

List of Patents

S. No.	Title of the Patent	Name(s) of Inventor(s)	Patent Number	Status (Published/Granted)	Date of Published/Granted	Description
1	AN ASSEMBLY FOR GUN ATTACHMENT	Dr. Sudhir Arora, Mr. Pranjali Pachpore, Mr. Inderjit Singh	202111021740	Published	21/05/2021	The device integrates geared and non-geared motors for remote-controlled gun operation, enabling angular movement for precise aiming. It features RF-based triggering, laser targeting, infrared, and night vision capabilities, effectively transforming any gun into an automated, remotely operated defense system.
2	FARM ANALYZING ROBOT USING INTERNET OF THINGS	Toran Verma, Hiteshwari Sabrol	340411-001	Published	14/05/2021	The FARM ANALYSING ROBOT USING IoT employs nanosensors for real-time soil and crop monitoring, detecting pH, nutrients, pathogens, and more. It automates biosensing, data management, and remote control, promoting sustainable farming with smart irrigation via nano zeolites.
3	PUNJABI GRAMMAR CHECKING SYSTEM AMELIORATED THROUGH NEURAL	Dr. Misha Mittal, Vikas Verma, Sanjeev Kumar Sharma	202111025664	Published	18/06/2021	This work focuses on the development of an automated syntax analysis system for detecting grammatical errors in text written in the Punjabi language using the Gurmukhi script. The system leverages a

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	NETWORKS					deep learning-based approach to identify and classify syntactic inconsistencies with high accuracy.
4	USE OF NANOTUBES TO TRANSFORM HIGH TEMPERATURE LIQUID CRYSTAL INTO ROOM TEMPERATURE LIQUID CRYSTALS	Samriti Khosla, Nitin Sood	1174/DEL/2015	Granted	21/01/2022	This invention discloses a where application of bias to a liquid crystal helps in controlling phase transition of a commercially available liquid crystal Materials and thereby achieving their high temperature phase at low temperature. This oscillation of phases of material with bias will improve contrast ration of liquid crystal display by achieving complete darkness.
5	RULE-BASED HINDI GRAMMAR CHECKER SYSTEM AND METHOD	Ishan Kumar, Dr. Renu Dhir, Dr. G S Lehal, Dr. Sanjeev Kumar Sharma	202111039728	Published	10/09/2021	This work involves the development of an automated syntactic analysis system designed to detect grammatical errors in Hindi text written in the Devanagari script, using a rule-based approach
6	SOFT COMPUTING BASED SMART AND ADVANCED	Dr. Prableen Kaur, Dr. Manik Sharma	202111054441A	Published	03/12/2021	A smart diagnostic system leveraging soft computing techniques to detect and assess

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	DEPRESSION DIAGNOSTIC SYSTEM AND METHOD					depression levels. The method integrates data-driven models, including fuzzy logic and neural networks, for accurate, non-invasive mental health evaluation and early detection of depressive disorders.
7	DEVELOPMENT OF ENERGY EFFICIENT ROUTING PROTOCOL FOR WIRELESS BODY AREA NETWORK	Naveen Bilandi Suresnder Singh	202211020090	Published	27/05/2022	This patent presents an energy-efficient routing protocol for Wireless Body Area Networks (WBAN), optimizing data transmission between wearable sensors. It enhances network longevity, reduces power consumption, and ensures reliable communication, making it ideal for continuous health monitoring and medical applications.
8	FABRICATION OF ECOFRIENDLY WATER PURIFIER	Samriti Khosla, Nitin Sood	201611034365	Granted	02/09/2022	The invention discloses a product where purification of water is achieved in eco-friendly manner. This method reduces wastage of water while purifying, maintain mineral content and is very economical.
9	VOICE BASED CODING PLATFORM FOR VISUALLY AND PHYSICALLY	Harpreet Singh, Parminder Kaur, Rahul Hans, Harjot Kaur, Sanjeev Kumar Sharma	202211064276A	Published	25/11/2022	The patented invention is a voice-based coding platform designed specifically for individuals who are visually or physically impaired. It enables users to write,

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	IMPAIRED					navigate, and debug code using speech commands, eliminating the need for traditional input devices. The system supports real-time voice recognition, code structuring, and auditory feedback, making programming more accessible and inclusive.
10	ROTARY EVAPORATOR FOR THE CONCENTRATION AND SOLVENT REMOVAL IN THE PREPARATION OF DRUG-LOADED NANOPARTICLES OR LIPOSOMES	Prof. (Dr.) Sudhir Kumar, Prof. (Dr.) Shaweta Sharma, Dr. Akhil Sharma, Avnica	6353002	Granted	24/03/2024	This patented rotary evaporator optimizes solvent removal in drug-loaded nanoparticle or liposome formulations, ensuring precise control of temperature, vacuum, and rotation speed. It enhances efficiency and preserves nanoformulation integrity, making it ideal for pharmaceutical drug delivery applications.
11	MICROFLUIDIZER FOR NANOEMULSIONS AND LIPOSOMES	Prof. (Dr.) Shaweta Sharma, Prof. (Dr.) Sudhir Kumar, Prof. (Dr.) Kalpana Pravin Rahate, Avnica Tyagi, Chetan Vashist, Dr. Akhil Sharma	6353004	Granted	24/03/2024	A microfluidizer uses high shear and pressure to produce nano emulsions and liposomes with uniform particle size, enhancing stability, solubility, and bioavailability. Widely used in pharma, cosmetics, and food, it enables precise control for targeted, efficient delivery systems.
12	FRANZ	Prof. (Dr.) Kalpana	6353005	Granted	04/04/2024	The Franz Diffusion Cell

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	DIFFUSION CELL FOR TAILORED DRUG RELEASE PROFILES	Pravin Rahane, Sudhir Kumar, Prof. (Dr.) Shaweta Sharma, Avnica Tyagi, Chetan Vashist, Dr. Akhil Sharma				simulates drug release through skin or membranes, enabling precise evaluation of transdermal and topical formulations. It provides controlled conditions to study release rates and absorption, aiding in the development of optimized, targeted drug delivery profiles.
13	PLANT HEALTH MONITORING DEVICE	Dr. Ashutosh Sharma, Dr. Yogesh Kumar, Dr. Sonika Sharma, Dr. Indu Sharma	416181-001	Granted	13/06/2024	Design of a device for image based detection of plant diseases.
14	IOT BASED BIOFERTILIZER AND BIOCONTROL DEVICE FOR AGRICULTURE	Dr. Sonika Sharma, Dr. Ashutosh Sharma, Dr. Anu Tonk, Dr. Indu Sharma, S. Mayakannan	415344-001	Granted	13/06/2024	Design of a device for remote operation (based on IOT) by distantly applying bio-fertilizers or bio-control formulations in the field.
15	AUTOMATED PLANT DISEASE TREATING MACHINE	Dr Ashutosh Sharma, Dr. Aditi Sharma, Dr. Shalini Verma, Dr. Sonika Sharma, Dr. Deepika Sharma, Dr. Indu Sharma	416544-001	Granted	24/06/2024	Design of a device for image based detection of plant diseases and on site spray of the fungicide/antibiotic formulations (as per specific recommendations) on site.
16	NANOTECHNOLOGY BASED AUTOMATED SOLAR POWERED WEED AND PEST	Prof. Poonam Panwar, Dr. Rahul Kumar, Dr. Munish Leharwan, Dr. Ashutosh Bhadoria, Dr. Renu	436704-001	Granted	02/01/2025.	A Design patent for nanotechnology-based automated solar-powered weed and pest control robot integrates advanced nanomaterials and renewable

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	CONTROL ROBOT.	Devi, Dr. Poonam Godara, Dr. Rupesh Sharma, Dr. Raman Sharma, Girisha Singmar, L.P. Rana				energy to efficiently manage crops. By using precision-targeted nanosensors, it will facilitate to build a prototype and robot which detects and eliminates weeds and pests autonomously, reducing the need for harmful chemicals and promoting sustainable agriculture with minimal environmental impact.
17	SMART LEAF AREA MEASURING APPARATUS USING AI TECHNOLOGY.	Dr. Arti Jamwal Sharma, Dr. Rahul Kumar, Dr. Nisha Sharma, Dr. Nitesh Kumar, Dr. Shreekar Pant, Dr. Neeru Kaushal, Dr. Navneeti Chamoli	6410114	Granted	19/12/2024.	An international design patent which can facilitate to develop a Smart Leaf Area Measuring Apparatus uses AI technology to analyze and measure plant leaf area accurately. Through advanced image processing and machine learning algorithms, it captures high-resolution images, identifies leaf contours, and calculates surface area, providing precise data for agricultural research, crop monitoring, and optimizing plant growth conditions.
18	FORMULATION OF ECO-FRIENDLY BIOPLASTIC FROM PUMPKIN	Pranjal Sharma, Dr. Priyanka Sharma, Dr. Arti Jamwal Sharma, Dr. Rahul Kumar, Dr. Richa Thakur, Dr.	202511000890A	Granted	17/01/2025.	A utility patent published for the formulation of eco-friendly bioplastic from pumpkin byproducts which involves extracting starch and cellulose

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	BYPRODUCTS	Navneeti Chamoli, Dr. Manisha Parmar, Ms. Ratnesh Kumari Rathore, Ms. Monika Rathore, Ms Ankita				from pumpkin waste, which is then processed into biodegradable plastic. This sustainable material reduces reliance on petroleum-based plastics, offering a greener alternative for packaging, while minimizing environmental impact and utilizing agricultural waste efficiently.