



# Miranda House UNIVERSITY OF DELHI

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## Annual Report

### Ph.D. Supervision

*(To be maintained by those guiding Ph.D.)*

**Department:** MATHEMATICS

**Academic Year:** 2021-2022

**Name of the Teacher:** SHASHI AGGARWAL

Designation: PROFESSOR

Qualifications (Ph.D./D.Sc./D.Litt.): Ph.D.

Year of obtaining the above qualification: 1993

Year of recognition as research guide: 2011

Relevant page of the Recognition Letter as supporting document (if any):

### Part A

#### Currently Enrolled Research Scholars

-----NA-----

<b>Name of the student:</b>	
Year of registration:	
Supervisor:	
Co-supervisor, if any:	
Title of the thesis:	
Whether receiving scholarship, Name of the scholarship:	

Relevant supporting document (issued by the BRS):



# Miranda House

## UNIVERSITY OF DELHI

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### Part B

#### Research Scholars who have completed Ph.D.

<b>Name of the student:</b>	<b>CHAVI GUPTA</b>
Year of registration:	<b>2011</b>
Year of obtaining Ph.D.:	<b>NOV' 2017</b>
Supervisor:	<b>PROF. SHASHI AGGARWAL</b>
Co-supervisor, if any:	<b>NO</b>
Title of the thesis:	<b>INTUITIONISTIC FUZZY LINEAR PROGRAMMING PROBLEMS AND SENSITIVITY ANALYSIS</b>

Relevant supporting document (issued by the BRS):

**Registration & qualification of student for Ph.D.**



# Miranda House UNIVERSITY OF DELHI



अनुसंधान अध्ययन बोर्ड (गणितीय विज्ञान)  
**BOARD OF RESEARCH STUDIES (MATHEMATICAL SCIENCES)**  
दिल्ली विश्वविद्यालय, दिल्ली-110007  
**University of Delhi, Delhi-110007**

Email: dean\_mathsci@du.ac.in

Ph.27666041

**Prof. Jagdish Saran**  
**Chairman**

Ref. No. BRS(MS)/248/2014/351  
Dated: January 30, 2014

The Head  
Department of Mathematics  
University of Delhi  
Delhi -110007.

Dear Sir,

Please refer to application dated 23<sup>rd</sup> January, 2014 forwarded by you regarding confirmation of provisional registration of Ms. Chavi Gupta to Ph.D. Course on successful completion of her Course Work. The student is registered for Ph.D. under supervision of Dr. (Ms.) Shashi Aggarwal.

In this context, this is to inform you that the registration of Ms. Chavi Gupta stands confirmed as she has completed the Course Work successfully.

Yours sincerely,

*Jagdish Saran*  
(Chairman) 30/1/14

Copy to:-

1. Ms. Chavi Gupta, C/o S. K. Gupta (Advocate), 1<sup>st</sup> Floor, 13/10 Shakti Nagar, Delhi - 110007
2. Dr. Shashi Aggarwal (Supervisor), Miranda House, Department of Mathematics, University of Delhi, Delhi - 110007.

*B. V. N.*  
SECTION OFFICER



# Miranda House UNIVERSITY OF DELHI



अनुसंधान अध्ययन बोर्ड (गणितीय विज्ञान)  
**BOARD OF RESEARCH STUDIES (MATHEMATICAL SCIENCES)**  
दिल्ली विश्वविद्यालय, दिल्ली -110007  
**University of Delhi, Delhi-110007**

Email: dean\_mathsci@du.ac.in

Ph.27666041

No. BRS(MS)/2011/3075

Dated: October 10, 2011

## MEMORANDUM

With reference to his/her application dated 27.06.2011 **Ms. Chavi Gupta** D/o **Shri Trilok Chand Gupta** is hereby informed that the Board of Research Studies (Mathematical Sciences) at its meeting held on September 27, 2011 has approved his/her case for provisional admission to the Ph.D. Course in the Department of **Mathematics**, University of Delhi, w.e.f. the date of his/her joining under the supervision of **Dr. (Ms) Shashi Aggarwal** with the following research topic:

### **"MATHEMATICAL PROGRAMMING"**

He/She should note that his/her provisional admission is subject to

- (i) His/Her successful completion of Course Work to be assigned by the Departmental Research Committee within one academic year and
- (ii) Completion of other formalities like defence of the thesis topic in a departmental seminar.

He/She is advised to contact his/her supervisor(s) for further instructions and guidance in this regard.

He/She is required to complete the following formalities of provisional admission within four weeks from the date of dispatch of this letter failing which his/her admission shall be treated as cancelled without any further notice:

- (a) To submit the following certificates in original:
  - (i) Undergraduate and postgraduate (qualifying) Degrees/Certificates.
  - (ii) Mark-sheets of undergraduate and postgraduate (qualifying) examinations.



# Miranda House UNIVERSITY OF DELHI

- (iii) Matriculation/Higher Secondary/Secondary School Certificate for verification of date of birth.
  - (iv) Certificate, in the case of SC/ST/OBC/PH category.
  - (v) Fellowship/Scholarship award letter.
- (b) After the submission/verification of the above documents/certificates, to obtain a slip from the BRS (MS) office for depositing the required fees with the University Cashier and submit a copy of the fees paid alongwith the joining report.

He/She may further note that,

- (i) Teachers from a Department/Constituent College of the University of Delhi are exempted from payment of tuition fees on production of employment certificate.
- (ii) The Ph.D students have to pay fees annually in advance and if they fail to do so their names will be struck off from the rolls.
- (iii) He/She will also have to complete the in-residence condition of two years.

  
**SECTION OFFICER**

Enclosure: Joining Report Proforma.

Ms. Chavi Gupta  
C/o S.K. Gupta (Advocate)  
1st Floor, 13/10 Shakti Nagar  
Delhi - 110007

Copy forwarded for information and necessary action to:

1. The Head, Department of Mathematics, University of Delhi, Delhi-110007.
2. ✓ Dr. (Ms) Shashi Aggarwal, (Supervisor), Miranda House, Department of Mathematics, (University of Delhi) , Delhi – 110007.
3. Dr. C.S. Lalitha, Member, Advisory Committee, Department of Mathematics, University of Delhi, Delhi-110007.
4. Prof. B.K. Dass, Member, Advisory Committee, Deptt. of Mathematics, University of Delhi, Delhi – 110007.
5. The Dean (Examinations)-IV, University of Delhi, Delhi- 110007.
6. The Section Officer, Finance Branch-VII, University of Delhi, Delhi-110007.

  
for **SECTION OFFICER**



# **Miranda House**

## **UNIVERSITY OF DELHI**

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Relevant supporting document for award of Ph.D. (Certificate/Degree/Result issued to student on successfully completing Ph.D.):



# Miranda House UNIVERSITY OF DELHI

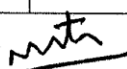


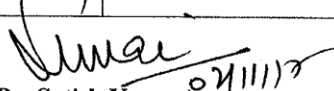
UNIVERSITY OF DELHI  
DELHI-110007


Ref. No. Exam. Br.-IV/Ph.D/Result/2017/48

The following candidates, consequent upon evaluation of their theses submitted for the degree of Doctor of Philosophy (Ph.D) on the topic as mentioned against their names and after *viva-voce* examination, have been found qualified for the Degree of Doctor of Philosophy (Ph.D) of this University.

Sl. No.	Enrolment No.	Name	Title of the Thesis
<b>Faculty of Arts (Department of English)</b>			
505 (9609)	LSR-260/2003	Debolina Dey (W)	"Contagion in the Cultural Imagination of Victorian England"
<b>Faculty of Social Sciences (Department of Geography)</b>			
506 (10168)	KMC-7511	Sudhir Kumar Sinha	"Urban Sprawl in Gautam Budh Nagar District Uttar Pradesh"
<b>Faculty of Mathematical Sciences (Department of Mathematics)</b>			
507 (10071)	SV-1053/03	Chavi Gupta (W)	"Intuitionistic Fuzzy Linear Programming Problems and Sensitivity Analysis"
508 (10095)	ZH-904/99	Vinay Kumar	"Numerical Study of the Phase Space Structure of Nonlinear Dynamical Systems Based on Wavelets"
<b>(Faculty of Law)</b>			
509 (2806)	C-80/97	Swati Jindal (W)	"Exploitation of Women at Workplace: Assessing the Effectiveness of Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013 in the Health Sector"
<b>Faculty of Technology (Department of Applied Sciences &amp; Humanities)</b>			
510 (2739)	GC-776/03	Tapasya Jain (W)	"Studies on Preparation and Characterization of HgCdTe Based Heterostructures for IR Detector Applications"
<b>(Department of Electronics &amp; Communication Engineering)</b>			
511 (2689)	Ph.D-84/13	Manjeet Kumar	"Design of Fractional-Order and Fractional-Delay Digital Filters"

  
(Deepak Vats)  
Joint Registrar (Exam)  
Delhi, the 2<sup>nd</sup> November, 2017

  
(Dr. Satish Kumar)  
O.S.D (Examination)

  
(Prof. Vinay Gupta)  
Dean (Examination)



# Miranda House

## UNIVERSITY OF DELHI

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### Part B

#### Research Scholars who have completed Ph.D.

<b>Name of the student:</b>	<b>UDAY SHARMA</b>
Year of registration:	<b>2011</b>
Year of obtaining Ph.D.:	<b>MAY 2018</b>
Supervisor:	<b>PROF. SHASHI AGGARWAL</b>
Co-supervisor, if any:	<b>NO</b>
Title of the thesis:	<b>VARIANTS OF MULTI-OBJECTIVE PROGRAMMING PROBLEMS IN FUZZY ENVIRONMENT</b>

Relevant supporting document (issued by the BRS):

**Registration & qualification of student for Ph.D.**





# Miranda House UNIVERSITY OF DELHI



अनुसंधान अध्ययन बोर्ड (गणितीय विज्ञान)  
**BOARD OF RESEARCH STUDIES (MATHEMATICAL SCIENCES)**  
दिल्ली विश्वविद्यालय, दिल्ली-110007  
University of Delhi, Delhi-110007

Email: dean\_mathsci@du.ac.in

Ph.27666041

**Prof. Jagdish Saran**  
Chairman

Ref. No. BRS(MS)/248/2014/403  
Dated: February 28, 2014

The Head  
Department of Mathematics  
University of Delhi  
Delhi -110007

Dear Sir,

Please refer to letter No. Maths/2014/2332 dated February 4, 2014 regarding confirmation of provisional registration of Mr. Uday Sharma to Ph.D. Course on successful completion of his Course Work. The student is registered for Ph.D. under supervision of Dr. (Ms.) Shashi Aggarwal.

In this context, this is to inform you that the registration of Mr. Uday Sharma stands confirmed as he has completed the Course Work successfully.

Yours sincerely,

*Jagdish Saran*  
(Chairman) 4/3/14

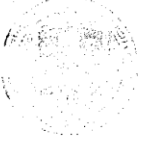
Copy to:-

1. Mr. Uday Sharma, 9-D, Pocket-R, Dilshad Garden, Delhi - 110095
2.  Dr. (Ms.) Shashi Aggarwal (Supervisor) Department of Mathematics, Miranda House, University of Delhi, Delhi - 110007

*Hem*  
SECTION OFFICER



# Miranda House UNIVERSITY OF DELHI



अनुसंधान अधिव्यवस्था बोर्ड (संश्लेषित विज्ञान)  
BOARD OF RESEARCH STUDIES (MATHEMATICAL SCIENCES)  
दिल्ली विश्वविद्यालय, दिल्ली-110007  
University of Delhi, Delhi-110007

Email: dean\_mathsci@du.ac.in

Ph.27666041

No. BRS(MS)/2011/3019

Dated: October 07, 2011  
To

## MEMORANDUM

With reference to his/her application dated 08.09.2011 **Mr. Uday Sharma S/o Shri Yog Raj Sharma** is hereby informed that the Board of Research Studies (Mathematical Sciences) at its meeting held on September 27, 2011 has approved his/her case for provisional admission to the Ph.D. Course in the Department of Mathematics, University of Delhi, w.e.f. the date of his/her joining under the supervision of **Dr. (Ms) Shashi Aggarwal** with the following research topic:

### **"OPTIMIZATION THEORY"**

He/She should note that his/her provisional admission is subject to

- (i) His/Her successful completion of Course Work to be assigned by the Departmental Research Committee within one academic year and
- (ii) Completion of other formalities like defence of the thesis topic in a departmental seminar.

He/She is advised to contact his/her supervisor(s) for further instructions and guidance in this regard.

He/She is required to complete the following formalities of provisional admission within four weeks from the date of dispatch of this letter failing which his/her admission shall be treated as cancelled without any further notice:

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  - (i) Undergraduate and postgraduate (qualifying) Degrees/Certificates.
  - (ii) Mark-sheets of undergraduate and postgraduate (qualifying) examinations.



# Miranda House UNIVERSITY OF DELHI

- (iii) Matriculation/Higher Secondary/Secondary School Certificate for verification of date of birth.
  - (iv) Certificate, in the case of SC/ST/OBC/PH category.
  - (v) Fellowship/Scholarship award letter.
- (b) After the submission/verification of the above documents/certificates, to obtain a slip from the BRS (MS) office for depositing the required fees with the University Cashier and submit a copy of the fees paid alongwith the joining report.

He/She may further note that,

- (i) Teachers from a Department/Constituent College of the University of Delhi are exempted from payment of tuition fees on production of employment certificate.
- (ii) The Ph.D students have to pay fees annually in advance and if they fail to do so their names will be struck off from the rolls.
- (iii) He/She will also have to complete the in-residence condition of two years.

*sd*  
SECTION OFFICER

Enclosure: Joining Report Proforma.

Mr. Uday Sharma  
9-D, Pocket – R  
Dilshad Garden  
Delhi - 110095

Copy forwarded for information and necessary action to:

1. The Head, Department of Mathematics, University of Delhi, Delhi-110007.
- ✓ 2. Dr. (Ms) Shashi Aggarwal, (Supervisor), Department of Mathematics, Miranda House, (University of Delhi), Delhi – 110007.
3. Dr. (Ms) C.S. Lalitha, Member, Advisory Committee, Department of Mathematics, University of Delhi, Delhi-110007.
4. Prof. B.K. Dass, Member, Advisory Committee, Deptt. of Mathematics, University of Delhi, Delhi – 110007.
5. The Dean (Examinations)-IV, University of Delhi, Delhi- 110007.
6. The Section Officer, Finance Branch-VII, University of Delhi, Delhi-110007.

*Kaushik*  
10/10/11  
for SECTION OFFICER



# **Miranda House**

## **UNIVERSITY OF DELHI**

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Relevant supporting document for award of Ph.D. (Certificate/Degree/Result issued to student on successfully completing Ph.D.):



# Miranda House UNIVERSITY OF DELHI



UNIVERSITY OF DELHI  
DELHI-110007

Ref.No.Exam. Br.-IV/Ph.D/Result/2018/24

The following candidates, consequent upon evaluation of their theses submitted for the degree of Doctor of Philosophy (Ph.D) on the topic as mentioned against their names and after *viva-voce* examination, have been found qualified for the Degree of Doctor of Philosophy (Ph.D) of this University.

Sl. No.	Enrolment No.	Name	Title of the Thesis
<b>Faculty of Arts (Department of Buddhist Studies)</b>			
228 (10145)	BS-13/07	Lhundup Tsomo Bhutia (W)	"An Examination of the Assimilation and Acculturation of Tibetan Buddhism in bKa rDor sGang gSum Since 1959"
<b>Faculty of Social Sciences (Department of Political Science)</b>			
229 (10244)	Ph.D.-53/13	K. Neelima (W)	"Electoral Democracy and Reforms in India: A Study of process and Perception"
<b>Faculty of Mathematical Sciences (Department of Mathematics)</b>			
230 (10376)	DR-646/09	Deepshikha (W)	"Weaving Frames in Hilbert Spaces"
231 (10255)	DDU-39/05	Uday Sharma	"Variants of Multi-Objective Programming Problems in Fuzzy Environment"
<b>Faculty of Science (Department of Chemistry)</b>			
232 (2986)	Ph.D-139/2014	Kumkum Sharma (W)	"Interaction Study of Small Molecules with Serum Albumin Proteins and Applications of Organocatalyst in Asymmetric Synthesis"
233 (3024)	H-384/07	Swati Chaudhary (W)	"Characterization of DNA Structures formed at Single Nucleotide Polymorphic (SNP) sites of Human GRIN1 and APOE Genes"
234 (3015)	Ph.D-11/13	Neha Batra (W)	"Synthesis and Antimalarial Activity of Sulfonamide based Nitrogen and Oxygen Containing Heterocycles"

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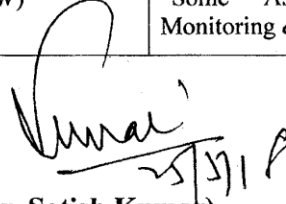


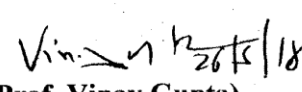
# Miranda House UNIVERSITY OF DELHI

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<b>(Department of Geology)</b>			
235 (3068)	DSE-25/82	Kula Nand Kandwal	"Geological Controls on Groundwater Dynamics in Parts of Yamuna Basin Around Faridabad, Haryana, India"
<b>(Department of Environmental Studies)</b>			
236 (3031)	SH-68/2003	Swagata Karmakar (W)	"Spatially Heterogeneous Soil Environment of Mined Habitat Drives Interaction Patterns in Phage and Bacterial Communities"
<b>Faculty of Music &amp; Fine Arts</b>			
237 (2935)	Ph.D-162/12	Priyanka Chauhan (W)	"हिंदुस्तानी संगीत जगत को बनारस की महिला कलाकारों की देन: गायन के सन्दर्भ में"
238 (2592)	M.Phil-127/2008	Vijay Kumar	"हिंदुस्तानी शास्त्रीय संगीत में वांसुरी एकल वाद्य एवं संगत वाद्य के रूप में एक विश्लेषणात्मक अध्ययन"
<b>Faculty of Inter-Disciplinary &amp; Applied Sciences (Department of Biochemistry)</b>			
239 (3126)	SV-334/07	Vaishali Verma (W)	"Strategies for selection of cognate antigen-antibody pairs for <i>M. tuberculosis</i> proteome"
<b>Faculty of Technology (Department of Instrumentation &amp; Control Engineering)</b>			
240 (3004)	Ph.D-115/2014	Greeshma Sharma (W)	"Performance Evaluation in Navigation through Psychophysiological Assessment"
241 (2914)	M.Tech.-52/09	Jyoti Yadav (W)	"Some Aspects of Biomedical Signal Monitoring & Control"

  
(Deepak Vats)  
Joint Registrar (Exam)  
Delhi, the 25<sup>th</sup> May, 2018

  
(Dr. Satish Kumar)  
O.S.D (Examination)

  
(Prof. Vinay Gupta)  
Dean (Examination)