

‘Centre for Industry Institute Partnership Programme’ (CIIPP)

- CIIPP was set up by Panjab University in 1995 as a self-sustaining entity to bring industry closer to the academia and vice-versa, generate resources in the form industry supported projects and consultancy programmes, create environment for fostering close liaison with industry and organize need-based workshops/symposia in order to promote self-employment among the students.
- Nodal branch of ‘Patent Information Cell’ of Punjab State Council for Science & Technology (PSCST) to stimulate patent awareness amongst teachers and students.
- Has a special budget for patent filing on behalf of Panjab University.
- Maintains a record of patents (filed, granted, licensed) owned by PU.
- Regularly organizes patent related Talks by experts.
- A brief about ‘Patent Applications’ filed with Indian Patent Office (IPO) by PU is mentioned in Annexures I and II. The analyses of the patent data is summarized below.

Patent Applications Filed/Granted by Inventors of PU (2004-21)

-Total # of Patent applications filed = 81

-Total # of Patents granted =14

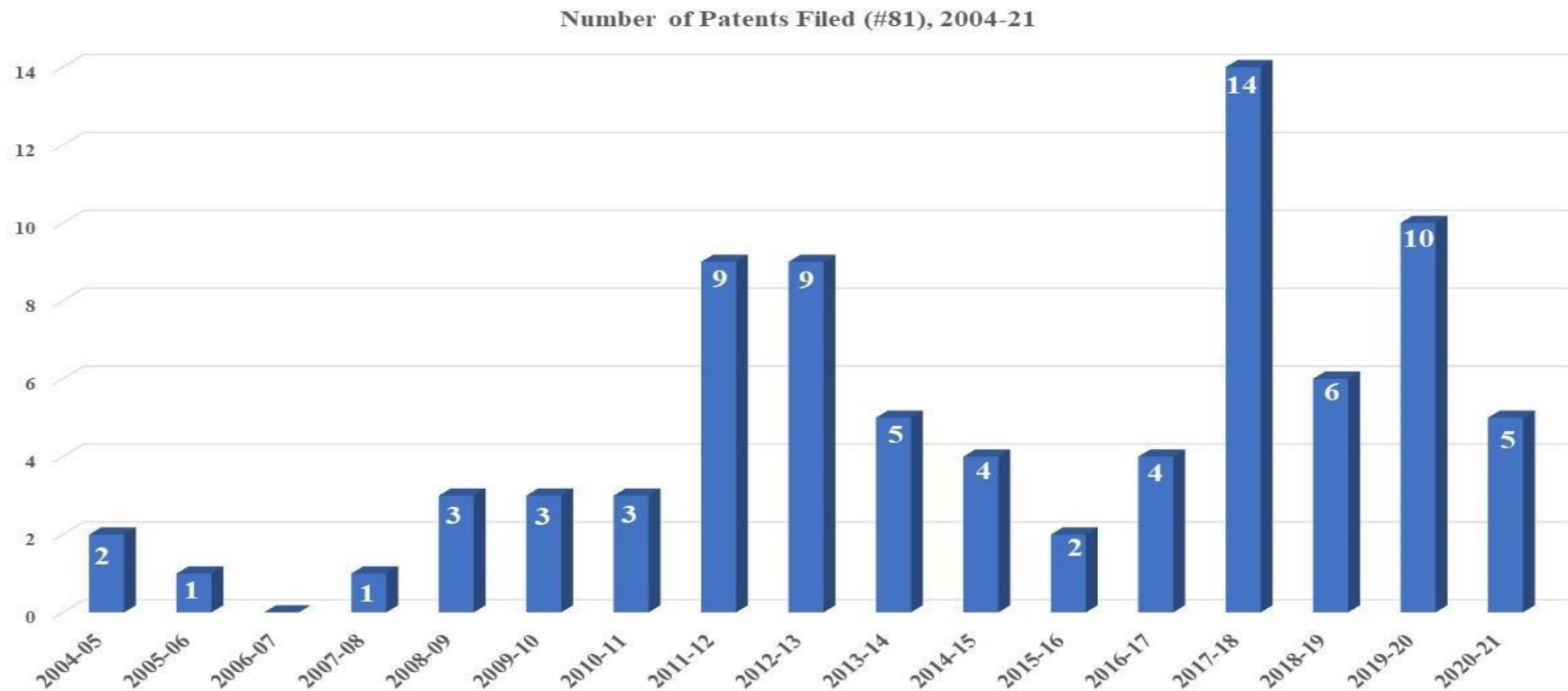


Figure 2. Year Wise Distribution of Patent Applications Filed by PU (2004-21)

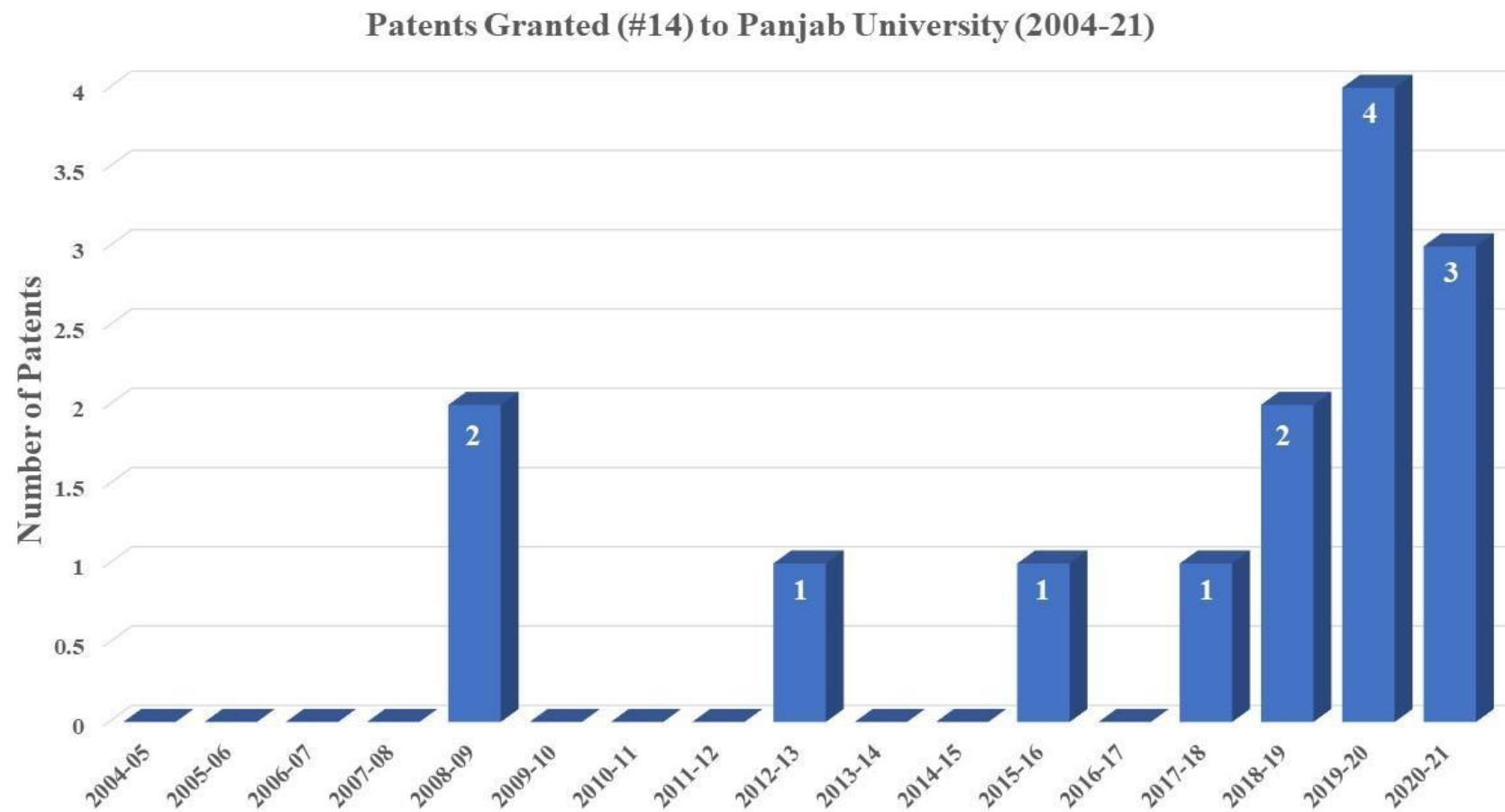


Figure 3. Year Wise Distribution of Patents Granted to PU

Department wise Distribution of Patents (2004-21)

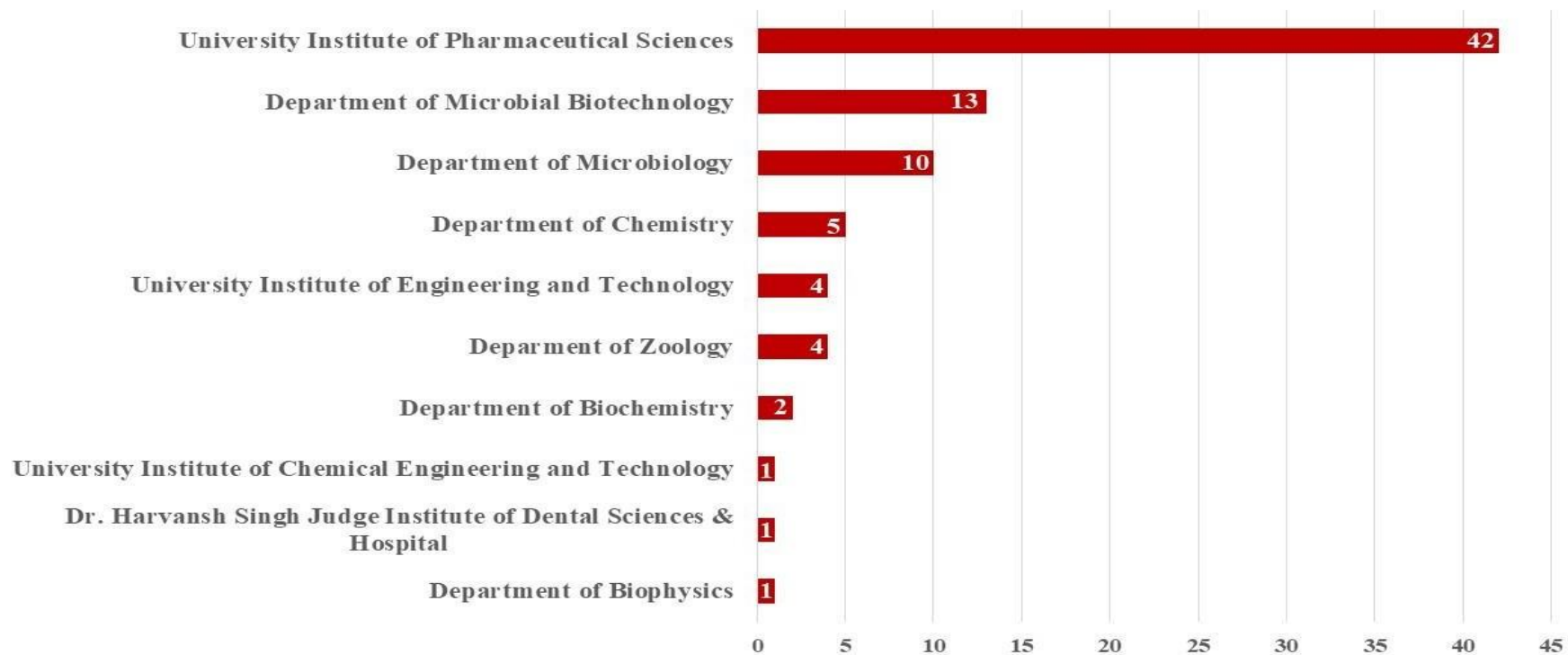


Figure 4. Department Wise Distribution of Patent Applications Filed by PU

Table 1: Distribution of Patent Applications Filed by Individual Faculty Members of PU

S. No.	Inventor	Departments/Centres	Patent Applications filed	Patents Granted
1	Indu Pal Kaur	University Institute of Pharmaceutical Sciences	19	4
2	Rohit Sharma	Dept. of Microbial Biotechnology	12	1
3	Renu Chadha	University Institute of Pharmaceutical Sciences	8	-
4	Maninder Karan	University Institute of Pharmaceutical Sciences	5	-
5	O. P. Katare	University Institute of Pharmaceutical Sciences	5	2
6	Praveen Rishi	Dept. of Microbiology	5	-
7	V.R.Sinha	University Institute of Pharmaceutical Sciences	4	-
8	Gurpreet Kaur	Dept. of Chemistry	4	-
9	Naveen Gupta	Dept. of Microbiology	3	-
10	Prince Sharma	Dept. of Microbiology	3	-
11	Jagdeep Kaur	Dept. of Biotechnology	3	1
12	Karan Vasisht	University Institute of Pharmaceutical Sciences	3	-
13	Ganga Ram Chaudhary	Dept. of Chemistry	3	-
14	Sukhbir Kaur	Dept. of Zoology	3	-
15	R.K. Kohli	Dept. of Botany	2	2
16	Shishu	University Institute of Pharmaceutical Sciences	2	-
17	Sanjay Chhibber	Dept. of Microbiology	2	-

18	Vandita Kakkar	University Institute of Pharmaceutical Sciences	2	-
19	Upma Bagai	Dept. of Zoology	2	-
20	Bhupinder Singh	University Institute of Pharmaceutical Sciences	2	1
21	Satish Kumar Taneja	Dept. of Zoology	1	1
22	D.K. Dhawan	Dept. of Biophysics	1	1
23	Raghuram Rao Akkinapally	University Institute of Pharmaceutical Sciences	1	-
24	Manoj Kumar Sharma	University Institute of Engineering and Technology	1	1
25	Kusum Harjai	Dept. of Microbiology	1	-
26	Archana Bhatnagar	Dept. of Biochemistry	1	1
27	Sanjeev Puri	Dept. of Biotechnology, UIET	1	-
28	Sarvjit Singh	University Institute of Engineering and Technology	1	-
29	Oshin Garg	University Institute of Engineering and Technology	1	-
30	Saurabh Singh	University Institute of Engineering and Technology	1	-
31	S.K.Mehta	Dept. of Chemistry	1	-
32	Ashish Jain	Dr. Harvansh Singh Judge Institute of Dental Sciences & Hospital	1	-
33	Seema Kapoor	SSBUICET	1	-
34	Dipti Sareen	Dept. of Biochemistry	1	-
35	Rupinder Tewari	Dept. of Microbial Biotechnology	1	-
36	Gurpal Singh	University Institute of Pharmaceutical Sciences	1	-
37	Ashish Suttee	University Institute of Pharmaceutical Sciences	1	-
38	Mukesh Kumar	University Institute of Engineering and Technology	1	-

Table 2: Collaborative Patent Applications/Granted to PU

S. No.	Category of Collaboration	Name of Organization (# Patent Applications filed/granted)
1	HEIs (2)	i) Panjab Engineering College, Chandigarh (2 / -) ii) Kakatiya University, Telangana (1 / -)
2	Industries (4)	i) Bio age Equipment's, Mohali (2 / -) ii) Venus Remedies, Panchkula (1 / -) iii) Span Biotech, China (2 / -) iv) M/S Unique Biotech Pvt. Ltd. Hyderabad (1 / -)
3	Funding Agencies (12)	i) DBT, New Delhi (5 / 2) ii) ICMR, New Delhi (4 / -) iii) CSIR, New Delhi (3 / -)

Note: Details are provided in Annexure III.

Table 3: Field wise Distribution of Patent Applications filed/granted to PU

Field	Patent Applications Filed	Patent Granted
Biological Sciences	78	13
Engineering	3	1

Note: Details of Patent Applications filed/granted in the field of Engineering are mentioned in Annexure I at serial # 12, 43 and 61.

Table 4: Patent Applications filed/granted Internationally

S. No.	Inventors	Title	Year of filling	Application No.	Inter-national	Applicant	Status
1	Indu Pal Kaur, Rohit Bhandari	Solid Lipid Nanoparticles Entrapping Hydrophilic /Amphiphilic Drug and a Process for Preparing the Same	2011-12	PCT/IN2012/000 154 (05-03-2012)	PCT	P.U.; Department of Biotechnology , GOI	Patent Filed
2	Indu Pal Kaur, Manoj Kumar Verma.	A Process for Preparing Solid Lipid Sustained Release Nanoparticles for Delivery of Vitamins	2012-13	PCT/1B2013/050 169 (09-01-2013)	PCT	P.U.; Department of Biotechnology ,GOI	Patent Granted US Patent No. 9907758b2 Dt: 9.3.2018

List of Patents (Filed/Granted) by the Inventors form Panjab University, Chandigarh

Annexure I

Period: 2004 -21

S. No.	Inventors	Title	Filed/Granted/Published	Year	Application No.	Indian/International	Applicant	Status
1	R.K. Kohli, Jatinder Arora, Parikshit Bansal	Biotechnological Degradation of Hair and Feathers	Filed	2004-05	Patent Number: 218657 897/DEL/04	Indian	P.U.	Granted 08/04/2008
2	R.K. Kohli, Parikshit Bansal	Preparation of Organic Fertilizer formParthenium Hysterophorus	Filed	2004-05	Patent Number: 218658 896/DEL/04	Indian	P.U.	Granted 08/04/2008
3	Satish Kumar Taneja	A Modified Poultry Egg as a Dietary Supplement for Diabetics	Filed	2005-06	2264/DEL/2005 Patent No.253740	Indian	P.U.	Granted 22.08.2012
4	Katare O. P, Mangat P.	Non-Staining, Novel Lecithinised Coal Tar Formulation.	Filed	2007-08	No. 1139/DELNP/2007	Indian	P.U.	Granted (No.287380 Dt:14.09.2017)
5	D.K. Dhawan, Anshoo Malhotra, Vijayta Dani Chadha, Avdesh	Development of 99mtc Labeled Albumin/Cisplatin Radiopharmaceutical for the Early Detection of Cancer (2006)	Filed	2008-09	891/DEL/2008	Indian	P.U.	Granted 306804 Dt: 04.02.2019
6	Shishu	Sustained Release Pharmaceutical Compositions Containing Curcumin and BetaCyclodextrin”	Filed	2008-09	353/DEL/2008	Indian	P.U.	Granted 10.2.2015
7	Raghuram Rao Akkinpally Narashima Murthy Javali	Novel Tetrahydroquinolines as Aromatase	Filed	2008-09	41/DEL/2008	Indian	P.U.; KakatiyaUniversity	-
8	Shishu, Nidhi Aggarwal Ranjit Khurana, Manu Sharma	Colloidal Composition of Griseofulvin	Filed	2009-10	208/DEL/2009	Indian	P.U.	-

9	Rohit Sharma, J Kaur, VI Thakur, S K Rana, N K Birkeland	Lipase/Esterase-Catalyzed Synthesis of Alkyl Esters by Transesterification.	Filed	2009-10	Indian Patent Application No. 2562/ DEL/2009	Indian	P.U.; Bioage Equipments	-
10	Rohit Sharma, J. Kaur, V.Thakur, S.K. Rana, Nils-Kare Birkeland	Lipase/esterase-catalyzed synthesis of alkyl esters by transesterification	Filed	2009	314953			Granted 27.06.2019
11	Indu Pal Kaur, Rumjhum Agrawal	Topical Curcumin Formulation	Filed (Published on 25.10.2013 as per net)	2010-11	2335/DEL/2010	Indian	P.U.	-
12	Manoj Kumar Sharma	Electronics Preferential Voting Machine (EPVM) (Published on 04.10.2013 as per net)	Filed Granted	2010-11	854/DEL/2010 352158 Dt: 25.11.2020	Indian	P.U.	Granted on 25.11.2020
13	Indu Pal Kaur, Cheena Rana, Shilpa Kakkar, Gautam Bakshi	A Method for Preparation of Nanoelastic Vesicular Systems. Patent of addition	Filed	2010-11	320207	Indian	P.U.	Granted 11/09/2019
14	Rohit Sharma, S. Sharma, M. Sharma, E. Khullar, K. Bansal, A. Sharma.	Nitrile Hydrolyzing Microbes for Industrial Use.	Filed	2011-12	Indian Patent Application No. 2883/ DEL/2011	Indian	P.U.; Span Biotec	-
15	Rohit Sharma, S. Sharma, M. Sharma, E. Khullar, K. Bansal, A. Sharma.	Low Cost Culture Medium for Nitrile Hydrolyzing Microbes.	Filed	2011-12	Indian Patent Application No. 2882/ DEL/2011(04-10-2011)	Indian	P.U.; Span Biotec	-
16	Monika Sharma, S. Khanna, S. Sharma, J. Kaur, Rohit Sharma.	Anti-Carcinogenic Extract form Pithecellobium Dulce.	Filed	2011-12	Indian Patent Application No. 2972/ DEL/2011(17-10-2011)	Indian	P.U.	-
17	Praveen Rishi, C. Raman, Manu Chaudhary	Rapid Detection of Gram Negative Bacterimia Using Novel Nano Bio-Probe	Filed (Published on 28.06.2013 as per net)	2011-12	3788/DEL/2011	Indian	P.U.; Venus Remedies; IMTECH	-
18	Indu Pal Kaur, Rohit Bhandari	Solid Lipid Nanoparticles Entarpping	Filed	2011-12	DCGI (127/DEL/2012)	Indian/ PCT	P.U.;	-

		Hydrophilic/Amphiphilic Drug and a Process for Preparing the Same			13-01-2012 / PCT/IN2012/000154 (05-03-2012)		Department of Biotechnology	
19	Indu Pal Kaur, Manoj Kumar Verma.	Solid Nanolipidic Particulates of Retinoic Acid and Vitamin D3	Filed(Published on 12.07.2013 as per net)	2011-12	79/DEL/2012 09-01-2012	Indian	P.U.; Department of Biotechnology	-
20	O. P. Katare	Stabilised Mucoadhesive Neon-Vesicular Combinatorial Vaccine Formulation.	Filed (Published 04.12.15)	2011-12	1564/DEL/2012	Indian	P.U.	-
21	Renu Chadha	A New Polymorphic Form of Telmisartan	Filed (PUBLISHED 21.8.2015)	2011-12	833/DEL/2012	Indian	P.U.	-
22	V.R.Sinha, Damanjit Ghai	RP-HPLC Stability Indicating Assay Method for the Analysis of Specific Adrenoceptor Antagonist and Use of This Method for Characterization of Its Degradation Product and Establishment of Degradation Pathway	Filed	2011-12	3877/Del/2011	Indian	P.U.	-
23	Karan Vasisht, Maninder Karan, Mahaveer Dhobi	Novel Compounds as Memory Enhancers.	Filed(Published on 04.12.2015 as per net)	2012-13	1650/DEL/2012	Indian	P.U.	-
24	A. Shukla, O. P. Katare, Bhupinder Singh and S.P. Vyas	Surface-modified bile-salt stabilized non-ionic surfactant nano-vesicles for oral delivery of bioactives	Filed	2012	328209	Indian	P.U.	Granted 26/12/2019

25	Maninder Karan, Karan Vasisht, Meenakshi Verma	Novel Polyherbal Composition for Prevention and Treatment of Inflammation And Arthritis.	Filed	2012-13	1651/DEL/2012.	Indian	P.U.	-
26	Indu Pal Kaur, Manoj Kumar Verma.	A Process for Preparing Solid Lipid Sustained Release Nanoparticles for Delivery of Vitamins	Filed	2012-13	PCT/1B2013/050169 (09-01-2013)	International	P.U.; Department of Biotechnology	Granted US Patent No. 9907758b2 Dt: 9.3.2018
27	Indu Pal Kaur, Harinder Singh	Preparation of Solid Lipid Nanoparticles of Rifampicin To Improve Bioavailability and Limiting Drug Interaction With Isoniazid	Filed	2012-13	3356/DEL/2012 01-11-2012	Indian	P.U.; Department of Biotechnology	Granted 299469 Dt:30.07.2018
28	Indu Pal Kaur, Manoj Kumar Verma, Mandeep Singh	Oral Nanocolloidal Aqueous Dispersion (NCD) of Streptomycin Sulphate	Filed	2012-13	3093/DEL/2012 03-10-2012	Indian	P.U.; Department of Biotechnology	-
29	V.R. Sinha Damanjit Ghai	Novel Nanoemulsion/Self-Nanoemulsifying Drug Delivery System for Enhanced Oral Bioavailability Hydrophobic Selective Adrenoreceptor Blocker	Filed Published on 13.11.2015 (as per net)	2012-13	1436/Del/2012	Indian	P.U.	-
30	V.R. Sinha Damanjit Ghai	Novel Nonoemulsion /Self Nonoemulsifying Drug Delivery System for Enhanced Oral Bioavailability of Muscle Relaxant	Filed Published on 06.05.2016 (as per net)	2012-13	3903/Del/2012	Indian	P.U.	-
31	V.R.Sinha Ramnpreet Kaur	Validated HPTLC and Stability Indication HPLC	Filed	2012-13	2852/Del/2012	Indian	P.U.	-

		Method for Prasugrel Hydrochloride	Published on 18.04.2014 (as per net)					
32	Sanjay Chhibber, Saloni Singla, O.P. Katare, Kusum Harjai, Ms. Sheetu Wadhwa	Lipoidal Delivery System for Delivery of Bacteriophages	Filed (Published as Per Net In26.6.2015)	2013-14	3301/DEL/2013	Indian	P.U.	-
33	Prof. Archana Bhatnagar, Dr. Ashish Aggarwal	Diagnostic kit for in vitro diagnosis of rheumatoid arthritis (RA) and method of use thereof.	Filed	2013	329706	Indian	P.U.	Granted 20.01.2020
34	Indu Pal Kaur , Shilpa Kakkar , Monika Yadav, Keshav Jindal , Ikksheta Sharma	Autoclavable Vesicular Composition	Filed	2013-14	700/DEL/2014 11.3.14	Indian	P.U.	-
35	Prof. Renu Chadha,UIPS (Updated On 28.8.2017)	A New Polymorphic Form of Telmisartan	FILED	2013-14	1269/DEL/2013 30.04.2013	Indian	P.U.; ICMR	-
36	Prof. Renu Chadha,UIPS	Ag Novel Hydrochlorothiazide-Nicotinamide Co-Crystal With Improved	FILED	2013-14	2392/DEL/2013 12.08.2013	Indian	P.U.; ICMR	-
37	Indu Pal Kaur,Monika Yadav	An Ocular Formulation and a Method for Its Preparation	Filed	2014-15	2339/DEL/2014 18.8.14	Indian	P.U.	-
38	Indu Pal Kaur , Shilpa Kakkar ,Anurag Singla	Nano Structured Lipidic-Polymeric Pharmaceutical Composition Encapsulation Drugs	Filed	2014-15	2074/DEL/2014 22.7.14	Indian	P.U.	-
39	Indu Pal Kaur, Shilpa Kakkar, Anurag Singla	Nanostructured lipidic polymeric pharmaceutical compositions encapsulating drugs.	Filed	2014	336184	Indian		Granted 29/04/2020
40	Indu Pal Kaur , Shilpa Kakkar,Rohit Bhandari, Mandeep Singh,Richi Taneja,	In-Situ Formation of Lipidic Nanoparticles	Filed	2014	2307/DEL/2014 13.8.14	Indian	P.U.	-

41	Indu Pal Kaur ,Gaurav Sharm, Kanwaljit Chopra, Sanjeev Puri, Mahendra Bishnoi ,Parveen Rishi	Process for Encapsulating Macro Biomolecules In Solid Lipid Nanoparticles	Filed	2015-16	201611003140	Indian	P.U.	-
42	Gurpreet Kaur	A Metalosome Assembly and a Process for Preparation thereof	Filed (Published as Per Net on 26.06.2017)	2015-16	4055/DEL/2015	Indian	P.U.	-
43	Mr Sarvjit Singh,UIET Mr. Oshin Garg,ECE Mr. Saurabh Singh,ECE	Braille Printer	Filed	2016-17	201611021312	Indian	P.U.	-
44	Renu Chadha,UIPS Dr. Maninder Karan Mr. Kunal Chadha, SRF Ms. Yashika Bhalla ,SRF Ms. Ankita Jain ,B. Pharma	Novel Cocryystals of Genistein with Improved Efficacy/Biopharmaceutical Parameters	Filed	2016-17	201711011499	Indian	P.U.	-
45	Prof. Renu Chadha Prof. Karan Vashisht Prof. Maninder Karan	Cocryystals of Naringenin	Filed	2016-17	201711008153	Indian	P.U.	-
46	Indu Pal Kaur,UIPS Parneet Kaur, Deol, Mahendra, Bishnoi, Kanthi, Kiran Kondepudi	Process for Preparation of a Probiotic Encapsulated Formulation	Filed	2016-17	201711011030 Dt28.03.2017	Indian	P.U.	-
47	Naveen Gupta Prince Sharma, Sonica, Deepak Kumar, Aditya	A Process for the Environment Friendly Processing of Denim/Bioleaching Usinh Bacillus Tequilensis SN4 Laccase Repeated Recycling of Mediator (ABTS)	Filed	2017	201711014013 Dt 20.4.20 17	Indian	P.U.	-

48	Prof. Renu Chadha (Univ)	Novel Cocrystals of Aceclofenac With Improved Bioavailability	Filed	2017-18	201711011036	Indian	P.U.	-
49	Chhibber S, Chadha P, and Katare OP	Evaluation of Different Delivery Strategies for therapeutic Applications of Klebsiella Pneumoniae Phages In Burn Wound Model	Filed Published on 15.02.2019 (as per net)	2017-18	201711028816 Dt: 15/09/2017	Indian	P.U.; ICMR	-
50	Rohit Sharma, Shivanshi Vashisht	Mutated Microbe for Low Cost Production of High Value Commercials	Filed Published on 15.03.2019 (as per net)	2017-18	201711027943 Dt: 05.08.2017	Indian	P.U.	-
51	Rohit Sharma, Shivanshi Vashisht	Apparatus for Efficient Growth of Microbial Culture At High Temperatures	Filed Published on 17.06.2019 (as per net)	2017-18	201711033511 Dt: 21.09.2017	Indian	P.U.	-
52	S.K.Mehta, Rohini Kanwar	Sophorolipid Based Nanostructured Lipid Carriers Targeted for Drug Delivery Purposes	Filed	2017-18	2017114015371 Dt: 02.05.2017	Indian	P.U.	-
53	Ashish Jain, HSJ Institute of Dental Sciences, Dr. Parveen Kalra, PEC	Customised 3-Part Immediate Dental Implant	Filed	2017-18	201711032686 Dt: 15.09.17	Indian	P.U.; PEC University of Technology, Chandigarh	-
54	Vandita Kakkar, Indu Pal Kaur and Komal Saini	Topical Nanoformulation of Tetrahydrocurcumin (TCH)	Filed Published on 01.03.2019 (as per net)	2017-18	201711028760 Dt: 12.08.2017	Indian	P.U.; UIPS	-
55	Renu Chadha, Manoj Kumar Gautam, Divya Pandit Amd Mousami Besan	New Cocrystals of Imatinib With Improved Efficacy/Biopharmaceutical Parameters	Filed Published on 04.10.2019 (as per net)	2017-18	201811011973 Dt: 29.03.2018	Indian	P.U.	-
56	Prof. Sukhbir Kaur, Zoology	Novel Nosode formA Protozoon of Genus Leishmania and the	Filed Published on 20.12.2019 (as per net)	2017-18	201811009785	Indian	P.U.	-

		Process of Preparation thereof						
57	Prof. Upma Bagai ,Zoology	Novel Nosode formA Protozoon of Genus Plasmodium and the Process of Preparation thereof	Filed	2017-18	2018110099598	Indian	P.U.	-
58	Prof Maninder Karan,Uips Mamda Dhingra Pritam Dev Sharma Renu Chadha Tejvir Singh Sameer Dhingra	Syringic Aci Ester,Method of Synthesis and Uses thereof	Filed Published on 01.02.2019 (as per net)	2017-18	201711027110 Dt: 31.07.2017	Indian	P.U.	-
59	Prof Indu Pal Kaur,Garima Sharma,UIPS	Probiotic Formulation and Uses thereof.	Filed Published on 27.09.2019 (as per net)	2017-18	201811010395 Dt: 21/03/2018	Indian	P.U.; M/S Unique Biotec Pvt. Ltd.,Hyderabad	-
60	Rohit Sharma, Shivanshi Vashist	Mutated microbe for low cost production of high value commercial products and method thereof	Filed	2017-18	201711027943 5.8.2017	Indian	P.U.	-
61	Prof. Seema Kapoor SSBUICET	Fluorine and Zinc Co-Substituted Mesoporous Hydorxyapatite Nanopowder and Method therof	Filed Published on 06.12.2019 (as per net)	2018-19	201811020514 Dt:31.05.2018	Indian	P.U.; Panjab Engineering College, Chandigarh	-
62	Prof. Dipti Sareen,Deptt of Biochemistry	A Two- Component Lantibiotic Roseocin formStreptomyces Filaentosus NRRL 11379	Filed Published on 13.12.2019 (as per net)	2018-19	201811021573 Dt: 08.06.2018	Indian	P.U.	-
63	Prof. Praveen Rishi, Dr. Chander Raman Suri, Dr. Priyanka Sabherwal, Dr. Rupinder Tewari, Dr. Harmanjit Kaur	A process for the detection of Salmonellosis and kit detection thereof.	Filed	2018-19	201911001767	Indian	P.U.; CSIR	-

64	Dr. Gurpal Singh, Prof. Bhupinder Singh, Dr. Taranvir Kaur, Dr. Ashish Suttee	Selective capturing and detection of pathogens on glass matrix using affinity moiety coupled quantum dots.	Filed	2018-19	201911005835 Dt: 14.02.2019	Indian	P.U.	-
65	Rohit Sharma, Shivanshi Vashist	Apparatus for efficient growth of microbial cultures at high temperatures	Filed	2018-19	E-2/1596/2018/DEL	Indian	P.U.	-
66	Rohit Sharma, Shivanshi Vashist	Mutated microbe for the production of pyrazinoic acid	Filed	2018-19	TEMP/E-1/54622/2018-DEL	Indian	P.U.	-
67	Rohit Sharma, Shivanshi Vashist	Novel scale-up bioreactors for multiple process optimizations	Filed	05.07.2019	201911027001	Indian	P.U.	-
68	Indu Pal Kaur and Atin Kalra	Orally dispersible taste masked formulations of bitter drugs	Filed	27/11/2019	201911048645	Indian	P.U.	-
69	Indu Pal Kaur, Simarjot Kaur Sandhu, Vandita Kakkar and Tanvi Gupta	Solid lipid nanoparticles of curcumin.	Filed	26/11/2019	PCT/IB2019/060162	Indian	P.U.	-
70	Ganga Ram Chaudhary, Moondeep Chauhan, Buntty Sharma, Preeti Alagh, Gurpreet Kaur, Rajeev Kumar	Nano-functionalized natural fiber with improved photocatalytic and antimicrobial properties	Filed	Sep, 2019	202011003954	Indian	P.U.	-
71	Gurpreet Kaur, Preeti Garg, Buntty Sharma, Kanika Berwal, Ganga Ram Chaudhary	Formulation comprising metallocatanionic vesicles encapsulating photosensitizer dye	Filed	Nov, 2019	201911035464	Indian	P.U.	-
72	Sukhbir Kaur, Debadatta Nayak, AnilKhurana, Raj Kumar Manchanda, Jyoti Joshi	Novel Nosode forma Protozoan of the Genus Leishmania and the Process of Preparation thereof.	Filed	16.06.2019	201811009785	Indian	P.U.	-
73	Upma Bagai, Debadatta Nayak, Anil	A nosode forma protozoan of the genus Plasmodium	Filed International	14.06.2019	201811009598	Indian	P.U.	-

	Khurana, Raj Kumar Manchanda, Sukhbir Kaur	and the process of preparation thereof						
74	Dr. Naveen Gupta, Prof. Prince Sharma, Dr. Deepak Kumar, Dr. Aditya Kumar, Steffy, Rahul Warmoota	Enzyme based hair dye formulation	Filed	25.07.20 19	201911030032	Indian	P.U.	-
75	Dr. Mukesh Kumar, Bhavayadeep Vashisht	A System for Detection of Water Level and Volume Retention	Published	2.07.201 9	201811036454 A	Indian	P.U.	-
76	Rohit Sharma, Shivanshi Vashist	Novel scale-up bioreactors for multiple process optimizations	Filed	05.07.20 19	201911027001	Indian	P.U.	-
77	Indu Pal Kaur, Simarjot Kaur Sandhu, Praveen Rishi and Shobhit Jain	Probiotic and curcumin wound dressing	Filed	04/02/20 20	202011004849	Indian	P.U.	-
78	Prof. Praveen Rishi, Prof. SK Soni, Arashdeep Kaur, Valbha Rishi	Anti-biofouling composition and uses thereof	Filed	28.01.20 20	202011003836	Indian	P.U.	-
79	Naveen Gupta, Prince Sharma, Sonica Sondhi, Aditya Kumar, Deepak Kumar, Steffy, Monika Rana	A Process for the production of laccase enzyme and of pulp biobleaching employing said enzyme	Filed	16.01.20 20	202011001901	Indian	P.U.	-
80	Gurpreet Kaur, Bunty Sharma, Navpreet Kaur, Baljinder Kaur, Ganga Ram Chaudhary	Metalloethosomes: as antimicrobial coating for mobile screen guards.	Filed	24.08.20 20	Ref. No. T.I.(2)/TIFA/2020	Indian	P.U.	-
81	Avneet Kaur, Pratibha Sehjpai, Anju, Prof. Praveen Rishi	A synthetic peptide possessing antimicrobial and anticancer properties	Filed	09-04- 2020	202011015631	Indian	P.U.	-

**Patents Granted to the Inventors from Panjab University, Chandigarh
(2004-21)**

S. No.	Inventors	Title	Filed/ Granted/ Published	Year	Application No.	Indian/ International	Applicant	Date of Grant of Patent
1	R.K. Kohli Jatinder Arora Parikshit Bansal	Biotechnological Degradation of Hair And Feathers	Filed	2004-05	Patent Number: 218657 897/DEL/04	Indian	P.U.	Granted 08/04/2008
2	R.K. Kohli Parikshit Bansal	Preparation of Organic Fertilizer from Parthenium Hysterophorus	Filed	2004-05	Patent Number: 218658 896/DEL/04	Indian	P.U.	Granted 08/04/2008d
3	Satish Kumar Taneja	A Modified Poultry Egg As a Dietary Supplement for Diabetics	Filed	2005-06	2264/DEL/2005 Patent No.253740	Indian	P.U.	Granted 22.08.2012
4	Katare O. P, Mangat P.	Non-Staining, Novel Lecithinised Coal Tar Formulation.	Filed	2007-08	No. 1139/DELNP/2007	Indian	P.U.	Granted (No.287380 Dt:14.09.2017)
5	D.K. Dhawan, Anshoo Malhotra, Vijayta Dani Chadha, Avdesh	Development of 99mtc Labeled Albumin/ Cisplatin Radiopharmaceutical for The Early Detection of Cancer (2006)	Filed	2008-09	891/DEL/2008	Indian	P.U.	Granted 306804 Dt: 04.02.2019
6	Shishu	Sustained Release Pharmaceutical Compositions Containing Curcumin And Beta- Cyclodextrin”	Filed	2008-09	353/DEL/2008	Indian	P.U.	Granted 10.2.2015
7	Rohit Sharma, J. Kaur, V.Thakur, S.K. Rana, Nils-Kare Birkeland	Lipase/esterase-catalyzed synthesis of alkyl esters by transesterification	Filed	2009	314953		P.U.	Granted 27.06.2019
8	Manoj Kumar Sharma	Electronics Preferential Voting Machine (EPVM) (Published on 04.10.2013 as per net)	Filed Granted	2010-11	854/DEL/2010 352158 Dt: 25.11.2020	Indian	P.U.	Granted on 25.11.2020

9	Indu Pal Kaur, Cheena Rana, Shilpa Kakkar, Gautam Bakshi	A Method for Preparation of Nanoelastic Vesicular Systems. Patent of addition	Filed	2010-11	320207	Indian	P.U.	Granted 11/09/2019
10	A. Shukla, O. P. Katare, Bhupinder Singh and S.P. Vyas	Surface-modified bile-salt stabilized non-ionic surfactant nano-vesicles for oral delivery of bioactives	Filed	2012	328209	Indian	P.U.	Granted 26/12/2019
11	Indu Pal Kaur, Manoj Kumar Verma.	A Process for Preparing Solid Lipid Sustained Release Nanoparticles for Delivery of Vitamins	Filed	2012-13	PCT/1B2013/0501 69 (09-01-2013)	International	P.U. ; Department of Biotechnology	Granted US Patent No. 9907758b2 Dt: 9.3.2018
12	Indu Pal Kaur, Harinder Singh	Preparation of Solid Lipid Nanoparticles of Rifampicin To Improve Bioavailability And Limiting Drug Interaction With Isoniazid	Filed	2012-13	3356/DEL/2012 01-11-2012	Indian	P.U. ; Department of Biotechnology	Granted 299469 Dt:30.07.2018
13	Prof. Archana Bhatnagar, Dr. Ashish Aggarwal	Diagnostic kit for in vitro diagnosis of rheumatoid arthritis (RA) and method of use thereof.	Filed	2013	329706	Indian	P.U.	Granted 20.01.2020
14	Indu Pal Kaur, Shilpa Kakkar, Anurag Singla	Nanostructured lipidic polymeric pharmaceutical compositions encapsulating drugs.	Filed	2014	336184	Indian		Granted 29/04/2020

Collaborative Patents by the P.U. Inventors
(2004-21)

S. No.	Inventors	Title	Filed/Granted/Published	Year of filing	Patent Application No.	Indian/International	Applicant	Patent Granted
1	Raghuram Rao Akkinapally, Narashima Murthy Javali	Novel Tetrahydroquinolines as Aromatase	Filed	2008-09	41/DEL/2008	Indian	P.U.; Kakatiya University	Not yet
2	Rohit Sharma, J Kaur, VI Thakur, S K Rana, N K Birkeland	Lipase/Esterase-Catalyzed Synthesis of Alkyl Esters By Transesterification.	Filed	2009-10	Indian Patent Application No. 2562/ DEL/2009	Indian	P.U.; Bioage Equipments	-
3	Rohit Sharma, S. Sharma, M. Sharma, E. Khullar, K. Bansal, A. Sharma.	Nitrile Hydrolyzing Microbes for Industrial Use.	Filed	2011-12	Indian Patent Application No. 2883/ DEL/2011	Indian	P.U.; Span Biotec	-
4	Rohit Sharma, S. Sharma, M. Sharma, E. Khullar, K. Bansal, A. Sharma.	Low Cost Culture Medium for Nitrile Hydrolyzing Microbes.	Filed	2011-12	Indian Patent Application No. 2882/ DEL/2011(04-10- 2011)	Indian	P.U.; Span Biotec	-
5	Praveen Rishi, C. Raman, Manu Chaudhary	Rapid Detection of Gram Negative Bacterimia Using Novel Nano Bio- Probe	Filed (Published on 28.06.2013 as per net)	2011-12	3788/DEL/2011	Indian	P.U.; Venus Remedies; IMTECH, Chandigarh	-
6	Prof. Renu Chadha,UIPS (Updated On 28.8.2017)	A New Polymorphic Form of Telmisartan	FILED	2013-14	1269/DEL/2013 30.04.2013	Indian	P.U.; ICMR, New	-
7	Prof. Renu Chadha,UIPS	Ag Novel Hydrochlorothiazide- Nicotinamide Co-Crystal With Improved	FILED	2013-14	2392/DEL/2013 12.08.2013	Indian	P.U.; ICMR, New	-
8	Chhibber S, Chadha P, and Katara OP	Evaluation of Different Delivery Strategies for Therapeutic Applications of Klebsiella Pneumoniae Phages In Burn Wound Model	Filed Published on 15.02.2019 (as per net)	2017-18	201711028816 Dt: 15/09/2017	Indian	P.U.; ICMR, New	-

9	Ashish Jain,HSJ Institute of Dental Sciences ,Dr. Parveen Kalra,PEC	Customised 3-Part Immediate Dental Implant	Filed	2017-18	201711032686 Dt: 15.09.17	Indian	P.U.; PEC University of Technology, Chandigarh	-
10	Prof Indu Pal Kaur,Garima Sharma,UIPS	Probiotic Formulation and Uses Thereof.	Filed Published on 27.09.2019 (as per net)	2017-18	201811010395 Dt: 21/03/2018	Indian	P.U.; M/S Unique Biotec Pvt. Ltd., Hyderabad	-
11	Prof. Seema Kapoor SSBUICET	Fluorine and Zinc Co-Substituted Mesoporous Hydroxyapatite Nanopowder and Method Therof	Filed Published on 06.12.2019 (as per net)	2018-19	201811020514 Dt:31.05.2018	Indian	P.U.; Panjab Engineering College, Chandigarh	-
12	Prof. Praveen Rishi, Dr. Chander Raman Suri, Dr. Priyanka Sabherwal, Dr. Rupinder Tewari, Dr. Harmanjit Kaur	A process for the detection of Salmonellosis and kit detection thereof.	Filed	2018-19	201911001767	Indian	P.U.; CSIR, New Delhi	-