CURRICULUM VITAE

Name	DESAI NARENDRASINH BHAGWANSINH
	Associate Professor of Mathematics and Head Department of Applied Science and Humanities
	A. D. Patel Institute of Technology, Behind 4th Phase
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Papers Published and Communicate

1. N. B. Desai & M. N. Mehta, "A Composite Expansion Solution of Double Phase Flow Due to Differential Wettability", The Mathematics Education, Volume23, No.4, pp. 202-206. (2001)
2. N. B. Desai & M. N. Mehta, "A Multiple Scaling Solution of Double Phase Flow Through Porous Media Due to Differential Wettability", scientists Ultra of Physical Sciences, Volume 13, No.2, pp. 246-249. (2001)
3. N. B. Desai & M. N. Mehta, "A Composite Expansion Solution of One Dimensional Flow in Slightly Saturated Porous Media", The Journal of The Indian Academy of Mathematics", Volume 23, No.2, pp. 297-302.
4. N. B. Desai & M. N. Mehta, "The Exact Solution of Imbibition Phenomenon Arising in Fluid Flow Through Porous Media by Using Similarity Transformation Technique". (Bulletin of Pure and Applied Sciences, New Delhi)
5. N. B. Desai & M. N. Mehta, "A Composite Expansion Solution of One Dimensional Longitudinal Dispersion in   Porous Media". (Ganit Sandesh, Rajasthan)
6. M. N. Mehta, N. B. Desai & M. S. Joshi, ''Solution by Group Invariant Method of   Instability   Phenomenon with Power law Nonlinearity''. International Journal of Mathematical Sciences and Engineering Applications (IJMSEA) Volume No: -3 No. III (2009) pp. 291-303
7. N. B. Desai & M. N. Mehta, "A Solution of Seepage of Ground Water in Soil: Homotopy Perturbation Method". International Journal of Applied Mathematics and Mechanics (IJAMM) Volume No: -6 (2) (2010)pp. 85-92
8. M. S. Joshi, N. B. Desai and M. N. Mehta" An Analytic Solution of Instability Phenomenon Arising in Fluid Flow Through Homogeneous

Porous Media" International Journal of Appl. Math and Mech.6 (16): 93-102,2010

9. N. B. Desai , M. S. Joshi and M. N. Mehta "A Multiple Scaling Solution of the Seepage of Groundwater Flow Down Sloping Bedrock in Heterogeneous Soil in the Vertical Direction".   International Journal of Advanced Engineering Technology Vol. I/Issue III/Oct-Dec., 2010/ 85-92

10. M. S. Joshi, N. B. Desai and M. N. Mehta "One- Dimensional and Unsaturated Fluid Flow Through Porous Media" International Journal of Appl. Math and Mech.6 (18): 66-79,2010

11. M. S. Joshi, N. B. Desai and M. N. Mehta "An Analytical Solution of Counter-Current Imbibition Phenomenon Arising in Fluid Flow through Homogenous Porous Media" International Journal of Appl. Math and Mech. 7 (11): 21-32, 2011.

12. M. S. Joshi, N. B. Desai and M. N. Mehta "Solution of the Burger's Equation for Longitudinal Dispersion Phenomena Occurring in Miscible Phase Flow through Porous Media" ITB J.Eng. Sci. Vol. 44, No. 1:61-76 ,2012

13. M.A. Patel, N.B.Desai " An approximate analytical solution of Nonlinear differential equation arising in fluid flow through Homogeneous porous media " International Journal of Innovative Research in Science, Engineering and Technology. Vol. 4 Issue 8 p.No.7655-7662,August 2015.

14. D. J. Prajapati, N.B.Desai " The solution of Immiscible fluid flow by means of Optimal Homotopy Analysis Method." International Journal of Computer & Mathematical Sciences IJCMS ,Vol. 4, Issue 8 110-115,August 2015.

15. M A Patel and N B Desai "Homotopy Analysis Solution of Countercurrent Imbibition Phenomenon in Inclined Homogeneous Porous Medium" Global Journal of Pure and Applied Mathematics. ISSN 0973-1768 Volume 12, Number 1 (2016), pp. 1035-1052 indexed in the SCOPUS, Mathematical Reviews, MathSciNet, Zentralblatt MATH and EBSCO databases.

16. D J Prajapati and N B Desai"Application of the Basic Optimal Homotopy Analysis Method to Fingering Phenomenon", Global Journal of Pure and Applied Mathematics. ISSN 0973-1768 Volume 12,2016. Index in SCOPUS, EBSCO databases.

17. K R Patel and N B Desai" Solution of Fuzzy initial value problems" ADIT JOURNAL OF ENGINEERING. ISSN 0973-3663 Volume 12Page No. 53-57, Dec. 2015.

18. M A Patel and N B Desai" Homotopy analysis method for   inger-imbibition phenomenon in heterogeneous porous medium", Nonlinear Science Letters A: Mathematics, Physics and Mechanics. ISSN 2076-2275 Volume 8 (1) Page No. 90-100,March 2017.

19. M A Patel and N B Desai" Homotopy analysis method for nonlinear partial differential equation arising in fluid flow through porous medium" International Journal of Computer & Mathematical Sciences. ISSN 2347 – 8527,Volume 6 (5),Page No.14-18, May 2017.

20. M A Patel and N B Desai" An approximate analytical solution of the Burger's equation for longitudinal dispersion phenomenon arising in fluid flow through porous medium" International Journal on Recent and

Innovation Trends in Computing and Communication. ISSN 2321-8169 Volume 5 (5) Page No.1103-1107,June 2017.

21. M A Patel and N B Desai" A mathematical model of concurrent imbibitions phenomenon in inclined homogeneous porous medium" Kalpa Publications in Computing, ICRISET2017, Selected Papers in Computing ISSN No. 2515-1762 Volume 2 Page No.51-61,June 2017.

22. K R Patel and N B Desai" Solution Of Fuzzy Initial Value Problems By Fuzzy Laplace Transform" Kalpa Publications in Computing, ICRISET2017, Selected Papers in Computing ISSN No. 2515-1762 Volume 2 Page No.25-37 ,June 2017

23. D J Prajapati and N B Desai"Optimal homotopy analysis solution of finger-imbibition phenomenon in homogeneous porous media with magnetic fluid effect" Kalpa Publications in Computing, ICRISET2017, Selected Papers in Computing ISSN No. 2515-1762 Volume 2 Page No.85-94 ,June 2017

24. M A Patel and N B Desai" Mathematical modelling and analysis of inger ent imbibition phenomenon in inclined heterogeneous porous medium" International Journal of Computational and Applied Mathematics, ISSN 1819-4966 Volume 12 (3), Page No. 639-652. June 2017

25. K R Patel and N B Desai" Solution of Variable Coefficient Fuzzy Differential Equations by Fuzzy Laplace Transform" International Journal of Recent and Innovative Trends in Computing and Communication ISSN No. 2321-8169 Volume 5 , Page No. 927-942. June 2017

26. N B Desai" Similarity Solution Of Non-Linear Boussinesq's Equation Arising in Infiltration Of Incompressible Fluid Flow " International Journals of Advanced Research In Computer Science and Software Engineering(IJARCSSE) ISSN No. *2277-128X, Volume 7(6),Page No.59-67,* June 2017.

27. D J Prajapati and N B Desai "Approximate analytical solution for thefingero-imbibition phenomenon by optimal homotopy analysis method" International Journal of Computational and Applied Mathematics ISSN No. 1819-4966 Volume 12, number3(2017) pp.751-761.

28. D J Prajapati and N B Desai "Analytic Analysis for Oil Recovery During Cocurrent Imbibition In Inclined Homogeneous Porous Medium" International Journals of Recent and Innovative Trends in Computing & Communication ISSN No. 2321-8169, VolumeE 5, Issue 7, pp.189-194.

29. N B Desai "Approximate analytical solution of seepage of ground water in soil" Aryabhatta Journal of Mathematics and Informatics, ISSN No. 2394-9309, volume 09, Issue 02, (July-Dec 2017).

30. M A Patel and N B Desai "An approximate analytical solution of Boussinesq's equation for infiltration phenomenon in unsaturated porous medium", International Journal of Mathematics And its Applications, 6(1-C) (2018), 463-470.ISSN:2347-1557

31. M A Patel and N B Desai "Mathematical modelling of inger-imbibition phenomenon in heterogeneous porous medium with magnetic field effect, PRAJNA – Journalof Pure and Applied Sciences, 24-25 (2017), 15-22. ISSN No.0975-2595

32. D J Prajapati and N B Desai "Mathematical investigation of counter-current imbibitions phenomenon in heterogeneous porous medium" PRAJNA – Journalof Pure and Applied Sciences, 24-25 (2017), 38-46 ISSN 0975-2595

33. K R Patel and N B Desai "Solutin of Nth order fuzzy initial value problem" PRAJNA – Journalof Pure and Applied Sciences, 24-25 (2017), 30-37 ISSN 0975-2595

34. M A Patel and N B Desai" Homotopy Analysis Approach of Boussinesq Equation for Infiltration Phenomenon in Unsaturated Porous Medium" Math. J. Interdiscip. Sci..Vol. 7, No.1, Sep. 2018, pp.21–29 ISSN No.: 2278-9561

35. K R Patel and N B Desai "Solution of Higher Order Differential Equations with Fuzzy Boundary Conditions By Finite Difference Method" JETIR May 2019, Volume 6, Issue 5 (ISSN-2349-5162)

36. M A Patel and N B Desai "An approximate analytical solution of one-dimensional groundwater recharge by spreading" TWMS J. App. Eng. Math. V.9, N.4, 2019, pp. 838-850(ISSN 2587-1013.)

Paper Reading / Presentation

1. "A Composite Expansion solution of One dimensional Flow in Slightly Saturated Porous Media & its Simulation by 'C' language", National Seminar on Partial Differential Equations & Scientific Computing, Surat, INDIA, 23rd-to 25th January, 2005.

2. "Power Series Solution of Viscous Instability Phenomenon in Double Immiscible Phase Flow with Mean Pressure", Research Seminar on Mathematics and Applications, V. V. Nagar , INDIA 10th to12th January, 2009

Research Areas

Fuzzy Modeling, Applicable Mathematics, Numerical Techniques, Fluid Flow through Porous Media.

Books Published

Sr. No.	Authors Name	Title of the Book	Publication by	ISBN No.
1.	Dr S S Patel and Dr. N B Desai	Engineering Mathematics III (GTU) First edition 2009-10 Second edition 2010-11 Third edition 2011-12	Atul Prakashan, Gandhi Road,	
2.	Dr S S Patel and Dr. N B Desai	Differential Equation and Integral Transform 2012-13	Atul Prakashan, Gandhi Road, Ahmedabad.	978-93-81518-37-3
3.	Dr S S Patel and Dr. N B Desai	Advanced Engineering Mathematics First edition 2012-13 Second edition 2013-14 Third edition 2014-15 Fourth Edition 2015-16 Fifth Edition 2016-17	Atul Prakashan, Gandhi Road, Ahmedabad.	978-93-81518-46-5
4.	Dr S S Patel and Dr. N B Desai	Engineering Mathematics IV (GTU) First edition 2009-10 Second edition 2010-11 Third edition 2011-12	Atul Prakashan, Gandhi Road, Ahmedabad.	
5.	Dr S S Patel and Dr. N B Desai	Complex Analysis and Numerical Techniques First edition 2012-13 Second edition 2013-14 Third edition 2014-15 Fourth Edition 2015-16	Atul Prakashan, Gandhi Road, Ahmedabad	978-93-81518-11-3
6.	Dr S S Patel and Dr. N B Desai	Numerical & Statistical Methods for Computer Engineering 2014-2015 First Edition 2015-16	Atul Prakashan, Gandhi Road, Ahmedabad.	978-93-85138-12-6

7.	Dr S S Patel and Dr. N B Desai	Numerical & Statistical Methods for Civil Engineering 2014-2015 First Edition 2015-16	Atul Prakashan, Gandhi Road, Ahmedabad.	978-93-85138-11-9
8.	Dr.N B Desai	Problems arises in single and multi phase flow through porous media	LAMBERT Academic Publishing	978-3-330-32610-1
9.	Dr S S Patel and Dr. N B Desai	Mathematics _II	Atul Prakashan, Gandhi Road, Ahmedabad	978-93-85173-72-1
10.	Dr S S Patel and Dr. N B Desai	Complex Variable and Partial Differntial Equations	Atul Prakashan, Gandhi Road, Ahmedabad	978-93-85173-87-5
11.	Dr S S Patel and Dr. N B Desai	Probability and Statistics	Atul Prakashan, Gandhi Road, Ahmedabad	978-93-85173-89-9
11.	Dr S S Patel and Dr. N B Desai	Applied Mathematics for Elecrical Engineering	Atul Prakashan, Gandhi Road, Ahmedabad	978-93-85173-90-5

Seminars, Workshop, Summer Schools, Conferences or Research Symposium Organized

One day workshop on Engineering Mathematics at ADIT, New V V Nagar on 7th July, 2010.

National Seminar on English Language Teaching: Methods & Practices at ADIT on 5-6th January 2013.

During Tech fest Zero15 workshop organized **"Teaching Linear Algebra with Modeling"** at ADIT 9th March, 2015

Delivered Lectured as a Resource Person

Pedagogy Sessions in Calculus
Chair the session and talk on Pedagogy in Calculus

At L.D. College of Engineering, Ahmedabad , on June 27,2012

15th Refresher Course: Emerging Trends in Engineering and Technology (MD)
Topic: Fuzzy sets and Its Application, at UGC Academic Staff College, Vallabh Vidyanagar, on March 1, 2013.

Advanced Analytical & Numerical Techniques for Engineers and Scientists (AANTES).
Topics: Homotopy Perturbation Method I
        : Homotopy Perturbation Method II
 March 5, 2014 at **SVNIT**, **Surat**

Computational Fluid dynamics for Engineers and Scientists
Topic: Homotopy Perturbation Method for Nonlinear Differential Equations, at SVNIT, Surat, on June 21, 2014

Faculty Development Program on "Engineering Mathematics & It's Application"
 during 1-12 January 2016.
Topic:-Multiple Integrals & its Applications , at Parul Institute of Engineering & Technology, Faculty of Engg. & Technology, Parul University, Waghodia, 5th January 2016
Topic:- Partial Differentiation & its Applications, at Parul Institute of Engineering & Technology, Faculty of Engg. & Technology, Parul University, Waghodia, 5th January 2016

Research week, at Gujarat Technological University, Ahmedabad
Topic:-Homotopy Analysis Method, 22nd February,2016

 "Applications of Ordinary Differential Equations in Engineering" in the TEQIP-II sponsored STTP on"Mathematical Tools and Techniques for Engineering Research" organized by General Department of Government Engineering College, Gandhinagar in association with State Project Facilitation Unit (SPFU) June 2, 2016

"Homotopy Perturbation Method" GUJCOST Sponsered STTP at GIDC Degree Engineering College Abrama, Navsari, January 2-2017

"**Application of Ordinary Differential Equations in Engineering**", organized by B V M Engineering College, Vallabh Vidyanagar, February 04, 2017.

"**Continuous Models Using OrdinaryDifferential Equations**" GUJCOST Sponsered STTP at GIDC Degree Engineering College Abrama, Navsari, 21-March-2018

Research Guide

Gujarat Technological University Gandhinagar

Sr.No.	No. of Students Registered/Submitted /Awarded	Name of University	Status	Academic Year
1	02 (Degree Awarded)	Gujarat Technological University, 382 424	Both were Awarded Ph.D. Degree by GTU in 2019	2013-14
2.	01 (Thesis Submitted)	Gujarat Technological University, 382 424	On going September 2019	2014-15
3.	01	Gujarat Technological University, 382 424	On going	2018-19

Seminars, Summer Schools, Conferences or Research Symposium attended

Name and Place	Dates
Fuzzy Mathematics and Its Applications in Engineering Govt. Engg. College, Jabalpur	27 – 28 Dec. 1996
Winter School on Industry-Institute Partnership ISTE Surat Chapter, SVRCET, Surat.	3-8 Feb. '97

One day Workshop on Internet: Fundamentals and Applications Teachers' Association, SVRCET, Surat.	9 Feb. '97
One day workshop on Effective Communication Skills ISTE Surat Chapter, SVRCET, Surat.	16 August 1997
National Conference of The Indian Society of Theoretical and Applied Mechanics (ISTAM) Deptt. Of Mathematics, South Gujarat University, Surat & Deptt. Of Applied Mathematics, S.V. Regional Engg. College, Surat	Dec. 1997
State Level Annual Conferences of Gujarat Ganit Mandal Organized at different places in Gujarat State.	1997-2004
ISTE Sponsored Short Term Training Programme on Application Orientation in Engineering Mathematics & Mathematical Modeling Sardar Vallabhbhai National Institute of Technology, SURAT- 395 007	Dec 26-30 2007
National Workshop on Bioinformatics under Bioinformatics Infrastructure Facility of Department of Biotechnology, Department of Mathematics Maulana Azad National Institute of Technology, Bhopal- 462 003	May 21-25 2007
AICTE Sponsored Staff Development Programme on Application Of Mathematical Sciences And Soft Computing Sardar Vallabhbhai National Institute of Technology, SURAT- 395 007	Dec 08-12 2008
GTU Sponsored Workshop on course of Engineering Mathematics Government Engineering College, Patan	Jan 28 2009
AICTE Sponsored QIP Short Term Course On Analytical And Numerical Solutions Of Differential Equations IIT, Guwahati	Dec 6-10, 2010
76th Annual Conference of Indian Mathematical Society, at SVNIT, Surat	Dec27-30, 2010
XXI Century: Priorities In Technical and Higher Education at ADIT, New V V Nagar	Aug 03 2011
Mathematical Modeling and its Application at SVNIT , Surat	Nov 18 2011
Finite Element Method: A Mathematical Approach at CKPCET, Surat	30 April-4 May, 2012

Membership of Professional Bodies and Other Positions held

- **Life Member** – ISTAM (Indian Society of Theoretical & Applied Mechanics)
- **Life Member** – GGM (Gujarat Ganit Mandal)
- **Life Member** – ISTE(Indian Society for Technical Education) LM 111320

- **Referee-**(Reviewer) – Indian Journal of Science & Technology Chennai
- **Referee-**(Reviewer) –Journal of Wavelet Theory & Applications
- **Referee-**(Reviewer) –ADIT Journal
- **Referee-**(M. Phil) –Veer Narmad South Gujarat University, Surat **Referee-**(Ph.D.) –Veer Narmad South Gujarat University, Surat
- **Ph.D Course work assessment work –**DDU University
- **Ph.D. entrance examination paper setter at GTU**
- **DPC Member-** DDU University
- **GTU Academic Committee member**