology.
- b. To understand the concept of Online Marketing.
- c. To study the Use of Digital Technology in Business and Finance.
- d. To study the advantages and disadvantages of Online Marketing.

**3. RESEARCH METHODOLOGY**

Secondary data has been taken for this study, which is gathered from different sources such as Research papers, Newspapers, articles, books and website.

**4. DEFINITION**

Online marketing refers to the use of the Internet and digital media capabilities to help sell your products or services the digital technologies are a valuable addition to the traditional marketing approaches regardless of the size and type of your business online marketing is also referred to as a marketing internet marketing marketing or web marketing.

**5. OBJECTIVES OF ONLINE MARKETING**

**a. Increase revenue** - the primary goal of any marketing strategy is ultimately to increase revenue and online marketing is no exception the internet provides plenty of opportunities for every business to improve the bottom line.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
24	Prof. Firoz K. Khan	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		A Study On Investors Awareness Towards Derivative Market In Bombay Stock Exchange (Bse)	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**A STUDY ON INVESTORS AWARENESS TOWARDS DERIVATIVE MARKET IN BOMBAY STOCK EXCHANGE (BSE)**

**Prof. Firoz K. Khan**

Assistant Professor, Viva College of Arts, Commerce and Science, Virar (W)

**ABSTRACT**

*Creating awareness about the Derivative market investment among the people is necessary to create knowledge of investments in shares and other investment. Investors' awareness includes not only the knowledge of various financial products available in the market but also facilitates decision making, particularly among the less educated as well as of those committed to Long-term financial decision. Advertising and the agent network played a vital role positively in creating awareness, but not knowledge; hence a coordinated approach is needed to convert the awareness into knowledge. The present study aims at to Study on Investors Awareness towards Derivative Market.*

*Keywords: Awareness, BSE, Investment Decision, Derivative Market.*

**INTRODUCTION**

Creating awareness about the Derivative market investment among the people is necessary to create knowledge of investments in shares and other investment. Investors' awareness includes not only the knowledge of various financial products available in the market but also facilitates decision making, particularly among the less educated as well as of those committed to long-term financial decision. Advertising and the agent network played a vital role positively in creating awareness, but not knowledge; hence a coordinated approach is needed to convert the awareness into knowledge.

Indian investors are good savers, but often lose hard-earned money due to lack of knowledge and understanding about the financial products and financial markets. Though the regulatory authorities in the country such as Securities and Exchange Board of India (SEBI) have been taking necessary steps to protect the investors' interest, the investors are still worried about and doubt of investing in Bombay stock Market (BSE) and they try to keep themselves always away from the Bombay stock Market (BSE) participation.

The best form of investor protection is investor awareness and the best way to achieve that is through financial literacy. Hence, the investor should be knowledgeable, cautious and they should know the changing conditions of market scenario well before making an investment in the Bombay stock Market (BSE).

**OBJECTIVES AND RESEARCH METHODOLOGY OF THE STUDY**

The study is based on secondary data which is collected from the newspapers, journals, magazines, websites, etc. the study was planned with following objectives:

1. To Understand the Derivatives Market.
2. To Understand the Risk Management.
3. To Understand the Investors Awareness towards Derivative Market.

**DERIVATIVES MARKET IN INDIA**

The origin of derivatives can be traced back to the need of farmers to protect themselves against fluctuations in the price of their crop from the time it was sown to the time it was ready for harvest, farmers would face price uncertainty. Through the use of simple derivative products, it was possible for the farmer to partially or fully transfer price risks by locking-in asset prices. These were simple contracts developed to meet the needs of farmers and were basically a means of reducing risk.

Derivative markets in India have been in existence in one form or the other for a long time. In the area of commodities, the Bombay Cotton Trade Association started future trading way back in 1875. This was the first organized futures market. Then Bombay Cotton Exchange Ltd. in 1893, Gujarat Vyapari Mandall in 1900, Calcutta Hessian Exchange Ltd. in 1919 had started future market. After the country attained independence, derivative market came through a full circle from prohibition of all sorts of derivative trades to their recent reintroduction. In 1952, the government of India banned cash settlement and options trading, derivatives trading shifted to informal Forwards markets. In recent years government policy has shifted in favour of an increased role at market based pricing and less suspicious derivatives trading. The first step towards introduction of financial derivatives trading in India was the promulgation at the securities laws (Amendment) ordinance 1995. It provided for withdrawal at prohibition on options in securities. The last decade, beginning the year 2000, saw

102

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
25	Shalaka Patil	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Determination Of Heavy Metals In Surface And Ground Water In Vasai Region	

**International Journal of Advance and Innovative Research**

Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**DETERMINATION OF HEAVY METALS IN SURFACE AND GROUND WATER IN VASAI REGION**

**Rohan D'Souza<sup>1</sup>, Shalaka Patil<sup>2</sup>, Dr. Geetha Unnikrishnan<sup>3</sup>**

<sup>1</sup>Department of Biotechnology, B. K. Birla College (Autonomous), Kalyan (W)

<sup>2</sup>Department of Environmental Sciences, VIVA College, Virar (W)

<sup>3</sup>Department of Zoology, B. K. Birla College (Autonomous), Kalyan (W)

**ABSTRACT**

*Sustainability of good health depends upon purity of water. The toxic heavy metals presence in water bodies arises from the discharge of untreated effluents or dumping of solid waste containing heavy metal salts. Leaching of these heavy metals into water bodies causes various health hazards. Urbanization of rural areas has led to contamination of ground as well as surface water rendering it not suitable for human consumption. Vasai was selected for the study as it is rapidly developing area in terms of urbanization as well as industrialization. The study involved determination of heavy metal contamination in local water bodies i.e. three ground water sources Killa Road Koliwada (Site A), Bhaskar Alley (Site B), Palmar wadi (Site C) and three surface water sources Papdi Talav (Site D), Tamtalav (Site E) & Dhuri Talav (Site F) respectively. The water samples were tested for contamination of heavy metals like Lead (Pb), Cadmium (Cd), Chromium (Cr), Zinc (Zn), Iron (Fe) and Copper (Cu) using Atomic Absorption Spectroscopy. Comparison of the results with Indian Standard for Drinking Water (IS 10500: 1991) showed that ground waters were more contaminated than surface waters. Site A, B and C showed high level of Lead and Cadmium as compared to permissible ranges. Site D showed high levels of Iron and Copper, whereas Site F was found to have lower Iron concentration. The results showed that urbanization in the Vasai region has had a deep impact on water bodies and sustainable development should be implemented for future developmental planning.*

*Keywords: Urbanization, Heavy Metal Contamination, Ground Water, Surface Water, AAS.*

**INTRODUCTION**

Water is one of the most essentials that supports all forms of plant and animal life on this planet. The two main natural sources of drinking water are; surface water such as freshwater, lakes, streams, rivers etc. and groundwater such as borehole water and well water 1,6. Only a small fraction (about 2.5%) of earth's water is fresh and suitable for human consumption.

About 13% of this division is groundwater, an important source of drinking water for many people worldwide 4. In rural and small communities groundwater serves as the only source of drinking water. According to UNESCO, more than 50% of the world population depends on groundwater for domestic use 3. One of the most important aspects in groundwater studies and concerns with respect to human health is to make it mandatory to analyze the drinking water prior to consumption.

Over the years, groundwater pollution due to contaminants leaking from the disposal sites is a big problem in many countries. Industries such as ceramic, painting, glass, mining, battery and manufacturing are considered the main sources of heavy metals in local water streams, which eventually contaminate groundwater with heavy metals. Landfill leachates site is another source of heavy metal contamination in groundwater 5. Increase in human activities such as industrialization coupled with over population and increase in ambient temperature are among other factors that have become major environmental issues in recent years.

Nonpoint sources as well as point sources are major reasons for surface water heavy metal contamination. Nonpoint sources include city sewage and agricultural run-off, which has fertilizers and pesticides fortified with various heavy metals. Point source pollution of surface water in semi-urban area mostly consist of small-scale industries 9.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
26	Vishwanath Vinod Pawar	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		CYBER CRIME AND SECURITY	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

**ISSN 2394 - 7780**

---

**CYBER CRIME AND SECURITY**

**Vishwanath Vinod Pawar**  
 Assistant Professor, VIVA College of Arts, Commerce and Science

---

**ABSTRACT**

*As we all know that Cybercrime has been one of the common practices made by the computer expert. The Computers have unleashed an era of enhanced productivity and creativity. Communication and Connectedness has seen new heights in the last two decades. Internet has ushered a new revolution. Being one of the most rapidly expanding sector, internet has become one of the most vital part of our life from work to entertainment there's no other option now but it comes with a price of our privacy.*

*Cyber Crimes are also on the rapid expansion causing our sensitive data to be used without our permission. Governments are aware of this matter doing everything they can to secure our networks but many say security is just an illusion. In this paper I have mentioned some of the impact of the cybercrime. Cybercrime is that activities made by the people for destroying organization network stealing others valuable data, documents, hacking bank account and transferring money to their own and so on. Cyber Crime is emerging as serious threat. To the world of computer technology, governments, police and intelligence units are acting toward the issue closely. Different Strategies are put into action. The effort is done to educate people and to expose them to the cyber world without security. My paper gives detailed information regarding cybercrime, its types, and modes of cybercrime and security measures including prevention to deal effectively with cybercrime. Finally I will go for the research on the crime made by the misuse of cybercrime in some of the field and areas like in financial crimes, Cyber pornography, Online gambling, Intellectual Property crimes, Forgery, Cyber Defamation, Cyber Stalking, Email Spoofing, Email bombing, Salami Attacks, Virus/Worm attacks, Web Jacking, Data diddling etc. and also try to find which type of cybercrime is most practice in the world and finally I will get the main objective of my term paper. Like this my term paper will be complete.*

*Keyword: Cyber Crime, Phishing and Hacking, Internet Technology, Piracy, Software, Cyber Security, Information.*

Sr No	Name	ISSN/ ISBN	Year
-------	------	------------	------

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

27	Dr. Neeta Rath	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		A STUDY ON SOCIO-CULTURAL IMPACT OF TOURISM	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 3

ISSN 2394 - 7780

**A STUDY ON SOCIO-CULTURAL IMPACT OF TOURISM**

**Dr. Neeta Rath**

Assistant Professor, VIVA College of Arts, Sci. & Commerce, Virar (W)

**ABSTRACT**

*Tourism is a temporary, short term movement of people to destinations outside the places where they normally live and work. It involves activities during their stay at these destinations and includes movement for all purposes as well as a day's visit or excursion. This paper mainly focuses on socio-cultural impact of tourism. Now tourism industry is contributing a lot towards GDP of the country. Not only we can see tourism impact on the economy but also there can be seen on social as well as cultural aspects of the country. The impact can be seen in both positively as well as negatively. When people have started to explore various parts of the World for tourism they are contributing economically and also socio culturally. All these are possible due to increase of per head income of people, advancement of information technology and availability of various options for tourist to choose different destinations.*

*Keywords: Tourism, GDP, IT, Socio-Culture, Destinations*

**INTRODUCTION**

Tourism is affected generally by the factors like topography, culture, tradition, natural beauty and a lot of other things. Tourism is an industry of labour intensive because most of the activities are carried out by people only. It is an industry focuses mainly on various kinds of services. It is also one of the fastest growing industries of the world. A major contribution of tourism towards GDP can be seen immensely in most of the developed countries of the World. Along with economy it is also contributing towards culture of the country. Our socio-cultural system is also getting influenced by culture and tradition of others. So we should know how tourism sector is contributing positively as well as negatively on culture and tradition of a country.

**REVIEW OF LITERATURE**

- ❖ A.Sankaran (1996) analysed various tourist destinations are developed due to presence of five things like availability of transport network, attractive sights, accommodation for various categories of people, number of supporting facilities and instructions provided to tourists. He mainly focused on the points which required to be developed to grow tourism.
- ❖ Hall (2000) explained if there will be increased contacts among different people of different countries then it can lead to increase of knowledge and understanding of different cultures which will help to release tension among various nations of the World. If we want to bring peace in the World then there should be a proper form of interaction and communication system.
- ❖ Batra (1990) focused on the problems associated with tourism industry especially of promotion on Rajasthan. According to him some of the problems are in-built which are needed to be sorted out with some care. He strongly recommended there should be frequent get together among local people which will help to break the social barriers that is prevailing in Rajasthan. It is one of the beautiful states of India which needed to be taken care of by the government.
- ❖ Vijay Kumar (1992) analysed on the problems lied in tourism industry in the state of Kerala. He focused the general problems prevailing for a long period of time and urgent need of actions to be taken to promote socio cultural importance of tourism in the state. The prevailing problems have to be solved as quickly as possible because Kerala is considered as heaven of south India.
- ❖ Vinay Tandon (2001) highlighted on the need of eco tourism of different eco tourism sights of the country of India. He pointed out the inter related components of ecotourism required to be protected for the growth and development of eco tourism.
- ❖ Rajakumari (2007) studied to overcome financial leakages in tourism sector. One must focus on involvement of local people as much as possible in tourism industry which can be possible only by developing infrastructure of the local area.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*(Signature)*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Sr No	Name	ISSN/ ISBN	Year
28	Dr. Vidya P. Verma	2394-7780	2018-19
Title of the proceedings of the conference		International Journal of Advance and Innovative Research	
Title of the paper		INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN QUALITY TEACHING AND LEARNING	

**International Journal of Advance and Innovative Research**

Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

ISSN 2394 - 7780

**INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN QUALITY TEACHING AND LEARNING**

**Dr. Vidya P. Verma**

Assistant Professor, Department of English, VIVA College, Virar (W)

**ABSTRACT**

ICT stands for Information and Communication Technology". It refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the internet, wireless networks, cell phones, and other communication mediums. ICT has become an integral part of today's teaching learning process. New technologies can motivate students and make our classes more interesting. It enhances teachers' abilities as they learn new skills and techniques. Modern communication technologies have given the facilities to reach a large number of people who can learn in their own place, pace and time. The learners can be provided with any kind of information with illustrations, graphics, demonstrations, experiments etc. Moreover, the best teachers' services can be utilized to impart education. A unique initiative of online professional development of in-service teachers' of higher education, using MOOCs platform Swayam-Annual Refresher programme in Teaching (ARPIT) was launched by MIIRD on 13th November 2018. The ARPIT is 40 hours Programme with 20 hours of video content offered in a flexible format which can be done at one's own pace and time. It will be treated as equivalent to one Refresher course for the purpose of Career Advancement. This paper highlights the scope of ICT on quality teaching and learning in higher education.

**Keywords:** Information, Telecommunication, Demonstration, Refresher, Advancement.

**INTRODUCTION**

ICT has changed the educational system. It has motivated teachers' attitude towards their work, even changed students' behavior towards learning. ICT based education is not about teaching students computer skills rather it is about using computer and technology as tools to enrich learning in all subjects such as science, mathematics and English. The online refresher course is a unique initiative of online professional development of near about 15 lakhs higher education faculty used the MOOCs platform SWAYAM. For implementing ARPIT, 75 discipline-specific institutions had been identified and notified as National Resource Centers (NRCs) in the first phase, which were tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.

In 2018, the inaugural year itself, the NRCs were expected to cater to around 13 lakh faculty of the total 15 lakh faculty in higher education. The courses covered a diverse range of topics such as, inter alia, Indian culture & Heritage Studies, Pedagogical Innovations & Research Methodology, Latest Trends in Pedagogy and Assessment, Personal-Emotional Development and Counselling, Neural Networks and Deep Learning & Knowledge discovery, ICT in Science and Math's teaching, Innovation and Best Practices in Educational Skills, Leadership and Governance in Higher Education, Public Policy and Administration, English Language Teaching, Hindi Literature & Linguistics, Methodology of Teaching Sanskrit, Effective Creations and Innovative Researches in Medieval Gujarati Literature, Tribal and Regional languages, Urdu, French Studies, Tools, techniques and experiments in Earth Science, Mathematics, Statistics, Zoology, Chemistry, Physics, Biotechnology, Biomechanics, Marine Science, Calculus, Real Time Power Analysis and Smart Grid, Civil Infrastructure for Smart City Development, Engineering Mechanics, Design Spectrum, DIY Manufacturing Technology, Advanced Concepts in Fluid Mechanics, Energy Systems Engineering, Engineering Mechanics, Physics of Semiconductors and Devices, Internet of Things, Astronomy and Astrophysics, Electrical Engineering, Bio-Medical engineering, Metallurgical Engineering and Materials Sciences, Chemical Engineering, Aerospace Engineering, Tourism and Hospitality Management, Political Science, Economics, Psychology, Development Perspectives in Agriculture, Gender/Women's studies, Law, Disaster Management, Climate change, Library & Information Science, Ethics, Human Rights and Environment, Social and Rural Development, Anthropology etc. The course was a 40 hour module with 20 hours of video content and 20 hours of non-video content. They offered in a highly flexible format and could be done at one's own pace and time. There were built-in assessment exercises and activities as part of the academic progression in the course. At the end of the course, they had given a terminal assessment which were either online or a written examination. All faculties who successfully complete the online refresher course will be certified.

**OBJECTIVES**

➤ To study the impact of ICT in Quality teaching and learning.

49

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
29	Alina Alex Dcosta	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		NEW MEDIA AND CONTENT CREATORS: A CONTEMPORARY COMBINATION REDEFINING SUCCESS	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

**ISSN 2394 - 7780**

**NEW MEDIA AND CONTENT CREATORS: A CONTEMPORARY COMBINATION REDEFINING SUCCESS**

**Alina Alex Dcosta**

Lecturer, Department of Mass Media, VIVA College, Virar (W)

**ABSTRACT**

- *By 2025, half of viewers under 32 years' age will not subscribe to a paid television service, indicated the statistic by Fortunelords proving the gravitational power of new media over traditional media as a tool of publishing new content. The undeniable reach and popularity of social media has grabbed hundreds of content creators every day to publish their content. 4.75 billion pieces of content are shared daily on Facebook. Facebook is accessed by over 400 million users with over 100 million added in every 9 months. YouTube gets over 30 million visitors per day browsing for their favorite content. Pinterest had 600 million Visual searches in February 2018. Twitter has over 75 Million users making over 50 million tweets a day and , 278,000 tweets every minute. 1.52 billion people on average log onto any one form of New Media daily and are considered daily active users.*
- *This paper attempts to analyse the circumstances leading to increasing rate of content creators aiming to publish and promote their work on new media. It examines the preference of users between new media and traditional media. The paper also acquaints usage of new media by few prominent content creators.*
- *For this study, primary as well as secondary data was used. For primary data, a structured questionnaire was distributed to 50 new media users. Secondary data was collected via multiple sources. Sample selection was done via purposive sample method.*
- *The data canvassed how new media is a preferred option by contemporary audience as well as content creators. The data analyses displayed reach and awareness about content creators among the audience. Findings proved that for a variety in content 80% respondents opt for New Media while 20% turn to television. 70% of the respondent use all the applications listed above. 12% people access only YouTube, 10% use only Instagram and 8% access only Facebook.*

*Keywords: Content Creators, New Media, Social Media, YouTube, Communication*

**1. INTRODUCTION**

**1.1 New Media**

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
30	Madhura Surve	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Trend Of Nutraceutical Products In Young Generation & Its Impact On Health	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

**ISSN 2394 - 7780**

**TREND OF NUTRACEUTICAL PRODUCTS IN YOUNG GENERATION & ITS IMPACT ON HEALTH**

**Madhura Surve**  
 Assistant Professor, VIVA College

**ABSTRACT**

*Trends of Nutraceutical products are increasing day by day in young generation as young generation are health conscious and they want good physic. The term Nutraceutical is a combination of two words – "Nutrient" (a nourishing food component) and "Pharmaceutical" (a medical drug). Indian nutraceutical market divided into two part i.e. functional food & beverage (energy drink, sports drinks etc.) And dietary supplements (Protein supplement, chyawanprash etc.)*

*The purpose of these study is to find out whether these products are actually beneficial or not. Similarly to find out consumption habits and perception of consumers about nutraceutical products. Chi Square technique is used to find out the relationship between the variables.*

*Keywords: Nutraceuticals, Pharmaceutical, Nutrients, functional food, dietary supplements*

**INTRODUCTION**

The term Nutraceutical was coined from nutrition and pharmaceutical in 1989 by Stephen DeFilice, Founder for innovation in medicine. According to him "a Nutraceutical is any substance that is food or part of food and provide a health benefits, including the prevention and treatment of disease." Nutraceutical products are the product which work as an alternative to modern medicine. There are multiple products that fall under nutraceuticals. It consist of food supplement like Herbal Products, Medical Products, dietary supplements, Pharmaceutical etc. Some Nutraceutical products like Protein Shakes, Green Tea, Energy drinks, Probiotics, Omega 3 fatty acids, Vitamins etc help to develop Good physics and may also help to treat type 2 diabetes, strengthen Immunity system, and increase fitness level.

**OBJECTIVES**

1. To create awareness about nutraceutical products and its impact on health
2. To find out whether there is need to take any precaution while consuming these kind of products.
3. To find out reasons of increase in sale of nutraceutical products in young generation.
4. To find out perception of consumers about nutraceuticals products.

**ADVANTAGES OF NUTRACEUTICAL PRODUCTS**

1. It may help us to live longer by strengthening immunity system.
2. It is "natural" than the traditional medicine and less likely to produce unpleasant sides effects.
3. It also help us to avoid particular medical condition like type 2 diabetes cancer, heart disease etc.
4. It may increase the health value.
5. Supplements like vitamins B 12 help to increase energy level.
6. Reduce inflammation and may help to reduce chronic disease.

**HYPOTHESIS**

H0 – There is no relation between demographic factors (age, income, education etc.) and consumption of Nutraceutical products.

H1 – There is relation between demographic factors (age, income, education etc.) and consumption of nutraceutical products.

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
31	Nazia S. Shaikh	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		IMPACT OF DIGITAL MARKETING ON FASHION INDUSTRY	

Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

**IMPACT OF DIGITAL MARKETING ON FASHION INDUSTRY**

**Nazia S. Shaikh**

Assistant Professor, VIVA College of Arts, Commerce & Science

**ABSTRACT**

*With the birth of the world wide web the current decades have witnessed tremendous evolution in the media. Marketers are faced with new challenges and opportunities within this digital age. Digital marketing is the avenue of electronic communication which is used by the marketers to endorse the goods and services to the market place. Digital marketing is rising in India with fast pace. Many Indian companies are using Digital Marketing for competitive advantage. Changes in consumer behavior requires forms to rethink the marketing strategies in the digital domain. The main objective of digital marketing is attracting customers and allowing them to interact with the brand through digital media. This study has described various forms of digital marketing, its effectiveness and its impact on firms sales. This paper focuses on the magnitude of digital promotion for both customers and marketers. This study highlights the upsurge in the fashion industry marketing on social media platforms and provides insights about consumer behavior and their interactions with online fashion brands. It provides a comprehensive view about the effectiveness of digital marketing as a tool for business communication in today's digital age.*

*Keywords: social media, influencer, fashion brands, digital marketing, consumers*

**INTRODUCTION**

Digital marketing is often referred to as 'online marketing', 'internet marketing' or 'web marketing'. Digital marketing is a term that refers to different promotional techniques deployed to reach customers via digital technologies. Currently, it is one of the most prominently used marketing techniques for promoting products and services through numerous digital channels. It extends beyond the internet and includes marketing through SMS and telecommunications. While traditional sales focused on generating sales, digital marketing aims at providing value to its audience through marketing content and marketing solutions. The barrier of one-way communication in traditional marketing was eliminated by the two-way communication facilitated by digital marketing which provides space for feedback and relationship building. There has been a recent influx of new fashion brands in the traditional fashion industry which is heating up the competitive landscape of the overall industry. To drive with the trends, the brands have been pushing to secure consumer loyalty and mass promotions of their products. What is coming out as a solution for channeling the competition to a more productive stream is the digital marketing and marketing space provided by social media.



VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
**Principal**

Principal  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
32	Prof. Sandesh Akre Prof. Anuja Patil	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Green Airport, The New Era Of Sustainability	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

**ISSN 2394 - 7780**

**GREEN AIRPORT, THE NEW ERA OF SUSTAINABILITY**

**Prof. Sandesh Akre and Prof. Anuja Patil**  
 VIVA College, Virar

**ABSTRACT**

*Going Green is an important ingredient of new age processing. It has different aspects like Green computing, Green processing, Green building, Green development, Green Healthcare and many. This research is about Green technology trends in airline industry and concentrates on airport infrastructure. When a huge infrastructure is built it has impact on nearby environment. One cannot imagine in how many ways it impact on ecosystem. Green Building is the way things have to be done in future. Green building uses resources optimally, produces less waste and provides desired output having long term benefits for mankind. The analysis is conducted on Solar Power generation capabilities and consumption of generated Power of Cochin Airport Authority. This Analysis reveals the best practices that Airport around India can adopt with slight increase in use of available resources. This implementation will definitely help in Business Sustainability and less CO2 emission under large Infrastructural Projects.*

*Keywords: Green Computing, Business Sustainability, Green Building, CO2 emission.*

**INTRODUCTION**

Green Building or Green Construction is structural process, responsible for environmental friendliness and Resource efficiency. It covers entire building infrastructure from Designing, Construction, Operation, Maintenance, Renovation and Deconstruction. Going green majorly deals with using natural resources for generation of power and emitting lesser hazardous material out. Recent trends have seen developments, where PPPs are getting encouragement from government policies for infrastructures such as Railway Stations, Sports Complex, Multiplex, Mall, Highway and Airports. This requires lots of natural resources such as water, sand, metals etc. In a world exhausting our natural resources, green building has become the ethical "in-thing" in an attempt to save our planet from despair. This, however, can only be achieved through a concerted effort by architects, engineers and construction companies – and of course, the support of the concerned citizen. As per India's Directorate General of Civil Aviation (DGCA) there are 101 domestic airports with overall operational Airports have been increased by 10 since last 5 years (as per last data updated on DGCA website on 16<sup>th</sup> October 2018). Hence this study was concentrated on Airport Infrastructures and Green Building.

**COCHIN AIRPORT**



Source: 1

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anuja Patil*  
**Dr. V. S. Adigal**  
**Principal**

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Sr No	Name	ISSN/ ISBN	Year
33	Jagruti S. Raut	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		A STUDY OF SENTIMENT ANALYSIS - ITS APPROACHES AND CHALLENGES	

**International Journal of Advance and Innovative Research**  
Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

ISSN 2394 - 7780

**A STUDY OF SENTIMENT ANALYSIS - ITS APPROACHES AND CHALLENGES**

**Jagruti S. Raut**

Viva College of Arts, Commerce and Science, Virar (W)

**ABSTRACT**

*Sentiment Analysis is an active field in the area of Natural Language Processing. The importance of Sentiment Analysis is increasing day by day because of the rapid expansion of social media. Nowadays, people have started expressing their views about the product or an event on the web and people also checks the reviews or ratings about the product before purchasing it. The data generated by these are called as Sentiment Data and the task of analyzing its contents are called as Sentiment Analysis. It is also known as Opinion Mining or Emotion AI. Sentiment Analysis helps organizations to improve their customer service depending upon the previous feedback. It is also useful in business to predict trends of customers. This paper presents an overview about Sentiment Analysis, its approaches and the challenges faced by it.*

*Keywords: Sentiment Analysis, Opinion Mining, Lexicon, Supervised Learning, Unsupervised Learning.*

**I. INTRODUCTION**

Sentiments are feelings or views or opinion about something. The "something" can be a place, a product, a person or an event. Social media is the biggest resource for the sentiments. Sentiment Analysis is defined as a computational study of human thoughts or opinion, emotions and attitudes towards an object.[1]

Classes of Sentiments:

- Positive Sentiments: It refers to the complete satisfaction about the service.
- Neutral Sentiments: It is a balanced type of sentiments. The opinions of these categories are neither completely positive nor completely negative.
- Negative Sentiments:

It refers to complete dissatisfaction about the service.

Sentiment Analysis is mainly used to analyze the reviews or sentiments of a customer or a follower. The process of Sentiment Analysis is shown in figure 1. [1]

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
Dr. V. S. Adigal  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



Vishnu Waman Thakur Charitable Trust's  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
(VIVA College)  
(Affiliated to University of Mumbai)

Sr No	Name	ISSN/ ISBN	Year
34	Nileshwari V. Ghumre	2394-7780	2018-19
Title of the proceedings of the conference		International Journal of Advance and Innovative Research	
Title of the paper		SOCIO-ECONOMIC IMPACT OF MOBILE WALLETS ON THE URBAN YOUTH OF INDIA	

International Journal of Advance and Innovative Research  
Volume 6, Issue 2 (VII): April - June, 2019 Part - 2

ISSN 2394 - 7780

**SOCIO-ECONOMIC IMPACT OF MOBILE WALLETS ON THE URBAN YOUTH OF INDIA**

**Nileshwari V. Ghumre**

Assistant Professor, Department of Commerce and Management, Viva College, Virar (West), Thane

**INTRODUCTION**

Across the developing world, there are probably more people with mobile handsets than with bank accounts (Porteous, 2006). The spread of mobile phones across the developing world is one of the most remarkable technology stories of the past decade. Buoyed by prepaid cards and inexpensive handsets, hundreds of millions of first-time telephone owners have made voice calls and text messages part of their daily lives. In the last decade, number of mobile subscribers rose from 362.30 million in January, 2009 to 1181.97 in January, 2019 (TRAI Report, 2019). However, many of these same new mobile users live in informal and/or cash economies, without access to financial services that others take for granted. Various initiatives use mobile phones to provide financial services to 'the unbanked.' These services take a variety of forms of transactions, and go by various names, including mobile banking, mobile transfers, and mobile payments. The systems offer a variety of financial functions, including micropayments to merchants, bill-payments to utilities, P2P transfers between individuals, and long-distance remittances. Currently, different institutional and business models deliver these systems. Some are offered entirely by banks generally referred as m-banking platforms, others entirely by telecommunications providers which are oriented towards managing the prepaid or postpaid mobile connection, and still others involve a partnership between a bank and a telecommunications provider (Porteous, 2007) often termed as digital wallets. These digital wallets being predominantly used over mobile phones, is often referred as mobile wallets.

A mobile wallet refers to an electronic device or online service that allows an individual to make electronic transactions. This can include purchasing items on-line with a computer or using a smartphone to purchase something at a store. An individual's bank account can also be linked to the digital wallet. They might also have their driver's license, health card, loyalty card and other ID documents stored on the phone. The credentials can be passed to a merchant's terminal wirelessly via near field communication (NFC). Increasingly, digital wallets are being made not just for basic financial transactions but to also authenticate the holder's credentials. A digital wallet has both a software and information component. Secure and fair electronic payment systems are important issue. The software provides security and encryption for the personal information and for the actual transaction. The information component is basically a database of user-input information. This information consists of your shipping address, billing address, payment methods (including credit card numbers, expiry dates, and security numbers), and other information. One time password (OTP) is sent on the registered mobile number or email id to authenticate each of the transaction. A mobile wallet, in simple terms, is a virtual mobile-based wallet where one can store cash for making mobile, online or offline payments. There are various types of mobile wallets in India, such as open, semi-open, semi-closed and closed - depending on the type of usage and payments that can be made. Wallets are growing rapidly as they help in increasing the speed of transaction, especially for e-commerce companies and all e-commerce marketplaces have integrated with such mobile wallets too. Thought the advent of mobile wallets happened in the year 2010 with Paytm being the pioneer, the industry received a major boost post demonetization in November 2016. Crisis of liquid cash urged people to use mobile wallets due to their faster and multi-dimensional services. According to an online survey firm Emarketer, approximately 93.3 million users are registered with one or the other mobile wallets.

The present study focuses on understanding the socio-economic changes in the lifestyle of urban youth in the country. There are three reasons identified for selecting urban youth as the target population.

1. Access to faster internet and better percentage of smartphone users as compared to rural youth.
2. Abundant availability of avenues for accepting payment via mobile wallets.
3. Multiple transactions made by young population for their various academic and recreational needs.

**LITERATURE REVIEW**

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anayal*  
**Dr. V. S. Adigal**  
Principal

Principal  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
35	Mala khanchandani	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		Museum, A Media for learning Indian History Without Textbooks	

**International Journal of Advance and Innovative Research**  
 Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

ISSN 2394 - 7780

**MUSEUM, A MEDIA FOR LEARNING INDIAN HISTORY WITHOUT TEXTBOOKS**

**Mala Khanchandani**  
 Assistant Professor, VIVA College

**INTRODUCTION**

"Museums are worthy partners in the quest of wellbeing."

Museums serve as a media for understanding history of human beings and their environment so as to display them for education, entertainment and research purposes, thereby contributing to the development of society.

This paper explains how concept of museum evolved and how learning in Museum is enjoyable and entertaining. It states how visual aids can be a great help in learning Indian artifacts and cultural heritage.

**AIMS OF RESEARCH**

- a) To raise awareness about history through a museum.
- b) To explore the use of visual aids in learning process.

**KEYWORDS**

Museum, Visual aids, Museum Education, Cultural History, Learning environment.

**RESEARCH OBJECTIVES**

- i) To enable students to learn using their sensory organs.
- ii) To know how students learn more apart from textbooks.

**RESEARCH METHODOLOGY**

The complete information is collected through Secondary data, including various articles, research study, reference book, websites.

**ORIGIN OF MUSEUM**

The word 'Museum' was derived from the Greek, and it meant a sacred place. In the Renaissance period, it acquired various names like gallery, the cabinet or chamber.

Whereas in Indian literature, the term 'Chitrasala' meaning picture gallery was used. However, museum in real sense of term was established in India with the advent of Europeans.

The definition of Museum by (ICOM 2007) "A museum is a non-profit permanent institution in the service of society and its development, open to the public, which acquires, conserves researches, communicate and exhibit the tangible and intangible history of humanity and its environment for the purpose of education, study and environment.

**TYPES OF MUSEUM**

VIVA College Road, Virar (West), Pin – 401303  
 Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*(Signature)*  
**Dr. V. S. Adigal**  
 Principal

**Principal**  
 Bhaskar Waman Thakur College of Science  
 Yashvant Keshav Patil College of Commerce  
 Vidhya Dayanand Patil College of Arts  
 VIVA College Road, Virar (W), Pin-401303.



**Vishnu Waman Thakur Charitable Trust's**  
**Bhaskar Waman Thakur College of Science**  
**Yashvant Keshav Patil College of Commerce**  
**Vidhya Dayanand Patil College of Arts**  
**(VIVA College)**  
**(Affiliated to University of Mumbai)**

Sr No	Name	ISSN/ ISBN	Year
36	Glorita Pereira Claretta Lopes Jagruti Naukudkar	2394-7780	2018-19
<b>Title of the proceedings of the conference</b>		International Journal of Advance and Innovative Research	
<b>Title of the paper</b>		A Study on Impact of Price Hike of Crude oil and Coping Up Strategies by Households	

**International Journal of Advance and Innovative Research**

Volume 6, Issue 2 (VII): April - June, 2019 Part - 1

**ISSN 2394 - 7780**

**A STUDY OF IMPACT OF PRICE HIKE OF CRUDE OIL AND COPING UP STRATEGIES BY HOUSEHOLD**

**Glorita Pereira<sup>1</sup>, Claretta Lopes<sup>2</sup> and Jagruti Naukudkar<sup>3</sup>**

Assistant Professor<sup>1</sup>, (NET-Economics)

Assistant Lecturer<sup>2</sup>

Assistant Professor<sup>3</sup>, (Pursuing Phd)

**ABSTRACT**

*Fuel is one of the most widely used sources of energy in the world. It includes petro fuel, diesel, natural gas which is extracted from the earth. Future economic growth crucially depends on the long-term availability of energy from sources that are affordable, accessible and environmentally friendly. For any developing country, the strategy to obtain and meet the energy requirements and energy developments are the integral part of the overall economic strategy. Affordable energy directly contributes to reducing poverty, increasing productivity and improving quality of life.*

*Prices of petro fuel and LPG have risen to substantial level recently which leads to increase in expenditure of common man. High prices for diesel means that the cost of transporting goods goes up across the country. In turn, prices of essential commodities like fruit and vegetables as well as other goods increases.*

*This paper attempts to examine the impact of increasing fuel prices on common people. The paper also focuses on other coping up strategies adopted by people as a result of increasing fuel prices.*

*A structured open ended questionnaire was administrated to 60 households in Vasai Taluka of Maharashtra.*

*Few innovative ideas and suggestions given by people to minimise the use of fuel are also pen down in this paper.*

*Finding shows that how increasing fuel price beyond its current price increases vulnerability of already poor households and therefore it suggest some measures to the government to cushioned the vulnerable population.*

*Keywords: Crude oil, price hike, fuel, innovative strategies*

VIVA College Road, Virar (West), Pin – 401303  
Tel.: 97657 42335 Email ID: [principal@vivacollege.org](mailto:principal@vivacollege.org)



*Anojal*  
**Dr. V. S. Adigal**  
Principal

**Principal**  
Bhaskar Waman Thakur College of Science  
Yashvant Keshav Patil College of Commerce  
Vidhya Dayanand Patil College of Arts  
VIVA College Road, Virar (W), Pin-401303.