Research Details
School of Basic & Applied Sciences

1. Books/ Book Chapter

Sr. No.	Authors' Name (Same order as in Publication)	Title	Publisher	Vol. No./ISBN NO	Year	Page No.
1.	**Dr. Anupam Khanna Mr. Ashish Kumar Sharma**	Vibrational Characteristics of Square Plate with Thickness Variability	LAP Publisher, Germany	978-3-659-16916-8	Jul 5, 2012	-
2.	**Dr. Ashish Kumar Sharma**	Computational Prediction on natural Frequency of Crack Plate	LAP Publisher, Germany	978-3-659-25862-6	September 27, 2012	
3.		Mechanical Vibration of Plates	LAP Publisher, Germany	978-3-659-11322-2	Feb-2014	
4.		Mathematical Foundations	LAP Publisher, Germany	978-3-659-58693-2	Aug-2014	
5.		Mathematics with MATLAB	LAP Publisher Germany	978-3-330-02266-9	Dec-2016	
6.		Mathematics with Computer Applications	Scholar Press	978-613-8-64820-8	Feb-2019	
7.		Introduction of Algebra	Scholar Press	978-613-8-91335-1	Sept-2019	
8.		RESEARCH METHODOLOGY	Scholar Press	978-613-8-923985-5	Sept-2020	
9.		Basics of Research Methodology and Report Writing	Scholar Press	978-613-8-95094-3	16-March-2021	

1.	**Dr. Anita Rani**	Bionanocomposite Synthesized from Nanocellulose Obtained from Agricultural Biomass as Raw Material	Anita Rani,1 Anita Kumari, Manita Thakur, KanikaMandhan, Manisha Chandel and Ajay Sharma	1	2022	47-74
2.		Introduction to Biorenewable Nanocomposite Materials: Methods of Preparation, Current Developments, and Future Perspectives	ManitaThakur, Manisha Chandel, Anita Rani, and Ajay Sharma	2	2022	1-24
1.	**Dr. Manita Thakur**	Self-Assembled Graphene Oxide for Diverse Applications	Nova Science publisher	-	2018	-
2.		Environmental fate of organic pollutants and effect on human health	Elsevier		2020	245-262
3.		Photo catalytical degradation of pesticides	Elsevier		2020	153-172
4.		Carbon Nanomaterial as the Emerging Class: Current and Future Perspectives	LAP LAMBERT Academic Publishing		2019	
5.		Composite ion exchangers as new age photocatalyst	Material Research Forum, LLC	100	2021	273-98.
6.		Structural modifications of carbon nitride for photocatalytic applications	Material Research Forum, LLC	100	2021	299-331.
7.		Green nanomaterials for potential development of environmental industries	Elsevier	-	2021	259-281
8.		Bio nanocomposite Synthesized from Nanocellulose Obtained from Agricultural Biomass as Raw Material	ACS publications	1	2022	47-74
9.		Introduction to Bio renewable Nanocomposite Materials: Methods of Preparation,	ACS publications	2	2022	1-24

		Current Developments, and Future Perspectives				
1.	**Mr. Ajay Sharma**	Composite Ion Exchangers as New Age Photocatalyst	Materials Research Forum LLC	100	2021	273-298
2.		Bio nanocomposite Synthesized from Nanocellulose Obtained from Agricultural Biomass as Raw Material	American Chemical Society	1	2022	47-74
3.		Introduction to Bio renewable Nanocomposite Materials: Methods of Preparation, Current Developments, and Future Perspectives	American Chemical Society	2	2022	1-24
4.		Modern applications and current status of green nanotechnology in environmental industry	Elsevier		2022	259-281

2. Research Publication in UGC/ SCOPUS/ WOS/ SCI/ SCIE/ ESCI/ SSCI/ or any other listed Journals

Sr. No	Name of the Faculty	Title of Research Papers	Journal Name	Vol. / Issue	ISSN No.	Year of Publication	UGC/ SCOPUS/ WOS/ SCI/ SCIE/ ESCI/ SSCI/ or any other listed Journals
1.	**Dr. Ashish Kumar Sharma**	Stability of Triangular Equilibrium Points in the Photo gravitational R3BP When both Primaries are Oblate Spheroid and Effect of Radiation	Romanian Journal of Acoustics and Vibration	Volume:17	ISSN 2602-0351	Nov-2020	ESCI & Scopus
2.		Effect Of Non-Homogeneity With Thickness And Temperature Variation On Vibration Of Orthotropic Parallelogram Plate With Simply Supported Edges	ARPN Journal of Engineering and Applied Sciences,	VOL. 14, NO. 15,	1819-6608	AUGUST 2019	ESCI & Scopus
3.		Vibration of Non-Homogeneous Parallelogram Plate (SSSS) Having Conflicting Bi-illustrative Thickness and Bi-direct Temperature Variation	International Journal of Applied Engineering Research	Vol. 14(2)	ISSN 0973-9769	2019	UGC Care
4.		Vibration Analysis of Simply Supported Parallelogram Plate with Bi-Dimensional Thickness and Temperature Deviation	Research Journal of Science and Technology	Vol. 12(6)	2349-2988	2018	UGC Care
5.		Effect of circular variation in thickness and linear variation in denisty on vibrational Frequency	Advance in intelligent Systems and computing	Vol 22	2194-5365	2018	ESCI & Scopus (Springer)

6.		Mechanical Vibration of Orthotropic Square Plate with Clamped Boundary Conditions	Research Journal of Science and Technology	Vol. 12(6)	2349-2988	2018	UGC Care
7.		Effect of density and Poisson's ratio on thermal induced vibration of parallelogram plate	Journal Of Vibroengineering,	Vol. (20), no:03	2538-8460	2018	ESCI & Scopus
8.		Vibration of Clamped Non-homogeneous Square Plate with non-uniform varying Thickness and Thermal Effect	Research Journal of Science and Technology	Vol. 09(1)	2349-2988	2017	UGC Care
9.		Vibrational Study of Square Plate with Thermal Effect and Circular Variation in Density	Romanian Journal of Acoustics and Vibration	Volume:13	ISSN 2602-0351	Nov-2017	ESCI & Scopus
10.		Mathematical Modeling of Vibration on Parallelogram Plate with Non Homogeneity Effect	Romanian Journal of Acoustics and Vibration	Volume:12	ISSN 2602-0351	Nov-2016	ESCI & Scopus
11.		A Modeling on Frequency of Rectangular Plate	International Journal of Control Theory and Applications	Vol9 Issue No 20	277-282	2016	Scopus
12.		A Quintic Spline Technique: Effect on Frequency of C-S-C-S and S-S-S-S Rectangular Plate with Varying Thickness and Temperature Effect	Romanian Journal of Acoustics and Vibration	Volume:12	ISSN 2602-0351	Nov-2016	ESCI & Scopus
13.		Rayleigh-Ritz Method for Analyzing Free Vibration of Orthotropic Rectangular Plate with 2D Thickness and Temperature Variation	Journal Of Vibroengineering,	Vol. (17), no:04	2538-8460	2015	SCI & Scopus

14.		Effect of Vibration on Orthotropic Visco-Elastic Rectangular Plate with Two Dimensional Temperature and Thickness Variation	Indian Journal of Science and Technology	Vol 9(2)	P-ISSN 0974-6846 E-ISSN 0974-5645	2016	Scopus & Web of Science
15.		Vibration Of Orthotropic Parallelogram Plate With Bi-Parabolic Thickness And Temperature Variation	Journal of the Gujarat Research Society	Volume 21 Issue 1, 4	ISSN: 0374-8588	2019	UGC Care
16.		Vibration Analysis of Visco-Elastic Square Plate of Variable Thickness with Thermal Gradient	International Journal of Engineering & Applied Sciences	Volume 3, Issue 4	e-ISSN: 1309-0267	2014	UGC Care
1.	**Dr. Sanjeev Kumar**	Anisotropic Viscous Fluid Cosmological Models in Saez-Ballester Theory of Gravitation	Journal of Rajasthan Academy of Physical Sciences	18	0972-6306	2019	UGC Listed Journal
2.		Five dimensional viscous fluid cosmological models with vacuum energy density in general relativity	Journal of Rajasthan Academy of Physical Sciences	19	0972-6306	2020	UGC Listed Journal
1.	**Dr. Awnish Kumar Singh**	Meir-keeler type contraction via rational expression	Acta mathematica universitatis comenianae	89	1336-0310	2019	Scopus Journal
2.		A fixed-point theorem for biased maps satisfying an implicit relation	New trends in mathematical Sciences	17	2147-5520	2019	Scopus Journal
1.	**Mrs. Vijyeta Verma**	Vibration of clamped non-homogeneous square plate with non-uniform varying	Research Journal of Science and Technology,	Vol. 09| Issue-01|	0975-4393 (Print) 2349-2988	2017	UGC

		Thickness and thermal effect			(Online-		
2.		Inspection of Vibration using Rayleigh- Ritz method for Orthotropic Non-Homogeneous Plate with varying Thickness and Thermal Effect	RJAV	XIV(1)	ISSN 1584-7284	2017	UGC
3.		Mechanical Vibration of Orthotropic Square Plate with Clamped boundary Conditions	Research Journal of Science and Technology	10(4) Vol. 10	0975-4393 (Print) 2349-2988 (Online)	2018	UGC
4		Vibration Of Orthotropic Parallelogram Plate With Bi-Parabolic Thickness And Temperature Variation	Journal of Gujarat Society	*Volume 21 Issue 14*		2019	UGC
1.	**Dr Manish Taunk**	Facile in-situ Synthesis, Microstructural, Morphological and Electrical Transport properties of Polypyrrole-Cuprous Iodide Hybrid Nanocomposites	Journal of Solid State Chemistry,	vol. 303, 122501	ISSN: 0022-4596.	2021.	(IF: 3.498, h-index: 142) SCIE, WOS, Scopus.
2.		In-situ chemical synthesis, microstructural, morphological and charge transport studies of polypyrrole-CuS hybrid nanocomposites”	Journal of Inorganic and Organometallic Polymers and Materials,	vol. 31, 437-445	ISSN: 1574-1451.	2021,	(IF: 3.543, h-index: 45). SCIE, WOS, Scopus.
3.		Effect of surfactants on the structural and luminescence properties of γ-CuI nanocrystals synthesized by facile sonochemical method"	ChemistrySelect	vol. 5 (39), 12236-12242,	ISSN: 2365-6549.	2020.	(IF: 2.109, h-index: 34). SCIE, WOS, Scopus.
4.		Structural, Optical, and Electrical Studies of	Semiconductors,	vol. 54, (9)1016-	ISSN: 10637826.	2020	(IF: 0.691, h-index: 40).

		Sonochemically Synthesized CuS Nanoparticles"		1022,			SCIE, WOS, Scopus.
1.	**Dr. Manpreet Kaur**	Structural, morphological and optical properties of Eu-N co-doped zinc oxide nanoparticles synthesized using co-precipitation technique	Vaccum	155	0042207X	2018	UGC/SCOPUS
2.		Morpho-structural and opto-electrical properties of chemically tuned nanostructured TiO2	Ceramics International	44(15)	0272-8842	2018	UGC/SCOPUS
3.		Enhancement in the photocatalytic activity of Bi2Ti2O7 nanopowders synthesized via Pechini vs Co-Precipitation method	Ceramics International	45(16)	0272-8842	2019	UGC/SCOPUS
4.		Fabrication and Characterization of ElectrospumZnO nanofibres; Antimicrobial assessment	Materials Letters.	264	0167577X	2020	UGC/SCOPUS
5.		Effect on the Dielectric Properties due to In-N co-doping in ZnO particles	Journal of Materials Science: Materials in Electronics	32(7)	0957-4522	2021	UGC/SCOPUS
6.		Effect of synthesis methods on dielectric performance of ZnO nanoparticles	Materials Technology	-	17535557	2021	UGC/SCOPUS
7.		Effect of Cu-N co-doping on the dielectric properties of ZnO nanoparticles	Materials Technology	-	17535557	2022	UGC/SCOPUS
1.	**Dr. Anita rani**	Schiff bases as an anti-microbial agent: a review	J. biol. chem. Sci	2	2394-9139	2015	Other
2.		6,6',8,8'-tetrametyl-4,4',7.7'-tetrahydros-7,7'-bi-1,2,4,5-tetrazocine-	Bulgarian journal of science education	8	1313-1958	2019	Scopus

		3,3’(2h,2’h)-dithione, a novel hydrazone schiff base with promising pharmacological effects					
3.		Synthesis and spectral investigations of polymeric hydrazone schiff base and its transition metal complexes with promising antimicrobial, anti-angeogenic and dna photo-cleavage activities,	asian journal of chemistry	31/2331-2336	0970-7077	2019	Scopus
4.		Synthesis & spectral studies of 4,4′-(hydrazine-1,2-diylidenedimethylylidene)-bis-(2-methoxyphenol) and its transition metal complexes with promising biological activities	Asian journal of chemistry	32/7/1768-1772	0970-7077	2020	Scopus
5.		Organotin complexes with promising therapeutic potential, natural products:	Current pharmacology report	6/167-181	2198-641x	2020	Sci
6.		Synthesis, spectral investigations, biological potential and molecular docking study of novel Schiff base and its transition metal complexes	Anti-Infective Agents	1-16/	2211-3533	2022	Sci
1.	**Dr. Vineet Kumar Choudhary**	Dft calculations on molecular structures, homo-lumo study, reactivity descriptors and spectral analyses of newly synthesized di-organotin(iv) 2-chloridophenylacetohydroxamate complexes	Journal of Computational chemistry	40/272354-2363	1096-987x	2019	Sci

2.		Synthesis, characterization, thermal, computational and biological activity studies of new potential bioactive diorganotin (iv)nitrosubstitutedhydroxamates- a comparative study	*Applied organometallic chemistry*	34/4; e5360	1099-0739	2020	Sci
3.		Theoretical and spectroscopic evidence on new triphenyltin(iv) 3,5-dinitrosalicyl hydroxamate complex: synthesis, structural characterization and biological screening	Journal of coordination chemistry	73/6;947-968	1029-0389	2020	Sci
4.		Diorganotin (iv) complexes of 2-chloridophenylacetohydroxamic acid as prospective antimicrobials: synthesis, characterization and biological properties	Journal of coordination chemistry	72/2; 372–387	1029-0389	2019	Sci
5.		Potential bioactive mononuclear diorganotin(iv) phenoxyacetohydroxamate complexes: synthesis, characterization and antimicrobial evaluation	Main Group Metal Chemistry	41; 27-32	2191-0219	2018	Sci
6.		Molecular structures and calculations of reactivity descriptors of new di-organotin(iv) phenoxyacetohydroxamate complexes: insights from density functional theory	Journal of Computational Methods in Sciences and Engineering	20/1; 157-166	1875-8983	2020	Other

7.		Potentially antibacterial mixed-ligand oxidovanadium(IV) salicylhydroxamate Complex [VO(acac)SHA]; Synthesis, Characterization and quantum mechanical study.	Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci	The National Symposium, "86th Annual Session of the Academy"Uttarakhand State Council for Science and Technology, Dehradun & The National Academy of Sciences, India	December, 2-4, 2016; Dehradun	90/2	
1.	**Dr. Vandna Sharma**	Involvement of non-polyalanine (polya) residues in aggregation of polya proteins: clue for inhibition of aggregation	Comput. Biol. Chem.	53 /318–323	1476-9271	2014	Sci
2.		Prediction of aggregation sites in human eye lens γ-crystallins: implications in cataract	J. adv. Bioinfo. Appl. res.	6/ 45−51	2278–6007	2015	Scopus
3.		Interaction of different prototrophic species of an anticancer drug ellipticine with hsa and igg proteins: multispectroscopic and molecular modeling studies	Phys. chem. chem. phys**.**	17/16937-16946	1463-9084	2015	Sci
4.		Inhibition of amyloid fibrillation and destabilization of fibrils of human γd- crystallin by	Int. j. biol. macromol.	105/956–964	1879-0003	2017	Sci

		direct red 80 and orange					
5.		Inhibition of amyloid fibrillation by small molecules and nanomaterials: strategic development of pharmaceuticals against amyloidosis	Protein pept. lett	26/ 315-323	1875-5305	2019	Sci
6.		Inhibition of amyloid fibrillation of human γd-crystallin by gold nanoparticles: studies at molecular level	Spectrochim. acta a mol. biomol. spectrosc.	233/118199	13861425	2020	Sci
1.	**Dr. Manita Thakur**	"Alginate-zr (iv) phosphate nanocomposite ion exchanger: binary separation of heavy metals, photocatalysis and antimicrobial activity	Journal of alloys and compounds **(if 5.31)**	701	0925-8388	2017	Scopus
2.		"Synthesis of lactic acid–zr (iv) phosphate nanocomposite ion exchange for green remediation."	Ionics **(if 2.81)**	23(3)	electronic issn: 1862-0760; print issn: 0947-7047	2017	Scopus
3.		"Gelatin-zr(iv) phosphate ion exchanger: synthesis, characterization and its environmental applications	Journal of Polymers and the Environment **(if 3.66)**	-	electronic issn: 1572-8919; print issn: 1566-2543	2017	Scopus
4.		"Efficient photocatalytic degradation of toxic dyes using gelatin-zr(iv) phosphate nanocomposite and its antimicrobial activity."	Colloids and Surfaces b: Biointerfaces **(if 5.26)**	157	0927-7765	2017	Scopus

5.		"Zirconium (iv) phosphate/poly (gelatin-cl-alginate) nanocomposite as ion exchanger and al 3 potentiometric sensors	International Journal of electrochemical science **(if 1.76)**	13	1452-3981	2018	Scopus
6.		"Gelatin-zirconium dioxide nanocomposite as a ni (ii) selective potentiometric sensor: heavy metal separation and photocatalysis."	International Journal of electrochemical science **(if 1.76)**	12	1452-3981	2017	Scopus
7.		"Tin (iv) phosphate/poly (gelatin-cl-alginate) nanocomposite: photocatalysis and fabrication of potentiometric sensor for pb (ii).	Materials today communications **(if 3.38)**	14	2352-4928	2018	Sci
8.		"Fabrication of electrically conductive membrane electrode of gelatin-tin (iv) phosphate nanocomposite for the detection of cobalt (ii) ions.	Journal of advanced powder technology **(if 4.83)**	-	0921-8831	2018	Sci & Sopus
9.		"Fabrication of gelatin-zr (iv) phosphate and alginate-zr (iv) phosphate nanocomposite based ion selective membrane electrode.	Nano Hybrids and Composites	20	2297-3400	2018	-
10.		"Sol–gel synthesis of gelatin–zirconium(iv) tungstophosphate nanocomposite ion	Journal of Sol-gel science and technology (if 2.00)	-	issn: 0928-0707 (print); 1573-4846	2019	Sci & Sopus

		exchanger and application for the estimation of cd(ii) ions."			(web)		
11.		"Sol-gel synthesis of polyacrylamide-stannic arsenate nanocomposite ion exchanger: binary separations and enhanced photo-catalytic activity."	Journal of sn Applied Sciences.	1	2523-3971	2019	Scopus
12.		"Robust visible light active pani/$LaFeO_3$/$CoFe_2O_4$ ternary heterojunction for the photodegradation and mineralization of pharmaceutical effluent: clozapine"	Journal of Environmental Chemical Engineering (if 5.9),	9	2213-3437	2021	Scopus & Sci
13.		"Green synthesis of zr(iv)aluminophosphate nanoparticles using psyllium husk mucilage for the photodegradation of crystal violet and fast sulphon black f"	Research j of Material Science	10(1)	2320 – 6055	2022	Peer Reviewed Journal
1.	**Mr. Ajay Sharma**	"Green synthesis of zr(iv)aluminophosphate nanoparticles using psyllium husk mucilage for the photodegradation of crystal violet and fast sulphon black f"	Research Journal of Material Science	10/1/9-20	2320 – 6055	2022	Peer Reviewed Journal

3. Patents/ Copyright Applied or Published

(Photo) Name of the Faculty Designation Department	Patent Title	National/ International	Status (Filed/ Published/ Granted)
 **Dr. Ashish Kumar Sharma** Associate Professor, Dept of Mathematics	1. Plant Growing Device with Adjustable Cover	National	Filed
	2. Intelligent system and method for providing a virtual consultant service based on artificial intelligence	National	Published
 **Dr. Manish Taunk** Associate Professor Dept. of Physics	1. A Novel sustainable Water Filtration Device	International	Filed.
 **Dr. Anita Rani,** Assistant Professor Dept. of Chemistry	1. Detection and Classification of Cassava Disease with an Unbalanced Data Set Using DCNN from Plants Scratch to Enhance Precision	National	Published
	2. Application of Nanotechnology on Butchery Waste for Bio fuels Production	National	Published

 **Dr. Manita Thakur** Assistant Professor Dept. of Chemistry	1. Nanocomposite Based Electronic Sensor for Detection of Lead	National	Published
	2. Nanocomposite for Photodegradation of Water Polluting Methyl Orange	National	Published
	3. Nanocomposite for Removal of Metal Ions from Waste Water and Method Thereof	National	Published

4. Research/ Consultancy Projects Applied

Sr. No.	Name of P.I. and other investigators	Funding Agency	Financial outlay	Year start & total period	Title of Project	Current Status of the Work Done
1.	Dr. Ashish Kumar Sharma	SERB	200000	-	A Mathematical Model to analysis the free Vibrations of Visco-elastic Nano-plates with Temperature Variation	-
2.	PI: Dr Manish Taunk	SERB	-	2022, 3 yrs	Synthesis and Characterization of CuI nanoparticles for electronic applications	Project Submitted
3.	PI: Dr Manpreet Kaur and Co-PI: Dr Manish Taunk	SERB	-	2022, 3 yrs	Fabrication of Dye Sensitized Solar Cell By Using Nanostructured Tri-doped Zinc Oxide Working Electrodes	Project Submitted

5. Academic Research

Sr. No.	Name of the Faculty	Completed Ph.D/ M.Phil Research	Registered Ph.D/ M.Phil Students	Ongoing research by various scholars	PG Dissertation (M. Tech/ M.Pharma/ LLM/ etc)
1.	Dr. Ashish Kumar Sharma	01: Ph.D. 02: M.Phil	06: Ph.D Candidates 02:M.Phil Candidates	06	05
2	Dr. Sanjeev Kumar	--	02	02	--
3	Dr. Awnish Kumar Singh	--	02	02	--
1.	Dr Manish Taunk	PhD-01 MPhil-01	PhD-04		-
1.	Dr. Anita Rani	--	04 Ph.D		M.Sc Chemistry Total project guide=01 Currently guiding=02
2.	Dr. Manita Thakur	Ph.D. submitted=01 M.Phil. Submitted=01 M.Phil. Completed=02	03 Ph.D.		M.Sc. Chemistry Total project guide=05 Currently guiding=02
3.	Dr. Vineet Kumar Choudhary	Nil	3 Ph.D		M.Sc Pharmaceutical Chemistry (Synthetic Chemistry)
4.	Dr. Vandna Sharma	Nil	02 M.phil		

6. Invited talk/ Resource/ person/ Guest Lecture

Sr. No.	Name of the Faculty	Invited talk/ Resource/ person/ Guest Lecture detail
1.	Dr. Anita Rani	Guest Lecture on Synthesis and applications of Nanoparticles in Chemistry department,

		MMDU, Mullana, Ambala

7. Refresher/ Induction/ Research Methodology course

Sr. No.	Name of the Faculty	Refresher/ Induction/ Research Methodology course detail
1.	Dr. Ashish Kumar Sharma	• Research Methodology • Faculty Development