

3.7.1 Number of collaborative activities with other institutions/ research establishments/industry for research and academic development of faculty and students per year (10)								
3.7.1.1: Total number of Collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students year wise during the last five years								
Dept.	Academic Year	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity	Link to the relevant document
Chemistry	2017-2018	Study of Antibacterial Activity of Chenopodium Album Leaves extract	1. M.M. Modi College, Patiala-147001, 2. Punjab and Department of YCOE, Punjabi University Guru Kashi Campus, Talwandi Sabo-151302, Punjab, KIPS Moga	Seema Sharma	2018	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/53_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/53_Seema%20Sharma.pdf</a>
Chemistry	2018-19	Impact of in situ rice crop residue burning on agricultural residue of District Bathinda, Punjab	1. IKGPTU, Jalandhar, 2. YCoE, Punjabi University Guru Kashi Campus, Talwandi Sabo 151302, Bathinda, Punjab, India	Seema Sharma	2019	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/54_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/54_Seema%20Sharma.pdf</a>
Chemistry	2018-19	Biosorption of Copper(II) ions using timber industry waste based biomass	1. Punjabi University Guru Kashi Campus, Talwandi Sabo-151302(Punjab) India, 2. IKGPTU, Jalandhar	Seema Sharma	2019	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/55_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/55_Seema%20Sharma.pdf</a>
Chemistry	2018-19	Adsorption Isotherm, Kinetics and Thermodynamics of bivalent Nickel scavenging utilizing sawdust carbon	1. IKGPTU, Jalandhar, 2. YCoE, Punjabi University Guru Kashi Campus, Talwandi Sabo-151302, (Punjab) India	Seema Sharma	2019	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/56_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/56_Seema%20Sharma.pdf</a>
Chemistry	2019-20	Synthesis, characterization, and visible-light-induced photocatalytic activity of powdered semiconductor oxides of bismuth and zinc toward degradation of Alizarin Red S	1.YCoE, Punjabi University Guru Kashi Campus, Bathinda, Punjab, 2. I.K. Gujral Punjab Technical University, Jalandhar - Kapurthala Highway, Kapurthala 144603, Punjab, India	Seema Sharma	2020	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/57_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/57_Seema%20Sharma.pdf</a>
Chemistry	2019-20	Visible light responsive heterostructured $\alpha$ -Bi <sub>2</sub> O <sub>3</sub> /ZnO doped $\beta$ -Bi <sub>2</sub> O <sub>3</sub>	Department of Applied Sciences, YCoE, Punjabi University Guru Kashi Campus, Bathinda, Punjab	Seema Sharma	2020	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/58_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/58_Seema%20Sharma.pdf</a>
Chemistry	2020-21	Reactions of MoCl <sub>5</sub> and MoO <sub>2</sub> Cl <sub>2</sub> with 4-Phenylimidazole-2-thiol and 2-Thiazoline-2-thiol	IKGPTU, Jalandhar	Seema Sharma	2020	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/59_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/59_Seema%20Sharma.pdf</a>
Chemistry	2020-21	Reactions of MoOCl <sub>4</sub> and MoO <sub>2</sub> Cl <sub>2</sub> with Heterocyclic Thioamides	IKGPTU, Jalandhar	Seema Sharma	2021	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/60_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/60_Seema%20Sharma.pdf</a>
Chemistry	2020-21	Reactions of MoO <sub>2</sub> Cl <sub>2</sub> and MoOCl <sub>4</sub> with 2-Mercaptopyridine, 4-Phenylimidazole-2-thiol and 6-Mercaptopurine monohydrate	IKGPTU, Jalandhar	Seema Sharma	2021	1 year	Publication of research article	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/61_Seema%20Sharma.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/61_Seema%20Sharma.pdf</a>
Chemistry	2020-21	Pharmaceutical and Personal Care Products (PPCPs) in Sewage Water of District Bathinda, its Transport in environmental compartment and Adsorptive Removal Using Metal Organic framework (MOF)	Central University of Punjab, Bathinda	Dr. Meenu	2021	3 yrs	Joint research project	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/62_%20Dr%20Meenu.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/62_%20Dr%20Meenu.pdf</a>
Chemistry	2018-19	Recent developments in biological aspects of chalcones: the odyssey continues	1. GNDU, Amritsar 2. Khalsa College, Amritsar	Dr. Kewal Kumar	2019	2019	Research Paper	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/63_Kewal%20Kumar.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/63_Kewal%20Kumar.pdf</a>
Chemistry	2016-17	Recent insights into synthetic b-carbolines with anti-cancer activities	GNDU, Amritsar	Dr. Kewal Kumar	2017	2017	Research Paper	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/64_Kewal%20Kumar.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/64_Kewal%20Kumar.pdf</a>

Chemistry	2016-17	1 <i>H</i> -1,2,3-triazole-tethered uracil-ferrocene and uracil-ferrocenylchalcone conjugates: Synthesis and antitubercular evaluation	1. GNDU, Amritsar 2. CRNS, Lille, France	Dr. Kewal Kumar	2017	2017	Research Paper	<a href="https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/65_Kewal%20Kumar.pdf">https://naac.mrsptu.ac.in/uploads2022/C3/3.7.1/proofs/65_Kewal%20Kumar.pdf</a>
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