




## Faculty Details proforma for DU Web-site

<b>Title</b>	<b>Dr.</b>	<b>First Name</b>	<b>Dhanraj T.</b>	<b>Last Name</b>	<b>Masram</b>	<b>Photograph</b>
<b>Designation</b>		Assistant Professor				
<b>Address</b>		Department of Chemistry University of Delhi, Delhi-110007				
<b>Phone No</b>	<b>Office</b>	+91-11-27666646				
<b>Residence Mobile</b>		-				
<b>Email</b>		dhanraj_masram27@rediffmail.com; dtmasram@chemistry.du.ac.in				
<b>Web-Page</b>		-				
<b>Educational Qualifications</b>						
<b>Degree</b>		<b>Institution</b>			<b>Year</b>	
Ph.D.		R.T.M. Nagpur University, Nagpur			2008	
PG		Nagpur University, Nagpur			2003	
UG		Nagpur University, Nagpur			2000	
<b>Career Profile</b>						
<b>April 2009-till date</b>		Assistant Professor , Department of Chemistry University of Delhi.				
Dec.2004- March 2009		Lecturer, Department of Chemistry, R.T.M. Nagpur University Nagpur.				
May 2010-July2010		Researcher, School of Material Science, Japan Advanced Institute of Science & Technology, Japan.				
<b>Administrative Assignments</b>						
<ul style="list-style-type: none"> <li>• Convener Inorganic Chemistry for the academic year 2013-2015.</li> <li>• Member of DRC, Department of Chemistry, University of Delhi. 2012-2014</li> <li>• Instrumentation Committee (TGA/DTA instruments):2015-2016</li> <li>• Instrumentation Committee (60 MHz NMR instruments):2011-2012, 2012-2013, 2013-2014.</li> <li>• Member of Committee of Courses for Under Graduate and Post Graduate including Honours Courses in Chemistry of Department of Chemistry University of Delhi. 2010-2012&amp;2015-16</li> <li>• In charge of Inorganic Chemistry Laboratory No.2, Department of Chemistry University of Delhi. August 2010-May2012</li> <li>• Teacher in-charge of Chemical Society of Department of Chemistry, R.T.M. Nagpur University, Nagpur, 2006-2007.</li> </ul>						
<b>Areas of Interest / Specialization</b>						
Polymers (Synthesis of material through ATRP for polymeric light emitting diodes, organic terpolymers, conducting and chelate polymers etc and their various studies)						
Environmental Studies(Synthesis of resins for water treatment and Bioremediation of decontamination of toxic metals from waste water using modified biomaterials)						
Heterogeneous catalysis, Coordination Chemistry, Bioinorganic Chemistry						
<b>Subjects Taught</b>						
<b>Ph.D.:</b> Paper XIV: Chemistry of Polymers						
<b>M.Sc. Final Theory:</b> Solid state chemistry, Homogenous and heterogeneous catalysis, Environmental Chemistry, Inorganic Chemistry (Special-I) part B. Inorganic reaction mechanism						
<b>M.Sc. Final Practical:</b> Instrumentation (2010-2012, 2014-2016)						
<b>M.Sc. Previous Theory:</b> Metal carbonyls and nitrosyls, Chemistry of d-and f-block elements						

**M.Sc. Previous Practical:** 2009-2010, 2012-2014

**Research Guidance**

List against each head (If applicable)

1. Supervision of awarded Doctoral Thesis **04**
2. Supervision of Doctoral Thesis, under progress **04**
3. Supervision of awarded M.Phil dissertations **02**
4. Supervision of M.Phil dissertations, under progress None

**Publications Profile**

List against each head (If applicable) (as Illustrated with examples)

1. Research papers published in Refereed/Peer Reviewed Journals (Last Five Years)

**Dhanraj T. Masram**, K. P. Kariya and N. S. Bhavé, "Analytical Applications of Newly Synthesized Resin Derived from Salicylic acid, Phenylenediamine and Formaldehyde" *Der Pharma Chemica*, Scholars Research Library, 4 (3):1239-1246, **2012**.

P. Goyal, **Dhanraj T. Masram**, "Novel Biomaterial: Synthesis And Characterization For Decontamination of Metal From Waste." *International Journal of Environmental Engineering and Management*, (Special Issue) Vol.3, No 5, 330-333, **2012**, ISSN 2231-1319.

R. Singh, A. Debnath, **Dhanraj T. Masram**, D. Rathore, "Synthesis and biological activities of selected quinolone-metal complexes", *Research Journal of Chemical Sciences* 06/**2013**; 3(6):83-94. ISSN 2231-606X

**Dhanraj T. Masram**, "Chapter 2 - Polymer Based Ion Exchange Resin"; A Book on Ion Exchange, Adsorption and Solvent Extraction, 15-44, **Pub. Date: 2013 Pages: 348, 7x10 - (NBC-C) ISBN: 978-1-62417-887-0**

B. Shankar, P. Elumali, R. Shanmugam, V. Singh, **Dhanraj T. Masram**, M. Sathiyendhiran, "New Class of Phosphine Donor-Based Supramolecular Coordination Complexes from an in Situ Phosphine Oxidation Reaction or Phosphine Oxide Ligands" *Inorganic chemistry*, ACS Publications, **2013**, 52 (18), 10217-10219.

A. Debnath, **Dhanraj T. Masram**, "Synthesis and Characterization of Some Transition Metal Complexes of Norfloxacin in presence of 1, 10-phenanthroline" *Der Pharma Chemica*, Scholars Research Library, **2013**, 5(5):285-290

Sugat Kirti, **Dhanraj T. Masram**, "One-Pot Synthesis of Benzoxanthenes in Solvent Free Condition using Chloroaluminate Ionic Liquids as Catalyst" *Journal of Advances in Chemistry* **2013**, 5, 1, 575-580.

A. Debnath, F. Hussain, **Dhanraj T. Masram**, "Synthesis, Characterization and Antifungal Studies of Metalloquinolone [Cd<sub>2</sub>(nal)<sub>2</sub>(phen)<sub>2</sub>(Cl)<sub>2</sub>]" *Complex Metals*, Taylor & Francis, **2014**, 10.1080 / 2164232 X.2014.889581. 1:1, 96-102.

Navin Mogha, V. Sahu, M. Sharma, Raj Kishor Sharma, **Dhanraj T. Masram**, "Sensitive and Reliable Ascorbic Acid Sensing by Lanthanum oxide/Reduced Graphene oxide nanocomposite" *Applied Biochemistry and Biotechnology Springer*, 2014, 3, 1010-1020.

**Dhanraj T. Masram**, K. P. Kariya and N. S. Bhavé, "Synthesis of Resin VI: Salicylic Acid, Diaminobenzoic acid and Formaldehyde Resin and Its Ion Exchange Properties" *Der Pharma Chemica*, Scholars Research Library, 2014, 6(3):292-299.

A. Debnath, F. Hussain, **Dhanraj T. Masram**, "Synthesis, Characterization and Antifungal Studies of Cr(III) complex of Norfloxacin and Bipiridyl Ligand", *Bioinorganic Chemistry and Applications*, 2014, <http://dx.doi.org/10.1155/2014/457478>.

Navin Mogha, S. Zha, **Dhanraj T. Masram**, "Synthesis of Polymeric Brushes from Graphene Oxide via

Surface Initiated ATRP for the Detection of the Dinitrotoulene” Adv. Sci. Lett. 2014,20, 1420-1424.

A. Debnath, Navin Mogha, **Dhanraj T. Masram** "Metal complex of the first-generation quinolone antimicrobial drug Nalidixic acid: Structure and its biological evaluation" Applied Biochemistry and Biotechnology, Springer, 2015,175, 5, 2659-2667

P. Goyal, **Dhanraj T. Masram**, Novel biomaterial for decontamination of toxic metals from waste water, Sky Journal of Soil Science and Environmental Management, 2015,4(1), 010 – 015.

P. Goyal, **Dhanraj T. Masram**, “Chapter 12: Nano Biomaterial for Decontamination of Carcinogenic Metal from Waste Water, *Advances in Environmental Research*, Nova Science Publishers, Inc. 400, Oser Avenue, Suite 1600, Hauppauge, NY 11788 , 191-202 . *Advances in Environmental Research* 41, 2015 - 3rd Quarter, 220. 7x10 - (NBC-R), **ISBN: 978-1-63482-885-7. Editors: Justin A. Daniels**

D. S. Shankar , B. Shankar, P. Rajakannu · P. Vishnoi , **Dhanraj T Masram**, M. Sathiyendiran, “Steric group enforced aromatic cyclic trimer conformer in tripodal molecules” RSC Advances 08/2015; DOI:10.1039/C5RA05151G

Kapil Arya, **Dhanraj Masram**, “Conversion of Sugar to Aldonic Acids: An Important Industrial Precursor”, Mini-Reviews in Organic Chemistry 2016,13(999):1-1.

P. Goyal, **Dhanraj T. Masram**, “Azadirachta indica nano biomaterial: A green economical biomaterial for removal of Cd (II) and Ni (II) from waste water”, DOI: 10.1016/j.matpr.2016.04.030

2. *Research papers published in Refereed/Peer Reviewed Conferences(Last Five Years)*

**Dhanraj T. Masram**, K.P. Kariya and N.S. Bhave, “A Novel Eco-Friendly Polymer its characterization and application,” National seminar on Recent Developments in Eco Friendly Materials, At Hislop Collage ,RTM Nagpur University, 2013,6 (1),135-147

P. Goyal, **Dhanraj T. Masram**, “Novel biomaterial: Synthesis and characterization for decontamination of metal from waste water” Journal of Material Science Eng, doi: [10.4172/2169-0022.S1.007](https://doi.org/10.4172/2169-0022.S1.007)

Conference Organization/ Presentations (in the last three years)

*List against each head(if applicable)*

1. *Organization of a Conference(Last Five Years)*

1. One day seminar organized at Department of Chemistry University of Delhi, Delhi, Saturday, 08/03/2014(**Organizing Committee Member**)

2. One day seminar organized at Department of Chemistry University of Delhi, Delhi, Friday, 08/01/2015(**Organizing Committee Member**)

3. National Seminar on “Recent Advances in Chemical Scinces”(NSRACS-2015), ”, Organized by Department of Chemistry, Janta Mahavidhyalaya, Chandrapur, Gondwana University, Gadchiroli, Maharashtra ,India on 16<sup>th</sup> Feb.2015. (**Organizing Committee Member**)

4. International conference on emerging trends in applied science & mathematics “Techscientia - 15 ”organized by Tulsiramji Gaikwad Patil College of Engineering & Technology, RTM Nagpur University Nagpur in Nagpur during 22<sup>nd</sup> -23<sup>rd</sup> April 2015.

5. 3<sup>rd</sup> Indo Italian Workshop on “Electro chemistry For Future Energy solutions”, Organized by Department of Chemistry University of Delhi, Delhi on 02/06/ 2015. (**Organizing Committee Member**)

6. Department of Chemistry, Kirori Mal College, University of Delhi, is organizing two day National Conference on Emerging Trends in Chemical Sciences-2016 to be held on 3th and 4th February 2016(**Organizing Committee Member**)

2. *Participation as Paper/Poster Presenter*

1. International symposium on “Recent Advances in Green Chemistry and chromatographic sciences”. Organized by ISAS at Manav Rachana International University, Faridabad on 12-14<sup>th</sup> January, 2012. (**Oral**). **“Development Of Heterogeneous Catalyst For Synthesis Of Heterocyclic Compounds”** Sugat Kirti, **Dhanraj T. Masram**, Navneet Kumar Gupta
2. International symposium on “Recent Advances in Green Chemistry and chromatographic sciences”. Organized by ISAS at Manav Rachana International University, Faridabad, India on 12-14<sup>th</sup> January, 2012. (**Poster**), Synthesis And Physicochemical Studies of Metalloquinolone, [Cd(II)(Nal)(Bipy)(Cl<sub>2</sub>)] . H<sub>2</sub>O, Anamika Debnath, Ram Singh and **Dhanraj T Masram (BEST POSTER Award)**
3. International conference on “Advanced Materials For Energy Efficient Buildings”, Organized by CSIR-CBRI, IIT, Roorkee at India Habitat Centre, New Delhi on February 13-15, 2013. (**Oral**), **“Synthesis of Hole Transporting Polyurethane- Benzoxazole Derivative Triblock Copolymer Containing Triphenylamine as Pendant through ATRP”** Navin Mogha, **Dhanraj T. Masram**
4. International Conference on “Global R&D Summit 2013-Destination India” Organized by Federation of Indian Chambers of Commers & Industry(FICCI) and Department of Science & Technology (DST), Government of India on July 25-26, 2013. (**Poster**), **“Grafted Biomaterial for Decontamination of Toxic Metals from Waste Water”**, P. Goyal, **D. Masram**
5. National Conference on “Nanomaterials and Devices”, Organized by Department of Physics National Institute of Technology, Shrinagar, Kashmir, India October, 03-05, 2013. (**Oral**), **“ZrO<sub>2</sub> - Graphene nanocomposite preparation, characterization and applicative study as biosensing material for chlorpyrifos detection”**, N. Mogha, V. Sahu, Raj Sharma, **Dhanraj T. Masram**
6. Indo-Japan Workshop on “Biomolecular & Organic Nanotechnology for Environmental Preservation (IJWBME 2013)” Organized by Delhi Technological University Delhi, India December 13-15, 2013, **“Sensitive and Reliable Ascorbic Acid Sensing by Lanthanum/Graphene nanocomposite”**, N. Mogha, V. Sahu, Raj Sharma, **Dhanraj T. Masram**
7. International Conference on “Applications of Advanced Materials for Sustainable Development” AAMSD-2014. Organized by Department of Chemistry, Ambedkar College RTM, Nagpur University, Nagpur & CSIR NEERI, India, on 17<sup>th</sup> –18<sup>th</sup>, January, 2014. (**Oral**), **“Synthesis and Characterization of Selected Metal Complexes of Nalidixic acid”**, Anamika Debnath, **Dhanraj T. Masram\*** and Ram Singh
8. National Conference on “Earth and Environment: Pollution and Prevention”, Organized by Amity University with Ministry of Earth Sciences, New Delhi, 28-30<sup>th</sup> Jan 2014. (**Oral**), **“Modified Biomaterial: Decontamination of Toxic Metals from Waste Water”**, P. Goyal, **D. Masram**
9. International Conference GOLD-CT-2014 Organized by Department of Chemistry North Maharashtra University, Jalgaon (M. S.), INDIA. February 6-8, 2014, **“Synthesis of Bis (Indolyl) Methanes in Solvent Free Condition employing PPA-SiO<sub>2</sub> as Catalyst”**, Sugat Kirti and Dhanraj T. Masram
10. APA International Conference on “Polymers: Vision & Innovations APA-2014” Organized by Ministry of Chemical Fertilizers Government of India, Asian Polymer Association and Indian Institute of India, Delhi, India. February 19-21, 2014. (**Poster**), **“Synthesis and characterization of PTPA-b-PU-b-PTPA triblock copolymer by Atom Transfer Radical Polymerization”**, Navin Mogha, **Dhanraj T. Masram**
11. 20<sup>th</sup> ISCB International Conference on Chemistry and Medicinal Plants in Translational Medicine for healthcare Organized by Department of Chemistry University of Delhi, Delhi on 1<sup>st</sup> -4<sup>th</sup> March 2014. (**Poster**) **“Synthesis and Characterization of Metal Complexes of Nalidixic Acid Ni(II) in Presence of Heterocyclic Compounds”** Anamika Debnath, **Dhanraj T. Masram**

12. CONIAPS XVI: March 20-22,2014 organized by International Academy of Physical Sciences and PDPM Indian institution of Technology, Design and Manufacturing Jabalpur, India. **(Oral)“Synthesis, Characterization of Triblock Copolymer by Atom Transfer Radical Polymerization and Their Applications”** Navin Kumar Mogha, **Dhanraj T. Masram**
13. National Conference on Nanotechnology and Renewable Energy-2014(NCNRE-2014), Organized by Department of Applied Science and Humanities, Jamia Millia Islamia, New Delhi, India on April 28-29, 2014. **(Oral)“Synthesis of Polymeric Brushes from Graphene Oxide via Surface Initiated ATRP for the Detection of the Dinitrotoulene”** , Navin Mogha, **Dhanraj T. Masram**
14. 2<sup>nd</sup> Annual National Conference on Science: Emerging Scenario & Future Challenges-II (SESFC-II) organized by Him Science Congress Association (HSCA) , Himalayan Forest Research Institute, Shimla, Himachal Pradesh, India on May 17-18, 2014. ( **Poster**)“**One-Pot Synthesis of Benzoxanthenes in Solvent Free Condition using Chloroaluminate Ionic Liquids as Catalyst**”, S. Kirti, Dhanraj Masram
15. **27<sup>th</sup> International Symposium on Polymer Analysis and Characterization at Les Diablerets, Switzerland** held on June 16-18, 2014. ( **Poster**)“**Synthesis and Characterization of ABA-type tri-block copolymer through Atom Transfer Radical Polymerization containing benzothiazole derivative**”, Navin Mogha, **Dhanraj T. Masram**
16. GIST-2015 at Manav Rachana International University, Faridabad, India on 15<sup>th</sup> January, 2015. **(Oral)“Synthesis, Characterization and Antibacterial Evaluation of Metal Complex of Enoxacin with Ni(II) in presence of 1, 10-Phenanthroline”** , Anamika Debnath, **Dhanraj T. Masram\***
17. 9<sup>th</sup> National Conference on ‘**Solid State Chemistry and Allied Areas (ISCAS-2015)**’ organized by *Bhaskaracharya College of Applied Sciences, University of Delhi* in association with Indian Association of Solid State Chemists and Allied Scientists at Conference Centre of Delhi University from May, 8-10, 2015. “**An efficient synthesis of bis (indolyl) methanes under solvent free condition using Silica supported polyphosphoric acid (PPA-SiO<sub>2</sub>) as recyclable Catalyst**” S. Kirti, D. Kumar, N. Mogha, V. Singh, **Dhanraj T. Masram**
18. National Conference on “**Green Chemistry and Sustainable Technologies for Society**” 11-12 January 2016.“**Synthesis of La<sub>2</sub>O<sub>3</sub> nanoparticles on graphene oxide – polymer brushes for waste water treatment**” Navin Kumar Mogha, Manish Kumar, Dhanraj T. Masram

#### Research Projects (Major Grants/Research Collaboration) (Last Five Years)

Name of Project: “Synthesis of Polymeric Novel Palladium Nanoparticles for Catalytic Application”

Funding Agency: University of Delhi, Delhi.

Position in Project: None, Period: 2012 – 2013, **Grant: Rs. 2.5 lakh**

Name of Project: “Polymeric Heterogeneous Catalyzed One-Pot Synthesis of Aminoindolizine Frameworks via Three-Component Reaction”

Funding Agency: University of Delhi, Delhi.[DRCH/R&D/2013-2014/4155 dated 21/10/2013]

Position in Project: None, Period: 2013 – 2014, **Grant: Rs. 2.8 lakh**

Name of Project: Immobilization of AChE on ZrO<sub>2</sub> - Graphene nanocomposite for preparation of a Chlorpyrifos biosensor

Funding Agency: University of Delhi, Delhi.

Position in Project: None, Period: 2014 - 2015, **Grant: Rs. 2.7 lakh**

Name of Project: Synthesis and Physicochemical Studies of Graphene Oxide – Polymeric Brushes.

Funding Agency: University of Delhi, Delhi.

Position in Project: None, Period: 2015 - 2016, **Grant: Rs. 3.0 lakh**

Name of Project: “**Novel polymers with hole transporting properties: pendant triphenylamine groups**”

**containing polyurethane-based tri-block copolymers through atom transfer radical polymerization”**

Funding Agency: Fast Track Project for Young Scientist from Department of Science & Technology (DST) SERB, Government of India, Delhi, India.

Position in Project: one, Period: 2012 – 2015, **Grant: Rs. 22,80,000**

**Name of Project: Synthesis, Characterization and Biological Activities of Some Selected Quinolones and their Metal Complexes**

Funding Agency: Major research project University Grants Commission (UGC)

Position in Project: one Period: 2013 - 2016 , **Grant: Rs. 08,56,800**

**Name of Project: Decontamination of Toxic Metals from Water using Nano Fibres.**

Funding Agency: SERB- Department of Science & Technology (DST), Government of India, Delhi, India.

Position in Project: - Period: 2014 - 2015 , **Grant: Rs. 06,00,000**

**Name of Project: Synthesis, characterization and evaluation of anticancer activity of novel bioessential transition metal complexes having tumor targeting and antitumor active ligand[Co-PI ]**

Funding Agency: Department of Biotechnology (DBT), Government of India, Delhi, India.

Position in Project: none, Period: 2014 – 2017, **Grant: Rs.1,14,68,000**

**Awards and Distinctions**

- DST Young Scientist Award: Department of Science and Technology, Delhi, under SERB scheme 2011.
- BEST POSTER award in International symposium on “Recent Advances in Green Chemistry and chromatographic sciences”. Organized by ISAS at Manav Rachana International University, Faridabad on 12-14<sup>th</sup> January, 2012.
- BEST POSTER award in National Conference on “Green Chemistry and Sustainable Technologies for Society” Ajmer, Rajasthan 11-12 January 2016.

**Association With Professional Bodies**

**1. Reviewing**

1. Journal of Applied Polymer Sciences, John Wiley & Sons, Inc. International Publications.
2. Journal of Chemical and Biological Luminescence, John Wiley & Sons, Inc. International Publications.
3. Journal of Molecular Structure, Elsevier.
4. Green Chemistry Letters and Reviews, Taylor & Francis
5. Journal of Thermal Analysis and Calorimetry, Springer
6. Indian Journal Chemistry, Sec A, CSIR-NISCAIR
7. International Journal of New Technologies in Science and Engineering (IJNTSE).(Member in Editorial Board)
8. The Korean Journal of Chemical Engineering

**2. Memberships**

1. Life Member of Society for Materials Chemistry (SMC), BARC, Mumbai. Reg.No.LM255.
2. Life Member of Indian Society of Analytical Scientists (ISAS), Delhi Chapter c/o Indian Oil Corporation limited, Faridabad. Reg.No.LMT-2010/36.
3. Life Member of Forum of Scientists, Engineers and Technologist (FOSET), Kolkata. Reg. No. LM /2011/2078.
4. International Academy of Physical Sciences, 8/4 Bank Road, Allahabad-211002, India. Reg. No. LM /2014/N14229.
5. Life Member of Electron Microscope Society of India (EMSI) affiliated to International Federation of

Society for Electron Microscopy. Reg. No. LM /2014/983

6. Member of American Chemical Society(2014-2015) ACS Member #30765811
7. Member of Royal Society of Chemistry(2014-2016) MRSC#538337
8. Chemical Research Society of India (CRSI),Bangalore
9. Indian Council of Chemists (ICC), Agra Principal collage Agra, Reg. No. LM /1710 dated 2015

#### Other Activities

##### Actively Participated in

1. "Workshop on Electronic Structure, Atomistic and Statistical Modeling in Chemistry, Materials and Life Sciences" sponsored by Royal Society of Chemistry(North India Section),Schrodinger GmbH, Bangalore, India and Department of Chemistry, University of Delhi, Delhi, India, 8<sup>th</sup> -10<sup>th</sup> October 2014.
2. "IV Cr workshop on X-Ray Diffraction systems and related Applications" sponsored by PANanytical and Department of Chemistry, University of Delhi, Delhi, 25<sup>th</sup> -26<sup>th</sup> Sep2014.
3. 64<sup>th</sup> BRNS-IANCAS National Workshop on "Radiochemistry & Application of Radioisotopes" sponsored by BRNS, DAE and RTM Nagpur University, Nagpur and IANCAS, Jul. 2-10, 2007.
4. 62<sup>nd</sup> orientation program conducted by UGC- Academic Staff College RTM Nagpur University Nagpur.18/02/2009-17/03/2009.
5. Refresher course on "Contemporary Non-equilibrium Thermodynamics and Statistical Mechanics" held at Department of Chemistry; RTM Nagpur University, Nagpur, sponsored by Indian Academy of Sciences, Bangalore, Indian National Science Academy, New Delhi, National Academy of Sciences, India, Allahabad, from 20<sup>th</sup> October to 2<sup>nd</sup> November 2010.
6. A Blood Donation Camp was organized in the Department of Chemistry, R.T.M. Nagpur University, Nagpur, on 11<sup>th</sup> Sept. 2006 under the banner of Chemical Society of the same Department.
7. "Kabul Project" for up-gradation of Faculty and infrastructure of Science Departments of Kabul University, University of Delhi had organized a training programme from in 2<sup>nd</sup> January to 25<sup>th</sup> February 2012.
8. Resource person "ATRP: Architecting polymers for future applications" for the Faculty Development Programme (Under TEQIP-II) at DTU, Delhi on 15-26 December, 2014.
9. Refresher course in Chemistry conducted by UGC- Academic Staff College RTM Nagpur University Nagpur.23/02/2015-15/03/2015.