PROFORMA-I

ACHIEVEMENTS OF THE FACULTY July 1, 2019 to June 30, 2020

Name of the Department

Dr. Shanti Swarup Bhatnagar University Institute of Chemical Engineering and Technology

Prof. Amrit Pal Toor

- 1. Chairperson Dr. SSB University Institute of Chemical Engineering and Technology, Panjab University, Chandigarh.
- 2. Project Head TEQIP-III, SSBUICET.Technical Education Quality Improvement Programme is a World Bank Initiative (A project sanctioned by MHRD, New Delhi).
- 3. Director, Energy Research Centre, Panjab University, Chandigarh.

1. Member, Peer Team for National Assessment and Accreditation Council (NAAC) and National Board of Accreditation (NBA) accreditations.

- 2. Coordinator, Technical Education Quality Improvement Programme (TEQIP-II and III), A World Bank Initiative, SSBUICET since 2014.
- 3. Member, Board of Studies, Department of Chemical Engineering, Thapar University, Patiala.
- 4. Member, Board of Studies, School of Chemical Engineering and Physical Sciences, Lovely Professional University (LPU).
- 5. Part of Leadership for Academicians Programme (LEAP2), a flagship Leadership Development training programme of MHRD. Attended 2 weeks training programme at IIT Kharagpur and one week at IFM Cambridge as part of LEAP.
- 6. International Collaboration with Prof. Dr. Christian Paulik, Institute for Chemical Technology of Organic Materials, Johannes Kepler University Linz, Austria, Altenbergerstrasse 69, 4040 Linz, Austria on project titled "Magnetic Organic Framework (MOF) loaded functionalized cellulose sponge as an ecological and versatile tool for environmental applications: A step towards biomass valorization."

1. Fellow-Royal Society of Chemistry, London.

Prof. Anupama Sharma

Prof. Sushil K. Kansal

Dr. Gaurav Verma

- 1. Certificate of Recognition from Indian Chemical Council for outstanding achievement in Field of Agriculture and Agrochemicals, applying Nanotechnology for Agriculture. Sept 2019.
- 2. Expert on the DST SERB Inspire Scholars Evaluation Board.

Prof. Seema Kapoor:

- 1. Adviser in different Interview Boards of Union Public Service Commission (UPSC).
- 2. Enactus Faculty Advisor: Team selected amongst top 24 global teams in 1Race 4 Ocean Competition by Enactus Global (107 projects from 20 countries).
- 3. Member of Enactus India Faculty Research Team.
- 4. "Bharat Excellence Award" and coveted "Leading Educationist of India Award" along with Gold Medal (Certificate of Excellence) for the year 2020 by Friendship Forum of India.

Patents Published:

- 5. Improved Calcium Orthophosphate for Biomedical Applications and Method thereof (patent application no. 201811030244).
- 6. Fluorine and Zinc co-substituted Mesoporous Hydroxyapatite Nanopowder and Method thereof (patent application no. 201811020514).

PROFORMA-II

LECTURES DELIVERED BY VISITING SCHOLARS July 1, 2019 to June 30, 2020

Dr. S.S.BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL ENGINEERING AND TECHNOLOGY

Name and Address

Topic & Date

Nil

PROFORMA-III

July 1, 2019 to June 30, 2020

EXTENSION LECTURES

Dr. S. S. BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL ENGINEERING AND TECHNOLOGY

| Na | me | Topic of Lecture | Institution | Date(s) |
|-------------------------|---------------|--|--|---------------------------|
| Prof. An | nupama rma | Waste Lignocellulosic Biomass: A sustainable precursur for Biopolymeric Nanocomposites for Chemical and Environmental Applications. | Yokohama National University, Yokohama, Japan. | December 17-18, 2019 |
| Prof. An Sharma | upama | High Performance Polymeric Materials from lignin and cellulose derived from Waste Lignocellulosic Biomass Invited talk in One Day National Conference on "Nano-polysaccharides for Environmental Sustainability. | Department of Chemistry, Jamia Millia Islamia, New Delhi | September 25, 2019 |
| Prof. Anupama Sharma | | Utilization of waste Lignocellulosic biomass for waste water remediation Plenary lecture at Water Resources, Climate change and Sustainability, 2019 | IPE, Osmania University Campus, Hyderabad | September 27- 28, 2019 |
| Dr. Verma | Gaurav | Nanotechnology & its role in the manufacturing process | NIT Jalandhar | Jan 2, 2020 |
| Dr. Verma | Gaurav | Nanomaterials for Fuel Cells | Dr SSBUICET/ERC | July 19, 2019 |

PROFORMA-IV

July 1, 2019 to June 30, 2020

FACULTY POSITIONS

DR. S.S.BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL ENGG. AND TECHNOLOGY

Chairperson : Prof. Amrit Pal Toor

FACULTY

Professors : Meenakshi Goyal, Ph.D.; Neeta Sharma, Ph.D.; Sanchita

Chauhan, Ph.D.; Amrit Pal Toor, Ph.D.; Anupama Sharma, Ph.D.; Anupama Thakur, Ph.D.; Seema Kapoor, Ph.D.; Ritu Gupta, Ph.D.; Urvashi Gupta, Ph.D.; Sushil

Kumar Kansal, Ph.D.

Associate Professor : S. K Agrawal, Ph.D.; Gaurav Verma Ph.D.; Gargi

Ghoshal, Ph.D.

Assistant Professors : Maninder Kaur, M.E; Amit Sobti Ph.D.; Baljinder Kaur

Gill, Ph.D.; Gaurav Rattan, Ph.D.; Surinder Singh, Ph.D.; Sonia Sharma R, Ph.D.; Jodh Singh, M.Tech.; Nidhi Singhal, PGDRM; Harjit Kaur, Ph.D.; Sanjeev Gautam,

Ph.D.

Faculty on Temporary Basis : Ms.Twinkle Bedi, M.E. and MBA

Guest Faculty : Ms. Navneet Kaur, M.E., Dr. Bhawna Agrawal, Ph.D.,

Dr. Monica Prabhakar, Ph.D; Ms. Twinkle Kamra, M.Sc; Mr. Sushant Shukla, M.Sc; Dr. Shilpi Ahuluwalia, Ph.D; Ms. Jashandeep Kaur, M.Tech.; Ms. Sakshi Bhanto, M.Tech; Mr. Mohit Kumar, M.Tech; Dr. Radha Sharma, Ph.D; Dr. Shikha Sharma, Ph.D; Dr. Heena Juneja, Ph.D;

Mr. Abhinav Kapila, M.Tech.

Research Scholars : Ms. Purba Chakraborty, Mr. Vivek Kumar, Ms.

Anupama, Mr. Vikas Sharma, Mr. Sahil Kapoor, Mr. Girish Gupta, Ms. Maninder Kaur, Mr. Sandeep Kumar, Mr. Umang Bedi, Mr. Deepak Mehta, Ms. Pranati, Ms. Hasanpreet Kaur, Ms. Kanupriya Sharma, Ms. Priyanka Verma, Ms. Amanjot Kaur, Ms. Preeti Beniwal, Ms. Amandeep Kaur, Ms. Priyana Garg, Ms. Shafali, Ms. Anjali Sharma, Ms. Kanu Gupta, Ms. Ramanpreet Kaur,

Mr. Shiv Kumar

PEROFORMA-V

July 1, 2019 to June 30, 2020

STUDENTS ENROLMENT

| | | SC | | ST | | ВС | Others (Including | General) | Total |
|------------------------|------|--------|------|--------|------|--------|-------------------|----------|-------|
| B.E. (Chemical) | Male | Female | Male | Female | Male | Female | Male | Female | |
| 1st Year | 12 | 3 | 3 | 2 | 4 | 0 | 56 | 15 | 95 |
| 2nd Year | 10 | 7 | 1 | 1 | 3 | 0 | 47 | 24 | 93 |
| 3rd Year | 12 | 2 | 4 | 1 | 3 | 0 | 54 | 14 | 90 |
| 4th Year | 9 | 3 | 6 | 2 | 2 | 2 | 48 | 20 | 92 |
| B.E. (Food Technology) | | | | | | | | | |
| 1st Year | 6 | 0 | 0 | 1 | 2 | 0 | 17 | 7 | 33 |
| 2nd Year | 1 | 0 | 0 | 0 | 2 | 0 | 11 | 16 | 30 |
| 3rd Year | 0 | 0 | 3 | 0 | 2 | 0 | 17 | 12 | 34 |
| 4th Year | 3 | 2 | 0 | 0 | 1 | 1 | 12 | 9 | 28 |
| B.E. (Chemical)-MBA | | | | | | | | | |
| 1st Year | 4 | 3 | 1 | 0 | 2 | 0 | 19 | 9 | 38 |
| 2nd Year | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 15 | 26 |
| 3rd Year | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 10 | 23 |
| 4th Year | 3 | 0 | 0 | 1 | 0 | 2 | 19 | 13 | 38 |
| 5th Year | 4 | 2 | 1 | 0 | 2 | 0 | 17 | 10 | 36 |
| M.E. (Chemical) | | | | | | | | | |
| 1st Year | 1 | 0 | 0 | 1 | 0 | 0 | 6 | 3 | 11 |
| 2nd Year | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 11 |
| M.E (Food Tech.) | | | | | | | | | |
| 1st Year | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 10 |
| 2nd Year | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| M.Sc (Ind. Chem.) | | | | | | | | | |
| 1st Year | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 9 |
| 2nd Year | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 8 | 14 |

PROFORMA-VI

July 1, 2019 to June 30, 2020

DR.S.S. BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL ENGINEERING & TECHNOLOGY

Dr. S.S. Bhatnagar University Institute of Chemical Engineering and Technology (SSBUICET) (formally known as Department of Chemical Engineering and Technology (DCET)) was established in 1958 in collaboration with a leading Institute of Engineering Education in USA, the Illinois Institute of Technology, Chicago. Professor R.E. Peck from IIT Chicago joined as the first Head of Department. Later in 1999, in view of the growing demand Undergraduate programme in Food Technology was introduced and in 2007, Five-year integrated programme of Bachelor's degree in Chemical Engineering with MBA was introduced. The institute has been bestowed with numerous projects like TEQIP-II and TEQIP-III-World Bank Projects, Special assistance Grant from UGC, FIST from DST and individual grants from AICTE, UGC, MoFI, CSIR etc.

PUBLICATIONS BOOKS / REFERENCE/GENERAL

| Ahuja, D, and Kaushik, A. | Bio-based polyurethanes and its applications | Encyclopaedia of Polymer Applications, Taylor and Francis (January 2019) Print ISBN: 9781498729932 eBook ISBN: 9781351019422 |
|---|---|---|
| Gupta, U. & Sharma, J. | Convection currents in nanofluids under small temperature gradient | IntechOpen Publication, Applications of Nanobiotechnology, Edited by: Margarita Stoytcheva and Roumen Zlatev DOI: http://dx.doi.org/10.5772/intechopen.88887, 1-15, November 17, 2019. ISBN 9781789859782 |
| Ghoshal, G. | Beverages: A Potential Delivery System for Nutraceuticals | • |
| Kaur, P., Ghoshal, G. and Banerjee, U. C. | Traditional Bio-Preservation in Beverages: Fermented Beverages | Preservatives and Preservation Approaches in Beverages, 69-113. Elsevier, UK. Imprinted by Academic Press (2019). ISBN 9780128166864 |
| Ghoshal, G. and Kansal, S. K. | The Emerging Trends in Functional and Medicinal Beverage Research and Its Health Implication | Functional and Medicinal Beverages, 41-71. Elsevier, UK. Imprinted by Academic Press (2019). ISBN 9780128172636 |

RESEARCH PAPERS IN REFERRED JOURNAL

Bedi, U., & Chauhan, S

| Kapoor, S., Goyal, M. & Jindal, P. | Enhanced thermal, static, and dynamic mechanical properties of multi-walled carbon nanotubes-reinforced acrylonitrile butadiene styrene nanocomposite, Journal of Thermoplastic Composite Materials, p. 892705719886012, 2019. |
|--|--|
| Kapoor, S., Goyal, M. & Jindal, P. | Effect of functionalized multi-walled carbon nanotubes on thermal and mechanical properties of acrylonitrile butadiene styrene nanocomposite, Journal of Polymer Research, 27:40, 1-13, 2020. |
| Mangla, M., Goyal, M., Chaudhary, G. R., & Sharma M. L | Effect of oxidative modification of Activated carbon on surface Chemistry, porosity and tartrazine Adsorption, International Journal of Engineering Applied Sciences and Technology, 4:12, 331-335, 2020. |
| Mangla, M., Goyal, M., Chaudhary, G. R., & Sharma M. L | A Comparative Study on Adsorptive Removal of Auramine O and Tartrazine dyes from Aqueous Solution using Activated Carbons, Journal of Applicable Chemistry, 9:3, 428-440, 2020. |
| Kumar,R Ghoshal,G, Goyal, M. Kapoor, S., Sharma, V., Goyal, M. & Jindal, P. | Moth bean starch (Vigna aconitifolia): isolation, characterization, and development of edible/biodegradeable films, Journal of Food Science Technology, 56, 4891–4900, 2019. |
| Sharma, V., Kapoor, S., Goyal, M. & Jindal, P. | Effect of carboxylic multi-walled carbon nanotubes on mechanical properties of Acrylonitrile Butadiene Styrene nanocomposite, Materials Today: Proceedings, 28, 1739–1743, 2020. |
| | Enhancement of the mechanical properties of grapheme based acrylonitrile butadiene styrene (ABS) nanocomposites, Materials Today: Proceedings, 28, 1744–1747, 2020. |
| Bedi, U., & Chauhan, S. | Modeling the effect of temperature on volatile organic compound (voc) conversion in a monolithic converter. Advances and Applications in Mathematical Sciences. 19(8), 719-727, 2020. |
| Bedi, U., & Chauhan, S | Modeling for catalytic oxidation of volatile organic compound (VOC) in a catalytic converter. Materials Today: Proceedings, 26, 3341-3347 (2020). |

Modeling the combustion of volatile organic compound (VOC) ethane in monolithic catalytic converter. Materials Today:

Proceedings, 28, 1727-1731 (2020).

Singh, N., Toor, A. P., &Verma, G.

"Romanesco broccoli"-like palladium nano-fractals for superior methanol electro-oxidation. Journal of Materials Science, 55(1), 125-139, 2020.

Sraw, A., Kaur, T., Pandey, Y., Verma, A., Sobti, A., Wanchoo, R. K., & Toor, A. P.

Photocatalytic degradation of monocrotophos and quinalphos using solar-activated S-doped TiO 2. International Journal of Environmental Science and Technology, 17(12), 4895-4908, 2020.

Chawla, P., Sharma, S. K., & Toor, A. P.

Techno-economic evaluation of anatase and p25 TiO 2 for treatment basic yellow 28 dye solution through heterogeneous photocatalysis. Environment, Development and Sustainability, 22(1), 231-249, 2020.

Dhindsa, A., Wanchoo, R. K., & Toor, A. P.

Motion of Nanofluid Droplets through Immiscible Quiescent Liquid: An Experimental Study. Industrial & Engineering Chemistry Research, 59(13), 6247-6257, 2020.

Arora, R., Toor, A. P., & Wanchoo, R. K.

Parametric study of esterification of high free fatty acid rice bran oil using aluminum doped sulfated zirconia. Journal of the Indian Chemical Society, 97(3), 450-454, 2020.

Sinhmar, A., Setia, H., Kumar, V., Sobti, A., &Toor, A. P.

Enhanced photocatalytic activity of nickel and nitrogen codoped TiO2 under sunlight. Environmental Technology & Innovation, 18, 100658, 2020.

Sharma, N., Guliani, D., Kaur, K., Verma, A., Sobti, A., & Toor, A. P.

Enhanced Catalytic Activity of Nano-Fe₂O₃–MCM-48–SO₄ as a Green Catalyst for the Esterification of Acetic Acid with Methanol. Iranian Journal of Science and Technology, Transactions A: Science, 43(6), 2831-2842, 2019.

Sharma, T., Kaur, M., Sobti, A., Rajor, A., &Toor, A. P.

Sequential microbial-photocatalytic degradation of imidacloprid. Environmental Engineering Research, 25(4), 597-604, 2020.

Verma, A., Toor, A. P., Bansal, P., Sangal, V., & Sobti, A.

Correction to: TiO₂-Assisted Photocatalytic Degradation of Herbicide 4-Chlorophenoxyacetic Acid: Slurry and Fixed-Bed Approach. In Sustainable Engineering (pp. C1-C1). Springer, Singapore, 2019.

Ahuja, D., Rainu A.S.,Singh M.& Kaushik, A.

Encapsulation of NPK Fertilizer for Slow Release Using Sodiun Carboxymethyl Cellulose-g-Poly (AA-co-AM-co-AMPS) Montmorillonite clay-based Nanocomposite Hydrogels fo Sustainable Agricultural Applications, Trends in Carbohydrata Research, 12(1), 15-23, 2020.

Gupta, K, Kaushik, A., Tikoo, K.B., Kumar, V.& Singhal, S.

Enhanced catalytic activity of composites of NiFe2O4 and nano cellulose derived from waste biomass for the mitigation of organic pollutants, Arabian Journal of f Chemistry, 13(1), 783-

798, 2020.

Komal, Kanu, G., Kumar, V., Tikoo, KB., Kaushik, A.& Singhal, S.

Encrustation of cadmium sulfide nanoparticles into the matrix of biomass derived silanized cellulose nanofibers for adsorptive detoxification of pesticide and textile waste. Chemical Engineering Journal. 385:123700,2020.

Malika R., Goyal A., Yadav S., Gupta N., Goel N., Kaushik A., Kumar V., K.B. Tikoo.& Singhal S.

Functionalized magnetic nanomaterials for rapid and effective adsorptive removal of fluoroquinolones: Comprehensive experimental cum computational investigations, Journal of Hazardous Materials, 364, 621-634, 2019.

Kaur ,P., Singh ,S., Kumar V., K.B. Tikoo., Chudasama B., Kaushik ,A.&Singhal ,S.

Interesting makeover of strontium hexaferrites for environment remediation from excellent photocatalysts to outstanding adsorbents via inclusion of Mn 3+ into the lattice, Journal of Alloys and Compounds 791, 508-521, 2019

Komal., Gupta, K., Kaur, S., Kaur, J., Kaushik, A.&Singhal, S.

A comparative analysis of source based distinctly functionalized nanostructured cellulose for the adsorptive removal of toxic colorants, Cellulose, 26(3), 1703–1724, 2019.

Malik, R, Pinnaka, A.K., Kaur ,M., Kumar ,V., Tikoo K., Singh, S., Kaushik, A.&Singhal ,S.

Water soluble glutathione CdS QDs with exceptional antimicrobia properties synthesized via green route for fluorescence sensing o fluoroquinolones, Chemical technology and Biotechnology, 94(4) 1082-1090, 2019.

Kaur, P., Kaushik, A. & Singhal, S.

Comparative evaluation of photocatalytic performance of hexagonal ferrites procured via sol-gel route. Materials Today: Proceedings; 14, 417-425, 2019.

Gupta, K., Kaur,J., Kaushik A., Singhal S.

Stabilization of magnetic ferrite nanostructures with cellulose derived from biomass for the abatement of environmental pollution. Materials Today: Proceedings; 14, 426-434,2019.

Grover, G., Verma, S.K., Thakur, A., Biswas, I & Bhatacharjee, D.

The effect of particle size and concentration on the ballistic resistance of different shear thickening fluids, Materials Today: Proceedings, 28, 1472–1476, 2020.

Thakur, A., Sharma, N. & Mann, A.

Removal of ofloxacin hydrochloride and paracetamol from aqueous solutions: Binary mixtures and competitive adsorption, Materials Today: Proceedings 28, 1514-1519, 2020.

Singh, P., Sharma, P., Wanchoo R. K. & Gupta, R.

Time Scale Analysis for Prediction of Nusselt number of Nanofluids flowing Through Straight Tubes: An experimental study. Iranian Journal of Chemistry and Chemical Engineering, (Article in Press), Available online from 08 November, 2020. doi: 10.30492/IJCCE 2020.123877.4061,

Singh, J., Kumar, R. Gupta, M & Kumar, H.

Thermal conductivity analysis of GO-CuO/DW hybrid nanofluid. Materials Today: Proceedings, June, 2020, (1714-1718); DOI: 10.1016/j.matpr.2020.05.134

Singh, S.; Sharma, S. K.; Kansal S. Batch extraction of gossypol from cottonseed meal using mixed solvent system and its kinetic modeling, Chemical Engineering Communications, 206(12), 1608-1617, (2019). Singh, S.; Sharma, S. K. & Kansal, S. Extraction of polyphenolic compound gossypol from defatted cottonseed using butanol-ethanol-water mixed solvent, J. Indian Chem. Soc., 97: (3), 351-359, (2020). Singh, S.; Sharma, S. K.&Kansal S. Extraction of natural pigment gossypol from defatted cottonseed using 2-propanol-water green solvent, its K. kinetics and thermodynamic study, Arab. J. Sci. Eng. 45, 7539-7550, 2020. Jyotsna, Kaur, A., Kansal, β-AgVO3 nanowires/TiO2 nanoparticles heterojunction S.K.& Umar, A. assembly with improved visible light driven photocatalytic decomposition of hazardous pollutants and mechanism insight, Separation and Purification Technology, 251, 117271, 2020. Kaur, M., Mehta, S.K. & Kansal, S.K. Amine-functionalized titanium metal-organic framework (NH2-MIL-125(Ti)): A novel fluorescent sensor for the highly selective sensing of copper ions Materials Chemistry and Physics, 254, 123539, 2020. Untangling the active sites in the exposed crystal facet of Kumar, S., Devi, M.M., Kansal, zirconium oxide for selective hydrogenation of bioaldehydes S.K.& Saravanamurugan, S. Catalysis Science and Technology, 10(20), pp. 7016–7026, 2020. Arya, M., Kaur, M., Kaur, A., Devi, Hydrothermal synthesis of rGO-Bi2WO6 heterostructure for the P.& Kansal, S.K. photocatalytic degradation of levofloxacin Optical Materials, 107, 110126, 2020. Singh, S., Kumar Sharma, S.& Dataset on aqueous solid-liquid extraction of gossypol from defatted cottonseed in acidic medium using green solvent, its Kansal, S.K. kinetics and thermodynamics study and mass transfer effects Data in Brief, 2020, 31, 105620, 2020. Kaur. J., Sharma, S., Mehta, Highly photoluminescent and pH sensitive nitrogen doped carbon dots (NCDs) as a fluorescent sensor for the efficient S.K., Kansal, S.K. detection of Cr (VI) ions in aqueous media Spectrochimica Acta and Biomolecular Part A: Molecular Spectroscopy, 227, 117572, 2020.

Gupta, U., Sharma, J. & Devi, M. Casson nanofluid convection in an internally heated layer.

2418, 2020.

Efficient Conversion of Glucose into Fructose via Extraction-Assisted Isomerization Catalyzed by Endogenous Polyamine

Spermine in the Aqueous Phase ACS Omega, 5(5), pp. 2406–

Kumar.

S.K., Elumalai, S.

S., Sharma,

S., Kansal,

Materials Today: Proceedings, 28(3), 1748-1752, 2020.

Gupta, U.& Kaur, J.

Nanofluids rheology for viscoelastic Oldroyd-B fluid: a revised model. Journal of Physics: Conference Series (IOP Publishing), 1531, 012052, doi:10.1088/1742-6596/1531/1/012052, 2020.

Gupta, U., Shukla, S. & Sharma, V.

LTNE effects on a Nanofluid Layer Heated and Soluted From Below Embedded by Darcy Medium. Materials Today: Proceedings, 26, 3348-3352, 2020.

Gupta, U. & Sharma, J.

Nanofluid Convection under Hall Currents and LTNE Effects "Materials Today: Proceedings" (Elsevier Publication), 26, 3369-3377, 2020.

Sharma, N. & Dhiman, N.

Removal of pharmaceutical drugs from binary mixtures by use of ZnO nanoparticles:(Competitive adsorption of drugs, Environmental Technology & Innovation Volume 15, 100392, 2019.

Sharma, N. & Dhiman, N.

Batch adsorption studies on the removal of ciprofloxacin hydrochloride solution from aqueous groundnut (Arachis ZnO using nanoparticles and hypogaea) shell powder: a comparison, Indian Chemical Engineer, 61:1, 67-76. Vol DOI: 10.1080/00194506.2018.1424044, 2019.

Singhal, N., Kaur, H., Mukherjee, P. & Basu, S.

Choice modelling for participation in milk marketing channels: Evidence from Punjab, India. Indian J Dairy Sci 73(3), 260-267, 2020.

Kaur, H. & Kaushik, S.

Understanding Strategic Mindset of Pharmaceutical Companies in India. International Journal of Recent Technology and Engineering, 9 (1), 1536-1551, May 2020.

Kaura, P., Dharwal, M., Kaur, H. & Kaur, P.

Impact of Corporate Governance on Financial Performance of Information Technology Companies. International Journal of Recent Technology and Engineering, 8 (3), 7460-7464, September 2019.

Kaushik, S. & Kaur, H.

Optimal Resource Allocation for SQM: A Comparative Case Study in Pharmaceutical Industry. The IUP Journal of Applied Economics, 18(3), 59-79, July 2019.

Kaur, H.

Strategic Quality Management – An Annotated Review. International Research Journal of Management Science & Technology, 10(1), 103-116, January 2019.

Sharma, K., Kumar, P., Verma, G., Kumar, A.

Optical properties of transition metal doped ZnS nanoparticles in PVK based nanocomposite films. Optik-International Journal for Light and Electron Optics, 206, 164357, 2020.

Saini, A.

Joshi, S., Sharma, P., Siddiqui, R., A review on peptide functionalized graphene derivatives as Kausha;, K., Sharma, S., Verma, G., nanotools for biosensing. Microchimica Acta., 187:27, 2020.

L., Kaur, Joshi. A., Sharma, S., Dharamvir, K., Nayyar, H., Verma, G..

Plant nanobionic effect of multi-walled carbon nanotubes on anatomy, growth, yield and grain composition of rice. BioNanoScience 10, 430-445, 2020.

Turan, K., Kaur, P., Manhas, D., Sharma, J., Verma, G.

Novel insights into the Dispersed and Acid-mediated Surface Modification of the Carbon Nanofibers. Materials Chemistry and Physics Vol 239 (121978), 2020.

Kumar, R., Ghoshal, G. & M Goyal.

Synthesis and functional properties of gelatin/CA-starch composite film: excellent food packaging material. Journal of food science and technology 56 (4), 1954-1965, 2019.

Ghoshal, G.&Mehta,S.

Effect of chitosan on physicochemical and rheological attributes of bread. Food Science and Technology International 25 (3), 198-211, 2019.

Kumar, R., Ghoshal, G.& Goyal, M.

Moth bean starch (Vigna aconitifolia): isolation, characterization, and development of edible/biodegradable films. Journal of food science and technology 56 (11), 4891-4900, 2019.

Sharma, R.& Ghoshal G.

Optimization of carotenoids production by Rhodotorula mucilaginosa (MTCC-1403) using agro-industrial waste in bioreactor: A statistical approach. Biotechnology Reports 25, e00407, 2020.

Kaur, M., Dhundhara, S., Verma, Y. P. & Chauhan, S.

Techno-economic analysis of photovoltaic-biomass-basec microgrid system for reliable rural electrification. Internationa Transactions on Electrical Energy Systems. 30(5), e12347, 2020.

Kaur, M., Verma, Y. P. & Chauhan, S.

Effect of NaOH Pretreatment of Bagasse on Its Biodegradation through Anaerobic Digestion. International Journal of Recen Technology and Engineering 8(5), 1883-1887, 2020.

Kaur, M., Neetu, Verma, Y. P. & Chauhan, S.

Effect of chemical pretreatment of sugarcane bagasse on biogas production". Materials Today: Proceedings 21, 1937-1942, 2020.

Gill, B. K., Minakshi and Rattan, V. K.

Excess Thermodynamic Properties and Molecular Interactions in Binary Liquid Mixture of *o*-xylene and *n*-nonane, International Journal of Innovative Technology and Exploring Engineering 9(6), 694-698, 2020.

Bisla, V., Rattan, G, Singhal,S.& Kaushik.A.

Green and Novel Adsorbent from rice straw extracted cellulose for Efficient Adsorption of Hg (II) ions in an aqueous medium. International Journal of Biological Macromolecules, 161, Page 194-203, 2020

Nandy,S., Kaur,K., Gautam,S., Chae,K.H., Nanda,B.R.K.&Sudakar,C. Maximizing short circuit current density and open circuit voltage in oxygen vacancy controlled Bi1-xCaxFe1-yTiyO3-δ thin film solar cells. ACS Appl. Mater. Interfaces 12, 14105-14118, 2020.

Duggal,H.,Rajput,P., Alperovich,I.,Asanova,T.& Shambu Nath Jha,S,N. XANES spectroscopic studies at L3 edge of 79Au in its various chemical forms, Devinder Mehta, Sanjeev Gautam, Vacuum, 176, 109294, 2020.

Gautam,S., Agrawal,H., Thakur,M., Akbari,A., Sharda,H., Kaur,R& Amini,M. Metal oxides and Metal Organic Frameworks for the Photocatalytic Degradation: A Review, J. Environ. Chem. Eng. 8(3),103726, 2020.

Amini,M., Shekari,Z., Akbari,A., Naslhajian,H., Sheykhi,A., Karimi,E., Gautam,S.& Chae,K.H. Novel thin film nanocomposite membranes incorporated with polyoxovanadate nanocluster for high water flux and antibacterial properties, Applied Organometallic Chemistry, 34, e5494, 2020.

Katoch, A., Goyal, N.& Gautam, S.

Applications and advances in coordination cages: Metal-Organic Frameworks, Vacuum, 167, 287-300, 2019.

Amini,M., Naslhajian,H., Ali Akbari, S. ,Morteza F., Farnia, Jabbari,E., Gautam,S., and Chae,K.H. A novel high-flux, thin-film composite desalination membrane via co-deposition of multifunctional polyhedral oligomeric silsesquioxane and polyoxometalate., Polyhedron 168,138-145, 2019.

Aashima, Shivani Uppal, Arora, A., Gautam, S., Singh, S., Choudhary, R.J., Mehta, S.K.

Magnetically retrievable Ce-doped Fe3O4 nanoparticles as scaffolds for removal of azo dye., RSC Advances, 9,23129-141, 2019.

Nandy,S., PavanaS., V. Mocherla., Kaur,K., Gautam,S., Nanda,B.R.K., and C,Sudakar.

Band engineering via grain boundary defect states for large scale tuning of photoconductivity in Bi1-xCaxFe1-yTiyO3- δ , J. Appl. Phys. 126, 235101, 2019.

Amini,M., Aghamohamadi,S., Gautam,S., & Chae, K.H.

Preparation and Investigation of Spinel-structured FeCo2O4 Nanoparticles as an Efficient Catalyst for Oxidation of Sulfides, Inorg. Chem. Res., Vol. 2, No. 2, 2019

PAPERS PUBLISHED IN PROCEEDINGS OF CONFERENCES

Kumar, P. &, Gupta, R. Volumetric, Viscometric, Optical and Acoustic Studies of Binary Mixtures of MeCN(1) + EG-600(2) at temperature 298.15K to

308.15K, Online International Conference on Sustainable Research Technology and Development (IOCSRT-2020), Sept 24-25, 2020.

Kaur, J. & Gupta, R. Simulation and Modeling Dtudies on Batch Sieve Tray Distillation Column, Online International Conference on Sustainable Research Technology and Development (IOCSRT-2020), Sept 24-25, 2020.

Sharma, K., Joshi, A., Sharma, Study of photo-catalytic degradation of MB dye a water pollutant T., Kumar, P., Verma, G. from sonochemically synthesized CdSe:Zn nanoparticles 2019 AIP Conference Proceedings 2115,030101.

Joshi, A., Sharma, K., Nayyar, Encapsulation of carbon nanofiber inside liposome for target drug delivery. 2019 AIP Conference Proceedings 2115,030039.

Gill, B.K. and Kumar, A. Excess Thermodynamic properties of 1,5-Pentanediol and Dimethyl sulfoxide binary mixture at 313.15 K and 318.15 K in International Conference on Engineering and Technology ICET-19 (Dec 28, 2019), Kathmandu, Nepal.

Gupta, M, Singh, J., Kumar, H. and Kumar, R.

Thermal conductivity Analysis of GO nanofluids using three level factorial design, Advances in Metrology and Measurement of Engineering surfaces, LMNE, Springer Singapore, June 2020 (161-169);DOI: 10.1007/978-981-15-5151-2 16.

PAPERS PRESENTED IN CONFERENCES:

| Name of Faculty | Title of the paper | Title of Conference/ Seminars/ Workshops/ | Date of the event | Organised by |
|-----------------------------|---|--|-----------------------------|---|
| Prof. Meenakshi Goyal | Emerging Chemical Innovations for Swachh, Swasth & Sarvatra Bharat | Professor Ram Chand Paul National Symposium (RCPNS 2020) | February 27, 2020 | Prof. R.C. Paul Auditorium, Department of Chemistry, Panjab University, Chandigarh. |
| Prof. Meenakshi Goyal | A Global Summit on "Next-Gen Paradigms in Health Care" | International Conference ICONICA 2020 | 13-14 February, 2020. | Panjab University, Chandigarh |
| Ms. Harjit Kaur | Role of Talent Management in Implementing Strategic Quality Management: A Review. | International Conference on Recent Trends in Engineering, Management and Sciences (ICRTEMS- 2019) | September 26-27, 2019 | DITMR, Faridabad |
| Dr. Gaurav Rattan | Effect of Mn loading & preparation method on catalytic activity of | CHEMBIOEN 2020 | Feb 13-14, 2020 | NIT, Jalandhar |

| | MnOX, alumina for CO | | | |
|--------------|---------------------------|--------------------------|---------------|-------------|
| | oxidation. | | | |
| Dr. Gargi | Carotene loaded solid | A Global Summit on | Feb 12-14, | Panjab |
| Ghoshal | lipid nanoparticles: An | Next-Gen Paradigms in | 2020 | University, |
| | approach to protect the | Health Care ICONICA- | | Chandigarh |
| | fungtionality and | 2020 | | |
| | controlled release. | | | |
| Dr. Surinder | Separation of protein and | ANNUM-VII | September 27- | Gujarat |
| Singh | gossypol from cottonseed | | 29, 2019 | University, |
| | | | | Ahmedabad |
| Prof. Seema | CEMENTS AS BONE | International Conference | 13-14 | Panjab |
| Kapoor | REPAIR MATERIALS: | ICONICA 2020 - A | February, | University, |
| _ | A REVIEW", | Global Summit on | 2020. | Chandigarh |
| | | "Next-Gen Paradigms in | | |
| | | Health Care". | | |

SUMMARY OF RESEARCH PUBLICATIONS (July 1, 2019 to June 30, 2020)

| No. of Publications Type of Journal | International Level | National Level | Others | Total |
|--------------------------------------|------------------------|----------------|--------|-----------------|
| ♦ Peer Review Journals | <mark>74</mark> | 1 | 1 | <mark>74</mark> |
| Non-Peer Review Journals | 1 | 1 | 1 | |
| e-Journals | 1 | | 1 | |
| Conference Proceedings | <mark>6</mark> | | _ | <mark>6</mark> |

PROFORMA-VII

July 1, 2019 to June 30, 2020

RESEARCH SCHEMES

| Sponsor | Title | Funds Sanctioned | Funds Received | Duration | Principal Investigator and Research Team |
|--|---|---------------------|-------------------|---------------|--|
| DST International Division (Indo- Austria) | Magnetic Organic Framework (MOF) loaded functionalized cellulose sponge as an ecological and versatile tool for environmental applications: A step towards biomass valorisation | 20 lacs | | 2020- 2023 | Prof. Anupama Sharma, PI Prof. Sonal Singhal, Co-PI |
| CSIR (Ongoing) | Magnetically Modified Superhydrophobic Porous Cellulose Sponge from Waste Lignocellulosic Biomass for Oil Water Separation | 22 lacs | | 2019-2022 | Prof. Anupama Sharma, PI Prof. Sonal Singhal, Co-PI |
| DST (Ongoing) | Utilizing the versatile platform of biomass derived nanocellulose based magnetic nanocomposites for the facilitative removal of organic pollutants from wastewater | 50 lacs | | 2019-2021 | Prof. Sonal Singhal, PI Prof. Anupama Sharma, Co-PI |
| TEQIP CRS Scheme (Ongoing) | Development of polymeric nanocomposite pour point depressants for waxy crude oil in North East India | 19.87 lacs | | 2019-2020 | Dr. Rituraj Singh, PI Prof. Anupama Sharma, Co- PI |
| TEQIP CRS Scheme (Ongoing) | Estimation of Co ₂ sequestration potential of Cambay Shale Formation, Cambay Basin, India. | 13.73 lacs | | 2019-2020 | Dr. Sumit Kumar PI Prof. Amrit Pal Toor , Co-PI |

| DST (ongoing) | Providing potable water using functionalised cellulose as catalyst from locally available biomass | 48 lacs | | 2018-2021 | Prof. Anupama Sharma PI, Dr. Gaurav Rattan, Co-PI |
|--------------------|---|-------------|------------|-----------------------------------|--|
| DST, Chandigarh | Animal feed from Kitchen waste | 1.5 lakh | | April, 2020 - March 2021 | Prof. Manu Sharma PI, Dr. Gargi Ghoshal Co-PI. |
| UGC (SAP) | DRS-II | 111.5 lakhs | 5.9 lakhs | 1.4.2018- 1.4.2023 | Prof. Sanchita Chauhan |
| DST - U.T. | Investigations on Degradation Studies of Calcium Sulphate Based Cement | 1.20 lacs | 1.20 lakhs | 2020-2021 | Prof. Seema Kapoor |
| DST | Photocatalytic treatment of wastewaster entering Sukhna Lake through contaminated rivulet /choe | 1.00 lacs | | 2019-2020 | Dr. Hema, PI Prof. Amrit Pal Toor Co-PI. |
| UGC-IUAC | Irradiation induced interface and magnetic properties of Zinc ferrite/insulator/ cobalt ferrite hetero-structures | 12.00 lacs | 4.00lakhs | 2018-2021 | Dr. Sanjeev Gautam, PI |
| UGC-DAE | Electronic structure investigation of mixed Cu-Co ferrospinel (MFe2O4-type): XAFS study | 9.51 lacs | 2.12 lakhs | 2015-2020 | Dr. Sanjeev Gautam, P.I |

PROFORMA-VIII

July 1, 2019 to June 30, 2020

SEMINARS/CONFERENCE/SYMPOSIA/ WORKSHOP (Organized by the Department)

| Title of the Seminar/Conference | Place and Date(s) Participating faculty | | Name of the Director/Convener |
|---|--|---|--|
| Joint International Summer School on Renewable Energy | Dr. SSBUICET, Panjab University, Chandigarh July 8-26, 2019 | Participants: Students of Dr. SSBUICET and Stony Brook University,New Zealand. | Prof. Amrit Pal Toor |
| Induction Program Activities | Dr. SSBUICET, Panjab University, Chandigarh July 29-Aug'17, 2019 | Participants: Students of Dr. SSBUICET. | Prof. Sanchita Chauhan |
| National seminar on "Food Security and Sustainable Development" | Dr. SSBUICET, Panjab University, Chandigarh Sep'19, 2019 | Participants: Students of Dr. SSBUICET. | Prof. Sanchita Chauhan, Prof. Anupama Thakur, Prof. U.S. Shivhare and Dr. Gargi Ghoshal |
| Event-Sinking Ship Competition | Dr. SSBUICET, Panjab University, Chandigarh Nov'02, 2019 | Participants: Students of Dr. SSBUICET. | Dr. Gaurav Verma |
| International Conference on "Harnessing Engineering Technology and Innovation for Sustainable Development" (HETIS-2019) | Dr. SSBUICET, Panjab University, Chandigarh (in Twinning with DUIET, Dibrugarh) Nov'8-9, 2019 | Students of DUIET and Dr.SSBUICET | Prof. Anupama Sharma |
| Alumni Meet of 1978 batch | Dr. SSBUICET, Panjab University, Chandigarh Nov'24, 2019 | Participants: Alumni of 1978 batch. | Dr. Sanjeev Gautam, Ms. Twinkle Bedi |
| Workshop on "Research Aptitude and Training" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh Jan'6-20, 2020 | Students of Dr.SSBUICET | Prof. Ritu Gupta, Dr. Sanjeev Gautam |
| Webinar on | Hosted by Dr. | Students of DUIET and | Prof. Amrit Pal Toor, Prof. |

| "Emotional Awareness" | SSBUICET, Panjab University, Chandigarh (in Twinning with DUIET, Dibrugarh) | Dr.SSBUICET | Anupama Sharma and Ms. Twinkle Bedi |
|---|--|---|---|
| Webinar on "Conflict Handling" | June 24, 2020 Hosted by Dr. SSBUICET, Panjab University, Chandigarh (in Twinning with DUIET, Dibrugarh) June 26, 2020 | Students of DUIET and Dr.SSBUICET | Prof. Amrit Pal Toor, Prof. Anupama Sharma and Ms. Twinkle Bedi |
| Webinar on "Stress Management" | Hosted by Dr. SSBUICET, Panjab University, Chandigarh (in Twinning with DUIET, Dibrugarh) June 27, 2020 | Students of DUIET and Dr.SSBUICET | Prof. Amrit Pal Toor, Prof. Anupama Sharma and Ms. Twinkle Bedi |
| Webinar on "The Art and Science of Managing Projects" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh June 2, 2020 | Students of Dr.SSBUICET | Coordinators: Ms. Harjit Kaur and Ms. Nidhi Singhal |
| Webinar on "Product Portfolio Management: An Insight into Pharmaceutical Industry" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh June 6, 2020 | Students of Dr.SSBUICET | Coordinators: Ms. Nidhi Singhal and Ms. Harjit Kaur |
| Webinar on "Bone Health & Covid-19" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh May 26, 2020 | UG, PG, Research Scholars and faculty of Panjab University. | Dr. Gargi Ghoshal |
| International Webinar on "Fungal Infestation in the environment and the possible health implications post- COVID-19 pandemic: The path forward" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh June 5, 2020 | UG, PG, Research Scholars and faculty of Panjab University. | Dr. Gargi Ghoshal |
| Organized Webinar on "Talent Practices in the post digital age" | Conducted online by Dr. SSBUICET, Panjab University, Chandigarh 27 May 2020. | Students of Dr.SSBUICET | Prof. Sanchita Chauhan Prof. Meenakshi Goyal Prof. Anupama Thakur Prof. Seema Kapoor |

Financial Literacy Organized by Dr. Monica Aggarwal, Prof. Seema Kapoor Design ENACTUS team at UIAMS, P.U, Chd. and Workshop for Potters Maloya Village, 17January 2020. Financial Literacy & Janta Colony, Prof. Seema Kapoor Dr. Anu H Gupta, UIFT, Stitching workshop Nayagaon by Enactus P.U, Chd for underprivileged team, 11February 2020 Women of Janta Colony

PROFORMA-IX

July 1, 2019 to June 30, 2020

CONFERENCE / SYMPOSIA / WORKSHOP (Attended by the faculty)

| Name | Topic | Place | Date |
|-----------------------------|--|---|--------------------------|
| Prof. Neeta Sharma | Professor Ram Chand Paul National Symposium theme on "Emerging Chemical Innovations for Swachh, Swasth and Sarvatra Bharat. | Panjab University, Chandigarh | Feb 27-28, 2020 |
| Prof. Meenakshi Goyal | Professor Ram Chand Paul National Symposium theme on "Emerging Chemical Innovations for Swachh, Swasth and Sarvatra Bharat. | Panjab University, Chandigarh | Feb 27-28, 2020 |
| Prof. Meenakshi Goyal | International Conference ICONICA 2020 - A Global Summit on "Next-Gen Paradigms in Health Care". | Panjab University, Chandigarh | 13-14 February, 2020. |
| Prof. Meenakshi Goyal | Webinar on India First Leadership Talk with Prof. D.p. Singh ,Chairman UGC. | MHRD Innovation Cell | 9th May 2020 |
| Prof. Anupama Sharma | Orientation workshop on "Outcome Based Education and Accreditation." | New Delhi | August 31, 2019 |
| Mr. Jodh Singh | International Workshop on "Peptide and Nanotechnological Approaches for Novel Theranostics" | Department of Chemistry, Panjab University, Chandigarh | October 31, 2019 |
| Mr. Jodh Singh | FDP on "3D Printing and design" | UIET, Panjab University, Chandigarh. | Nov. 25 -29, 2019 |
| Mr. Jodh Singh | International conference on "Aspects of Material Science and Engineering" | Organized online jointly by UIET, Panjab University Chandigarh and GCET, Jammu, India | May 29-30, 2020. |
| Mr. Jodh Singh | International FDP on "Role of Materials and Processing in Additive Manufacturing: 3D printing to Industry-2020" | Organized online by Department of Mechanical Engineering GLA university Mathura. | July 19-20, 2020 |
| Dr. Gargi Ghoshal | FDP on "Instructional Design, Development and Learning Analytics" | Organized online by CALEM, Panjab University, Chandigarh in collaboration with SWAYAM Cell & Institute of Educational | April 4-9, 2020 |

| | | Technology Vocational Panjab Chandigarh and Education, University, | | | | |
|----------------------------|---|--|---------------------|--|--|--|
| Dr. Gargi Ghoshal | National Workshop (FDP) on "Managing Virtual Classrooms and Open Educational Resources" | Organized online by CALEM, Panjab University, Chandigarh in collaboration with SWAYAM Cell, Institute of Educational Technology and Vocational Education & University Business School, Panjab University, Chandigarh | June 24 -29, 2020. | | | |
| Dr. Baljinder Kaur Gill | International workshop on "Peptide and Nanotechnological Approaches for Novel Theranostics" | Department of Chemistry, Panjab University, Chandigarh | October 31, 2019 | | | |
| Prof Anupama Thakur | International conference on Aspects of Materials Science and Engineering | UIET, Panjab University, Chandigarh | May 29-30, 2020 | | | |
| Prof Anupama Thakur | Professor Ram Chand Paul National Symposium theme on "Emerging Chemical Innovations for Swachh, | Panjab University, Chandigarh | Feb 27-28, 2020 | | | |
| Prof Anupama Thakur | Swasth and Sarvatra Bharat National workshop on "Catalysis for Clean Energy and Safe Environment" | Panjab University, Chandigarh | November 16, 2019 | | | |
| Prof. Seema Kapoor | Novel Composite Bone Cement with Improved Degradation Rate & Osteoconductivity | International Conference on New Horizons in Biotechnology 2019, Trivandrum, Kerala | 20-24 November 2019 | | | |
| Prof. Seema Kapoor | India First Leadership Talk Webinar | MHRD Innovation Cell | 9th May 2020 | | | |
| Prof. Seema Kapoor | Online Conference on "Children & Young Environmentalist on Environmental Protection" | Dept. of Environmental Studies, Panjab University, Chandigarh | 5th June 2020 | | | |

| Prof. Seema Kapoor | Webinar organized for Journal of Visualized Experiments (JoVE) | Balani Infotech Pvt Ltd | 4th June 2020 |
|-----------------------|---|--|-----------------------|
| Prof. Seema Kapoor | Webinar on Bio Medical Waste Management Rules, 2016 | National Productivity Council | 9th June 2020 |
| Prof. Seema Kapoor | Webinar on Sizing of On-Grid, Off- Grid Solar PV System & Solar Water Pumping | National Productivity Council | 28th May 2020 |
| Prof. Seema Kapoor | National Webinar on Entrepreneurship Development | MCM DAV College for Women, Sector 36 Chandigarh in collaboration with Entrepreneurship Development Cell (EDC) of Regional Centre for Entrepreneurship Development (RCED) and Tech Mahindra Foundation's SMART-T Centre, Mohali | 3rd and 4th June 2020 |

PROFORMA-X

July 1, 2019 to June 30, 2020

Ph.D. Awards

| Sr. No. | Candidate | Title of the Thesis | Supervisor/s |
|------------|----------------------|--|--|
| 1. | Mr. Usman Ali | Development of biodegradable fruit coating materials from Agricultural Byproducts. | Dr. Santanu Basu and Dr. Koushik Mazumder |
| 2. | Mr. Raj Kumar | Development of starch Based Active Packaging Characterization and Application in food Packaging. | Dr. Gargi Ghoshal and Prof. Meenakshi Goyal |
| 3. | Ms. Neha Dhiman | Studies on the removal of some common drugs from aqueous solution using Metal Oxide nanoparticles and Agricultural based Adsorbents-A Comparison | Prof. Neeta Sharma |
| 4. | Ms. Amandeep Kaur | Treatment of Pharmaceutical Wastewater Heterogeneous Photo catalysis. | Prof. Sushil Kumar Kansal |
| 5. | Dr. Ashay Jain | Development of Nano-carriers of beta -carotene and lycopene with improved bio-availablity potential and as adjunct to drug therapy | Prof. O.P.Katare and Dr. Gargi Ghoshal |

PROFORMA-XI Miscellaneous

July 1, 2019 to June 30, 2020

| The | Institute | has r | particii | ated | in N | IIRF | Rankin | g and | the s | score | was | 40.4 | 4 an | d the | Rank | was ' | 72. |
|-----|-----------|-------|----------|------|------|------|--------|-------|-------|-------|-----|------|------|-------|------|-------|-----|
| | | | | | | | | | | | | | | | | | |