

STAFF PROFILE



- 1) Name : Dr. A. Meena
2) Designation : Assistant Professor
3) Department : Mathematics
4) Qualifications : M.Sc., M.Phil., Ph.D.,
Academic :
Additional :
5) Experience (in years): Teaching: 11 Research: 15
6) Area of Specialization: Mathematical modelling, Numerical Simulation, Non-linear Differential Equations, Rotating Disc Electrode
7) Contact: E-mail: meensphd@gmail.com Mobile Number: 9788559976
8) Grants Received (Conference/Workshop/Seminar/any other): Nil
9) Project Completed: Nil
10) Project ongoing: Nil
11) Research Guidance:

Programme	No. of Scholars	
	Completed	Pursuing
Ph. D.	3	3
M. Phil.	20	Nil

12) Research Publications:

	International	National
Total Number of Publications	16	5

List of International Publications:

S. No	Title of the paper	Journal Name	Month and Year of Publication	ISSN Number
1.	Mathematical modelling of enzyme kinetics reaction mechanisms and analytical solutions of non-linear reaction equations	Journal of Mathematical Chemistry	48 (2010) 179-186 .	0259-9791

2	Mathematical modeling of amperometric and potentiometric biosensors and system of non-linear equations – homotopy perturbation approach	Journal of Electroanalytical Chemistry	644 (2010) 50-59.	1572-6657
3	Analytical solution of system of coupled non-linear reaction diffusion equations Part I: Mediated electron transfer at conducting polymer ultramicroelectrodes.	Journal of Electroanalytical Chemistry	647 (2010) 103-116	1572-6657
4	Analytical solution of system of coupled non-linear reaction diffusion equations Part II: Direct reaction of substrate at underlying microdisc surface	Journal of Electroanalytical Chemistry	650 (2010) 143–151	1572-6657
5	Analytical solution of nonlinear diffusion processes in modified electrode	Russian Journal of Electrochemistry	47(2) (2011) 147-155	1023-1935
6	New Approximate Analytical Expressions for Transient Concentration Profiles and Current Pertaining to a Homogeneous Chemical Reaction at	Journal of Physical Chemistry A	115(40) (2011) 10950-10961	1089-5639

	Hemispherical Microelectrodes			
7	Analytical expression of the steady-state catalytic current of mediated bioelectrocatalysis and the application of He's Homotopy perturbation method	Journal of Mathematical Chemistry	49(8) (2011) 1727–1740.	0259-9791
8	Approximate solution of non-steady concentration and current at a hemispherical microelectrode – Homotopy perturbation approach	Physical Chemistry: An Indian Journal	6(2) (2011) 96-104	0974-7524
9	A two-parameter mathematical model for immobilized enzymes and Homotopy analysis method	Natural Science	3(7) (2011) 556-565	2150-4091
10	Approximate analytical solution for EC and ECE process with fast chemical reactions at hemispherical electrodes	International Journal Computational and Applied Mathematics	7(3) (2012) 339-350.	1819-4966
11	Mathematical modelling and kinetics of Microchannel reactor	Applied and Computational Mathematics	2016; 5(6): 234-246	2328-5605

12	New analytical method for solving nonlinear equation in rotating disk electrodes for second order ECE reactions	Journal of Electroanalytical Chemistry	869 (2020) 114106.	1572-6657
13	Nonlinear Mass Transfer at the Electrodes with Reversible Homogeneous; Reactions: Taylor's Series and Hyperbolic Function Method	International Journal of Electrochemical Science	16(2021) 151037	1452-3981
14	A Reliable Taylor Series Solution To The Nonlinear Reaction-Diffusion Model Representing The Steady-State Behaviour of A Cationic Glucose-Sensitive Membrane	Journal of mathematical and computational science	11 (2021), No. 6, 8354-8381	1927-5307
15	Mathematical modeling of immobilized enzyme in porous planar, cylindrical, and spherical particle: a reliable semi-analytical approach	Reaction Kinetics, Mechanisms and Catalysis	134, pages 641–651 (2021)	1878-5204
16	Modeling glucose isomerization in a packed-bed reactor: A complete theoretical and numerical approach	International Journal of Electrochemical Science	18(2023)	100023

List of National Publications:

1	Analysis of ph-based potentiometric biosensor using homotopy perturbation method	Chemical Engineering and Technology	33 (2010) 1-10.	1521-4125
2	Theoretical and numerical analysis of electrocatalytic processes	ISRN Applied Mathematics	4(8) (2012), 11-18.	2090-5564

	at conducting polymer modified electrodes			
3	Mathematical analysis of biogas generation in a waste water digester	Malaya Journal of Matematik	Vol. S, No. 1, 102-112, 2019	2319-3786
4	Mathematical Models of Single Stage Monod Model of Landfill Degradation using Laplace Transform and Homotopy Perturbation Method	International Journal of Arts, Science and Humanities	8 (S1), 2021, pp. 68–74.	2321-788X

13) Chapters in Books: 2

14) Other Publications (Proceedings):

15) Books Published: Nil

16) Presentation in Seminar / Conference:

International: 1

National: 3

17) Participation in Conference: 2

18) Participation in Seminar: 4

19) Participation in Workshop: 1

20) Participation in Orientation Programme/ Induction Programme/ Short term Courses: 3

21) Participation in Faculty Development Programme: Nil

22) Conference/ Seminar/ Workshop Organized: Nil

23) Invited Speaker/ Session Chair – Conference/ Seminar/ Workshop: 1

24) Other Co-curricular / Administrative Responsibilities: Nil

25) Member in Board of Studies: Alumni

26) Editorial/ Review Board Member: Review of Journal of Electroanalytical Chemistry

27) Membership in Professional Bodies: Nil

28) Awards received: Nil

29) Consultancy: Nil

30) Patents: Nil

31) Any other information: Nil

* Note : Please provide the total Numbers and details for each metrics