




Faculty Details proforma for DU Web-site

Title	Dr	First Name	Vusala	Last Name	Ambethkar	Photograph
Designation		Associate professor				
Address		Room No-109, First floor, Faculty of Mathematical Sciences, Department of Mathematics University of Delhi Delhi-110007.				
Phone No	Office	+91-11-27666658				
	Residence					
	Mobile					
Email		vambethkar@maths.du.ac.in				
Web-Page		vambethkar@gmail.com				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		Osmania University			2007	
M.Phil. / M.Tech.						
PG M.Sc		University of Hyderabad			1995	
UG B.Sc		Hindu college, Machilipatnam , Nagarjuna University , AP.			1993	
Any other qualification		1.UGC-CSIR JRF and NET			1994	
1. Pre-Ph.D Examination		Osmania University			1996	
Career Profile						
<ol style="list-style-type: none"> 1. Associate Professor (9th Feb.2013 to Present), Department of Mathematics, University of Delhi, Delhi, India. 2. Reader (9th Feb.2010 to 8th Feb.2013), Department of Mathematics, University of Delhi, Delhi, India. 3. Assistant Professor (Sr.) (9th Feb 2007 to 8th Feb.2010), Department of Mathematics, University of Delhi, Delhi, India. 4. Assistant Professor (1st Jan 2006 to 8th Feb 2007 to present), Department of Mathematics, University of Delhi, Delhi, India. 5. Lecturer (10th Nov 2004 to 31st Dec 2005) Department of Mathematics, University of Delhi, Delhi, India. 6. Lecturer (9th Feb 2001 to 9th Nov 2004) Department of Mathematics, University of Allahabad, Allahabad, India. 						
Administrative Assignments						
<p>worked as a Member of various committees like DRC(Departmental Research committee), BRS (Board of Research studies), Faculty, DC(Departmental Council), Library, Internal Assessment exams, etc.</p> <p>(ii) Worked as convener for framing new courses and syllabi for Applied Mathematics stream for Semester system for M.A/M.Sc Mathematics.</p> <p>(iii) Chief paper setter and examiner of M.A/M.Sc Mathematics courses.</p>						
Areas of Interest / Specialization						
Fluid Mechanics, Heat and Mass Transfer, Free convection, Computational Fluid Dynamics, Finite Difference Methods, and Finite Volume Methods, Numerics of PDEs, Numerical Heat and Mass Transfer						

Subjects Taught
<p><u>Teaching Courses for undergraduate and post graduate level:</u> Vector Calculus, Differential Equations, Dynamics, Mechanics, Numerical Methods, Geometry, Continuum Mechanics, Electro Dynamics, Fluid Mechanics, Magnetohydrodynamics, Engg. Mathematics I &II, Fluid Dynamics-I&II, Mechanics, Computational fluid Dynamics, Computational Methods PDEs.</p>
Research Guidance
<p><i>List against each head (If applicable)</i></p> <ol style="list-style-type: none"> 1. Supervision of awarded Doctoral Thesis (04) 2. Supervision of Doctoral Thesis, under progress(03) 3. Supervision of awarded M.Phil dissertations (03) 4. Supervision of M.Phil dissertations, under progress(Nil)
Publications Profile
<p><i>List against each head(If applicable) (as Illustrated with examples)</i></p> <ol style="list-style-type: none"> 1. Books/Monographs (Authored/Edited) (Vector Analysis: To be published by Cambridge University Press) 2. Research papers published in Refereed/Peer Reviewed Journals 3. <ol style="list-style-type: none"> a) Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals b) Research papers published in Refereed/Peer Reviewed Conferences/ Papers presented (02) c) Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences 4. Other publications (Edited works, Book reviews, Festschrift volumes, etc.) 5. Papers Published in Refereed Journals <p>1.V.Ambethkar, Finite Volume Method for steady Viscous Incompressible Flow with Heat Transfer, Int.J.Applied.Maths,vol. 24, No 2, 2011.</p> <p>2. V. Ambethkar and P.K. Singh, Effect of magnetic field on an oscillatory flow of a viscoelastic fluid with thermal radiation, Appl.Math.Sci, Vol. 5 , No.19,pp 935-946, 2011.</p> <p>3.V.Ambethkar, A Numerical Study of Heat and Mass Transfer Effects on an Oscillatory Flow of a Viscoelastic Fluid with Thermal Relaxation, Adv.in.Theort& Appl. Mech, vol 3 , No.8, pp 397-407, 2010.</p> <p>4. V.Ambethkar, Numerical Study of Heat and Mass Transfer in Magneto hydrodynamic Flow past a Vertical Plate with constant injection and heat flux, Selcuk.J.Applied Maths,Vol.11,No.2.pp 109-122,2010.</p> <p>5. V.Ambethkar, Numerical solutions for Heat and Mass transfer effects of an unsteady MHD free convective flow past an infinite vertical plate with constant suction (injection) and heat source, Int.J.Appl.Mech.& Engg , vol 14 , No.1, pp 67-89,2009.</p> <p>6. V.Ambethkar, Numerical Study of MHD Flow past a Circular Cylinder at High Reynolds Numbers, Int.J. Heat and Technology, Italy, Vol. 27, No. 1, 2009, pp. 113-118.</p> <p>7. V.Ambethkar, Numerical Solutions of Heat and Mass Transfer Effects of an Unsteady MHD Free Convective Flow past an Infinite Vertical Plate with Constant Suction and Heat source or sink, Int.J. Appl.Math.Mech, Vol.5, No.3, pp 96-115, 2009.</p> <p>8. V. Ambethkar and P.K. Singh, Numerical study of some aspects of MHD Flow past a vertical porous plate, Journal of International Academy of Physical sciences, Vol 12, pp 179-187, 2008.</p>

9. V. Ambethkar, Numerical Solutions of Heat and Mass Transfer Effects of an Unsteady MHD Free Convective Flow past an Infinite Vertical Plate with Constant Suction, *J.Naval Architecture and Marine Engineering*, Vol 5, No.1,pp 28-36, 2008.
10. V. Ambethkar, Numerical Solutions of an Impact of Natural Convection on MHD Flow past a Vertical Plate with suction or injection, *J.Korean.Soc. Industrial.applied. Maths*, Vol.12, No.4, P.201-222, 2008.
- 11.V.Ambethkar, Numerical solutions of magneto-hydrodynamic flow past a sphere at high Reynolds numbers, *Canadian.J.Physics*,Vol 86,No. 12,pp 1443-1447, 2008.
12. V. Ambethkar and Lajpat Rai, Numerical Solutions of an Unsteady Free Convective Oscillatory Flow through a Porous Medium, *The Aligarh. Bull. of. Maths*, Vol 26, No.2,pp 1-21, 2007.
13. V. Ambethkar and Lajpat Rai, Numerical Solution of Three dimensional Viscous Flow and Heat Transfer Along a Porous Plate, *Bull.Cal.Math.Soc*, Vol 99,(2) pp163-172, 2007.
- 14.V.Ambethkar and Lajpat Rai, Numerical solution for Mass Transfer effects on Free Convective MHD Flow Past an infinite vertical Plate, *Ultra Science* , vol 16(3)M, pp 233-240, 2004.
- 15.V. ambethkar , Lajpat Rai, Numerical solution of free convection effects on MHD Stokes Problem, *J.Rajasthan Acad.Phy.Sci.*,vol 3,No 4, pp 291-304,2004.
- 16.V.Ambethkar , Lajpat Rai, Finite Difference solution of Free convection effects on Stokes Problem for an infinite vertical Plate, *Acta Ciencia Indica* , VolXXIX M, No. 4, pp 815-822, 2003.
- 17.V.Ambethkar, M.K.Srivastava, Numerical study of an unsteady 2-D incompressible viscous flow with heat transfer at moderate Reynolds number with slip boundary conditions, *IJAM*, Vol.25, No.6, 2012, pp 883-908.
18. V.Ambethkar, M.K.Srivastava, Numerical solutions of an unsteady 2-D incompressible Navier-Stokes equations at low Reynolds numbers with slip boundary conditions, *Selcuk J.Applied Mathematics*,Vol.14,No.2,2013.
19. V.Ambethkar, M.K.Srivastava, Numerical solutions of unsteady 2-D incompressible Navier-Stokes equation with heat transfer at moderate and high Reynolds numbers along with Wall slip boundary conditions, *J.Advced. Res.Appld.Maths*. Vol.7, No.4, 2015, pp. 7-22.
20. V.Ambethkar, M.K.Srivastava, Numerical solutions of unsteady 2-D compressible flow with heat transfer in a rectangular domain along with wall slip and temperature boundary conditions using the finite volume method, *J.Advanced.Res. Sci.Computg*, Vol. 7, No. 2, 2015,pp 39-60.
21. V. Ambethkar, Solution of transient 2-D incompressible viscous flow with heat transfer using pressure based finite volume method, *J.Advced. Res.Appld.Maths*. Vol.7, No.3, 2015, pp.1-17.
22. V. Ambethkar, Numerical Study of Coupled Fluid flow with Heat and Mass Transfer Using Finite Volume Discretization, *J.Mathematical and Computational Sciences*, Vol.5, No.1, 2015, pp 99-122.
23. V.Ambethkar, M.K.Srivastava, Numerical study of transient 2-D compressible flow with heat and mass transfer using the finite volume method, *Int.J.comput.methods.engg.Sci and Mechs*. (Revised & under Review, 2016).
24. V.Ambethkar, Manoj Kumar and M.K.Srivastava, Numerical Solutions of 2-D Unsteady incompressible Flow in a Driven Square Cavity Using Streamfunction-Vorticity Formulation, *Int.J.Appld.Maths*, Vol.29, No.6, 2016, pp.727-757.
25. V.Ambethkar, M.K.Srivastava, Numerical solutions of a steady 2-D incompressible flow in a rectangular

domain with wall slip boundary conditions using the finite volume method, J.Applied Math.&Comput.Mech,16(2), 2017, pp. 5-16.

26. V.Ambethkar, Manoj Kumar, Numerical Solutions of 2-D Steady Incompressible Flow in a Driven Square Cavity using Stream function-Vorticity Formulation, Turk. J. Math. Comput. Sci., Vol. 6, 2017, pp.10-22.

27. V.Ambethkar, Durgesh Kushawaha, Numerical Solutions of an Unsteady 2-D incompressible flow with Heat and Mass Transfer at Low, Moderate and High Reynolds Numbers, J.KSIAM, Vol.21, No.2, 2017, pp. 89-107.

28. V.Ambethkar, Durgesh Kushawaha, Numerical simulations of fluid flow and heat transfer in a four-sided lid-driven rectangular domain, Int.J.Heat and Technology, Vol.35, No. 2, 2017, pp. 273-278.

29. V.Ambethkar, M.K.Srivastava and Ali J Chamkha, Numerical study of coupled fluid flow and heat transfer in a rectangular domain at moderate Reynolds numbers using the control volume method, Int. J. Industrial Mathematics, (Accepted,Jan.2017).

Conference Organization/ Presentations (in the last three years)

List against each head(If applicable)

1. Organization of a Conference (NIL)
2. Participation as Paper/Poster Presenter (02)
3. Seminars/Workshops /Conferences /Training Programmes attended (04)

Research Projects (Major Grants/Research Collaboration)

(a) R & D Doctoral Research Programme (2008-2009), University of Delhi, Dean(R)/R & D/2008/103, dated June 24th 2008.

(b) R & D Doctoral Research Programme (2009-2010), University of Delhi, Dean(R)/R & D/2009/2487, dated 29th July 2009.

(c) R & D Doctoral Research Programme (2011-2012), University of Delhi, Dean(R)/R & D/2011/2423, dated 16th June 2011.

(d) R & D Doctoral Research Programme (2012-2013), University of Delhi, Dean(R)/R & D/2012/917, dated 3rd July, 2012.

(e) R & D Doctoral Research Programme (2013-2014), University of Delhi, DRCH/R & D/2013-14/4155, dated 21st October, 2013.

(f) R & D Doctoral Research Programme (2014-2015), University of Delhi, Rc/2014/6820, dated 15th October 2014.

(g) R & D Doctoral Research Programme (2015-2016), University of Delhi, Rc/2015/9677, dated 15th October 2015.

Awards and Distinctions

1. Joint UGC-CSIR Fellowship while doing Ph.D Degree in Mathematics in Osmania University, Hyderabad, AP.
2. Acharya Doctor Bhavanari Award 2011.

Association With Professional Bodies

1. *Editing*
2. *Reviewing*
 - (i) Indian Journal of Science and Technology, Chennai, India.
 - (ii) National Academy of Mathematics, DDU Gorakhpur University, India.
 - (iii) Reviewed one Book Vector Analysis: To be published by Cambridge University Press
3. *Advisory*
4. *Committees and Boards*
5. *Memberships* (i). Life member of National Academy of Mathematics, Gorakhpur university, Gorakhpur, (U.P), India.
(ii). Life member of Bharata Gnita Parisad, Department of Mathematics & Astronomy, Lucknow University, Lucknow .U.P, India.
6. *Office Bearer*

Other Activities

Professional Experience : (a) worked as a Member of various committees like DRC(Departmental Research committee), BRS (Board of Research studies), Faculty, DC(Departmental Council), Library, Internal Assessment exams, Internal assessment committee. etc.

(b) Worked as convener for framing new courses and syllabi for Applied Mathematics stream for Semester system for M.A/M.Sc Mathematics.

(c) Chief paper setter and examiner of M.A/M.Sc Mathematics courses.