पेटेंट कार्यालय
शासकीय जर्नल

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पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

(PROF. (DR) UNNAT P. PANDIT)
CONTROLLER GENERAL OF PATENTS, DESIGNS & TRADE MARKS

30th May, 2025

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(54) Title of the invention : WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY

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Filing Date :NA

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Name of Applicant : NA
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(72)**Name of Inventor :**
1)Naveen Kumar I
Address of Applicant :S/o. Mr. Inbaraj A, Assistant Professor, R. L. Jalappa College of Physiotherapy, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India. Kolar ---------- ----------
2)Likhit M
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(57) Abstract :
ABSTRACT WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY A wearable, self-contained device is disclosed for accurately measuring joint range of motion (ROM) in real-time. The device integrates motion tracking sensors, including gyroscopes and accelerometers, to detect multi-axis joint movements such as flexion, extension, abduction, adduction, and rotation. An embedded display provides immediate numerical and graphical feedback on ROM, eliminating the need for external devices or software. Designed with modular, adjustable straps, the device can be securely attached to various joints including the knee, elbow, shoulder, and wrist. The invention is suitable for clinical rehabilitation, athletic training, and personal use, offering an intuitive, portable solution for tracking joint mobility and recovery progress.

No. of Pages : 16 No. of Claims : 8

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Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

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GEOGRAPHICAL INDICATIONS

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Application Details	
APPLICATION NUMBER	202541044049
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	06/05/2025
APPLICANT NAME	**Sri Devaraj Urs Academy of Higher Education and Research**
TITLE OF INVENTION	WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY
FIELD OF INVENTION	BIO-MEDICAL ENGINEERING
E-MAIL (As Per Record)	biopatents@allinnov.org
ADDITIONAL-EMAIL (As Per Record)	allinnovrnd@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	30/05/2025

FORM 1 THE PATENTS ACT, 1970 (39 of 1970) & THE PATENTS RULES, 2003 APPLICATION FOR GRANT OF PATENT [See sections 7,54 & 135 and rule 20(1)]	(FOR OFFICE USE ONLY) Application No.: ..... Filing Date: ..... Amount of Fee Paid: ..... CBR No.: ..... Signature: .....

1. APPLICANT(S):

Sr.No.	Name	Nationality	Address	Country	State	Distict	City
1	Sri Devaraj Urs Academy of Higher Education and Research	India	Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.	India	Karnataka	Kolar	Kolar

2. INVENTOR(S):

Sr.No.	Name	Nationality	Address	Country	State	Distict	City
1	Naveen Kumar I	India	S/o. Mr. Inbaraj A, Assistant Professor, R. L. Jalappa College of Physiotherapy, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.	India	Karnataka	Kolar	Kolar
2	Likhit M	India	S/o. Mr. Manjunath M, Lecturer, R. L. Jalappa College of Physiotherapy, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.	India	Karnataka	Kolar	Kolar

3. TITLE OF THE INVENTION: WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY

4. ADDRESS FOR CORRESPONDENCE OF APPLICANT / AUTHORISED PATENT AGENT IN INDIA:

Allinnov Research and Development Private Limited, #360A, First Floor, Building 1, Senthur Murugan Kovil Street, Opp. SM Mahal, Oldpet, Krishnagiri - 635001, Tamil Nadu, India.

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Fax No.:
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E-mail: biopatents@allinnov.org

5. PRIORITY PARTICULARS OF THE APPLICATION(S) FILED IN CONVENTION COUNTRY:

Sr.No.	Country	Application Number	Filing Date	Name of the Applicant	Tilte of the Invention

6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION:

International Application Number	International Filing Date as Allotted by the Receiving Office
PCT//	

7. PARTICULARS FOR FILING DIVISIONAL APPLICATION

Original (first) Application Number	Date of Filing of Original (first) Application

8. PARTICULARS FOR FILING PATENT OF ADDITION:

Main Application / Patent Number:	Date of Filing of Main Application

9. DECLARATIONS:

(i) Declaration by the inventor(s)

I/We ,Naveen Kumar I,Likhit M, is/are the true & first inventor(s) for this invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date: -----

(b) Signature(s) of the inventor(s): .....

(c) Name(s): Naveen Kumar I,Likhit M

(ii) Declaration by the applicant(s) in the convention country

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date: -----

(b) Signature(s) : .....

(c) Name(s) of the singnatory: Sri Devaraj Urs Academy of Higher Education and Research

(iii) Declaration by the applicant(s)

- **The Complete specification relating to the invention is filed with this application.**
- **I am/We are, in the possession of the above mentioned invention.**
- **There is no lawful ground of objection to the grant of the Patent to me/us.**
- **I am/We are, the assignee or legal representative to true first inventors.**

10. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION:

Sr.	Document Description	FileName

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters stated hering are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this(Final Payment Date): ----------

Signature: .....

Name: Madhu Smita

To The Controller of Patents

The Patent office at CHENNAI

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FORM 2

THE PATENTS ACT, 1970

(39 of 1970)

&

The Patent Rules, 2003

COMPLETE SPECIFICATION

(See sections 100 & rule 103)

1. TITLE OF THE INVENTION

WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY

2. APPLICANTS (S)

NAME(S)	NATIONALITY	ADDRESS
Sri Devaraj Urs Academy of Higher Education and Research	Indian	Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.

3. PREAMBLE TO THE DESCRIPTION

COMPLETE SPECIFICATION

The following description particularly describes the invention and the method in which it has to be performed.

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WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY

TECHNICAL FIELD

[0001]. The invention relates to the field of medical devices and rehabilitation technologies and specifically to a wearable device for real-time joint range of motion measurement using integrated sensors and display.

BACKGROUND

[0002]. Range of motion (ROM) refers to the extent of movement a joint can achieve in various directions, including flexion, extension, abduction, adduction, and rotation. Accurate measurement of ROM is essential in physical therapy, sports medicine, orthopedics, and rehabilitation. It enables clinicians to assess joint function, monitor progress during recovery, evaluate treatment efficacy, and tailor exercise regimens for performance optimization or injury prevention. Traditional tools for measuring ROM, such as goniometers and inclinometers, have been widely used for decades. However, these manual instruments are often limited in accuracy, subject to human error, and require trained personnel to operate effectively. Moreover, they are not designed for continuous or dynamic assessment and typically offer no capability for real-time feedback, data storage, or digital visualization.

[0003]. Recent advances have introduced digital and sensor-based alternatives, including motion capture systems and mobile applications utilizing inertial measurement units (IMUs). While these systems improve upon traditional methods by offering more precise and dynamic tracking capabilities, they often come with their own set of limitations. These include complex setup requirements, dependence on external devices such as smartphones or computers, and high costs that make them inaccessible for routine clinical or home use. Many of these solutions also lack portability and adaptability across different joints, limiting their effectiveness for whole-body assessment.

[0004]. As healthcare and rehabilitation move toward more decentralized, patient-centered approaches, there is a growing demand for solutions that allow individuals to measure and monitor their joint mobility independently and accurately, whether at home, in clinics, or in sports environments. Therefore, there exists a clear need for a compact, user-friendly, and self-contained device that provides real-time ROM measurements, digital feedback, and multi-joint adaptability without relying on external hardware or software. The present invention addresses these challenges by offering a wearable solution that integrates motion tracking sensors and an embedded display into a single, standalone system designed for versatility, ease of use, and broad applicability across medical and athletic domains.

SUMMARY

[0005]. In one aspect of the present disclosure, a portable device for measuring joint range of motion (ROM), comprising a set of integrated motion tracking sensors including at least one gyroscope and at least one accelerometer, configured to detect joint movement in multiple axes an embedded digital display configured to present real-time ROM data and a modular attachment mechanism configured to secure the device to various body joints.

[0006]. In some aspects of the present disclosure, the motion tracking sensors are configured to detect at least flexion, extension, abduction, adduction, and rotational movements.

[0007]. In some aspects of the present disclosure, the embedded display is configured to provide both numerical and graphical representations of ROM measurements.

[0008]. In some aspects of the present disclosure, the modular attachment mechanism comprises adjustable straps or bands designed to accommodate joints of varying sizes, including but not limited to knees, elbows, shoulders, and wrists.

[0009]. In some aspects of the present disclosure, the device is configured to function as a standalone system, operable without any external computing device or software.

[0010]. In some aspects of the present disclosure, the ROM data is updated and displayed in real-time during movement. The embedded system includes

an interface allowing the user to navigate between ROM parameters and historical data.

[0011]. In some aspects of the present disclosure, the motion tracking sensors are calibrated to filter out noise and account for individual anatomical variability.

[0012]. In some aspects of the present disclosure, the device is further configured to store ROM data for later review and progress tracking.

BRIEF DESCRIPTION OF DRAWINGS

[0013]. The above and still further features and advantages of aspects of the present disclosure become apparent upon consideration of the following detailed description of aspects thereof, especially when taken in conjunction with the accompanying drawings, and wherein:

[0014]. Figure 1 is a diagram of the device, in accordance with an aspect of the present disclosure;

DETAILED DESCRIPTION

[0015]. The following description provides specific details of certain aspects of the disclosure illustrated in the drawings to provide a thorough understanding of those aspects. It should be recognized, however, that the present disclosure can be reflected in additional aspects and the disclosure may be practiced without some of the details in the following description.

[0016]. The various aspects including the example aspects are now described more fully with reference to the accompanying drawings, in which the various aspects of the disclosure are shown. The disclosure may, however, be embodied in different forms and should not be construed as limited to the aspects set forth herein. Rather, these aspects are provided so that this disclosure is thorough and complete, and fully conveys the scope of the disclosure to those skilled in the art. In the drawings, the sizes of components may be exaggerated for clarity.

[0017]. It is understood that when an element or layer is referred to as being "on," "connected to," or "coupled to" another element or layer, it can be directly on, connected to, or coupled to the other element or layer or intervening elements or layers that may be present. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

[0018]. The subject matter of example aspects, as disclosed herein, is described with specificity to meet statutory requirements. However, the description itself is not intended to limit the scope of this patent. Rather, the inventor/inventors have contemplated that the claimed subject matter might also be embodied in other ways, to include different features or combinations of features similar to the ones described in this document, in conjunction with other technologies.

[0019]. A wearable, self-contained device is disclosed for accurately measuring joint range of motion (ROM) in real-time. The device integrates motion tracking sensors, including gyroscopes and accelerometers, to detect multi-axis joint movements such as flexion, extension, abduction, adduction, and rotation. An embedded display provides immediate numerical and graphical feedback on ROM, eliminating the need for external devices or software. Designed with modular, adjustable straps, the device can be securely attached to various joints including the knee, elbow, shoulder, and wrist. The invention is suitable for clinical rehabilitation, athletic training, and personal use, offering an intuitive, portable solution for tracking joint mobility and recovery progress.

[0020]. Range of motion (ROM) assessment is a fundamental component in fields such as physical therapy, sports science, orthopedics, and rehabilitation. It involves the measurement of the degree to which a joint can move in various directions. Accurate assessment of ROM is critical for diagnosing musculoskeletal conditions, tracking recovery progress, evaluating treatment effectiveness, and optimizing athletic performance.

[0021]. Conventional methods for measuring joint ROM commonly include manual tools such as goniometers and inclinometers. These tools, while widely used, require skilled practitioners to operate, are prone to human error, and often lack the ability to provide real-time or digital feedback.

Furthermore, they do not support continuous tracking of joint motion or data storage, limiting their utility in dynamic assessments or long-term monitoring.

[0022]. With the growing demand for remote rehabilitation, home-based therapy, and objective performance metrics in sports and medicine, there is a need for compact, accurate, and user-friendly devices capable of real-time ROM measurement. Existing digital solutions often rely on external sensors or mobile applications, increasing system complexity and reducing portability.

[0023]. The present invention discloses a standalone, wearable device configured to measure the range of motion (ROM) of human joints with high accuracy and efficiency. The device integrates motion sensors, computational hardware, and a real-time display into a compact and ergonomically designed form factor that can be comfortably secured around various joints. By combining inertial measurement technology with an intuitive user interface and adaptable mechanical structure, the device serves as a comprehensive solution for clinical, athletic, and personal use scenarios.

[0024]. At its core, the device incorporates a set of inertial sensors, typically consisting of gyroscopes and accelerometers, configured to monitor angular displacement and linear acceleration across multiple axes. These sensors can capture three-dimensional joint movement, including complex rotational patterns that are often difficult to track with conventional tools. The device may optionally include magnetometers to further enhance spatial orientation accuracy and correct for drift over prolonged usage. All sensor data is routed

through an onboard microcontroller or microprocessor, which executes real-time signal processing algorithms to calculate the joint's ROM in degrees.

[0025]. The internal software includes a sensor fusion engine that merges raw data from the gyroscope, accelerometer, and optional magnetometer to produce clean and stable motion readings. Noise reduction filters, drift correction techniques, and motion segmentation algorithms are applied to isolate meaningful joint movements and ignore involuntary tremors or minor positional shifts. The firmware also allows for baseline calibration at the start of each use, ensuring consistency across sessions and users.

[0026]. An integrated digital display, such as an LCD or OLED screen, is mounted on the outer casing of the device and serves as the primary user interface. This screen provides real-time ROM readings as the joint moves and can show both numeric values and dynamic graphical representations of movement patterns. In certain configurations, the device may include touch-sensitive input, buttons, or gesture-based controls to navigate between measurement modes, review stored sessions, or configure device settings such as joint type, measurement thresholds, and language preferences.

[0027]. The physical structure of the device includes a modular housing system and adjustable attachment components. Elastic or Velcro-based straps, reinforced with anti-slip inner linings, allow for firm placement of the device on joints of various sizes. Customizable mounting brackets may be included for joints with more complex geometries, such as the shoulder. The sensor

module is positioned in a fixed relation to key anatomical landmarks to maintain measurement accuracy and consistency across different joints and users. The lightweight construction and breathable materials ensure the device remains comfortable even during extended use or high-motion activities.

[0028]. The device is powered by an internal rechargeable battery, optimized for low power consumption. Smart energy management protocols allow the device to enter sleep mode when not in use and wake automatically upon detection of motion. The battery may be charged via a USB-C port or through wireless charging pads, providing convenience and flexibility for users in various environments. Battery level, device status, and charging indicators may also be displayed on-screen.

[0029]. In its basic configuration, the device functions entirely independently, without requiring connection to a smartphone, tablet, or external computer. All processing and display functionalities are self-contained. However, in advanced variants, the device may include Bluetooth or Wi-Fi modules that allow data synchronization with external devices or cloud-based platforms. This enables remote monitoring by healthcare professionals, data backup, or integration into electronic health record (EHR) systems. Companion applications, if implemented, may provide additional analytical tools, progress visualization, or telehealth communication features.

[0030]. The device can be used across a range of applications. In clinical rehabilitation, it allows therapists to quantify improvements in joint mobility

objectively and track a patient's progress throughout the recovery period. In athletic training, it provides real-time feedback on flexibility and symmetry between limbs, helping prevent injuries and optimize performance. For home-based users, the device enables self-assessment and adherence to prescribed rehabilitation protocols without needing constant supervision.

[0031]. Additional features may include customizable ROM target ranges, where the device alerts the user—visually, audibly, or through haptic feedback—once a specified ROM goal has been reached. These targets can be pre-set by a therapist or selected from standard joint mobility benchmarks. The system may also include the ability to track time-under-tension or speed of motion, offering further biomechanical insights.

[0032]. The device may be manufactured in different sizes or with detachable modules to cater to pediatric, adult, or geriatric populations. Its ruggedized variants could be developed for use in outdoor sports or military applications, where durability and weather resistance are essential.

[0033]. Altogether, the invention represents a significant advancement in ROM measurement technology. By providing an accurate, user-friendly, and fully autonomous solution, it bridges the gap between traditional manual tools and complex motion capture systems. It democratizes access to quantitative joint movement assessment, supporting improved outcomes in healthcare, sports, and personal wellness domains.

[0034]. The present invention provides a novel, compact, and efficient solution for accurately measuring joint range of motion through an integrated, wearable device. By combining advanced motion sensors, an embedded processing unit, and a real-time digital display into a single, self-contained system, the device eliminates the need for external hardware or software and significantly simplifies the ROM assessment process. Its ergonomic, modular design ensures compatibility with a wide range of joints and user types, while its portability and standalone operation make it suitable for clinical, athletic, and home-based applications.

[0035]. This invention addresses the limitations of traditional manual tools and complex motion capture systems by offering a versatile and accessible alternative for dynamic and static joint monitoring. The ability to visualize ROM data in real time, track progress over time, and operate independently greatly enhances its utility for healthcare providers, sports professionals, and individual users alike.

[0036]. Accordingly, the device represents a significant advancement in rehabilitation and mobility assessment technology, supporting improved patient care, injury prevention, and performance optimization across various domains.

DIGITALLY SIGNED#####
MADHU SMITA (IN/PA-3454) and
PREM CHARLES I (IN/PA – 3311)
Registered Patent Agents on behalf of the Applicant(s)

Claims:

I/We Claim:

1. A portable device for measuring joint range of motion (ROM), comprising:

   a) a set of integrated motion tracking sensors including at least one gyroscope and at least one accelerometer, configured to detect joint movement in multiple axes;

   b) an embedded digital display configured to present real-time ROM data; and

   c) a modular attachment mechanism configured to secure the device to various body joints.

2. The device as claimed in claim 1, wherein the motion tracking sensors are configured to detect at least flexion, extension, abduction, adduction, and rotational movements.

3. The device as claimed in claim 1, wherein the embedded display is configured to provide both numerical and graphical representations of ROM measurements.

4. The device as claimed in claim 1, wherein the modular attachment mechanism comprises adjustable straps or bands designed to accommodate joints of varying sizes, including but not limited to knees, elbows, shoulders, and wrists.

5. The device as claimed in claim 1, wherein the device is configured to function as a standalone system, operable without any external computing device or software.
6. The device as claimed in claim 1, wherein the ROM data is updated and displayed in real-time during movement. The embedded system includes an interface allowing the user to navigate between ROM parameters and historical data.
7. The device as claimed in claim 1, wherein the motion tracking sensors are calibrated to filter out noise and account for individual anatomical variability.
8. The device as claimed in claim 1, wherein the device is further configured to store ROM data for later review and progress tracking.

Dated this May 06, 2025

DIGITALLY SIGNED#####
MADHU SMITA (IN/PA-3454) and
PREM CHARLES I (IN/PA – 3311)
Registered Patent Agents on behalf of the Applicant(s)

ABSTRACT

WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY

A wearable, self-contained device is disclosed for accurately measuring joint range of motion (ROM) in real-time. The device integrates motion tracking sensors, including gyroscopes and accelerometers, to detect multi-axis joint movements such as flexion, extension, abduction, adduction, and rotation. An embedded display provides immediate numerical and graphical feedback on ROM, eliminating the need for external devices or software. Designed with modular, adjustable straps, the device can be securely attached to various joints including the knee, elbow, shoulder, and wrist. The invention is suitable for clinical rehabilitation, athletic training, and personal use, offering an intuitive, portable solution for tracking joint mobility and recovery progress.

DIGITALLY SIGNED#####
MADHU SMITA (IN/PA-3454) and
PREM CHARLES I (IN/PA – 3311)
Registered Patent Agents on behalf of the Applicant(s)

Applicant(s): Sri Devaraj Urs Academy of Higher Education and Research.

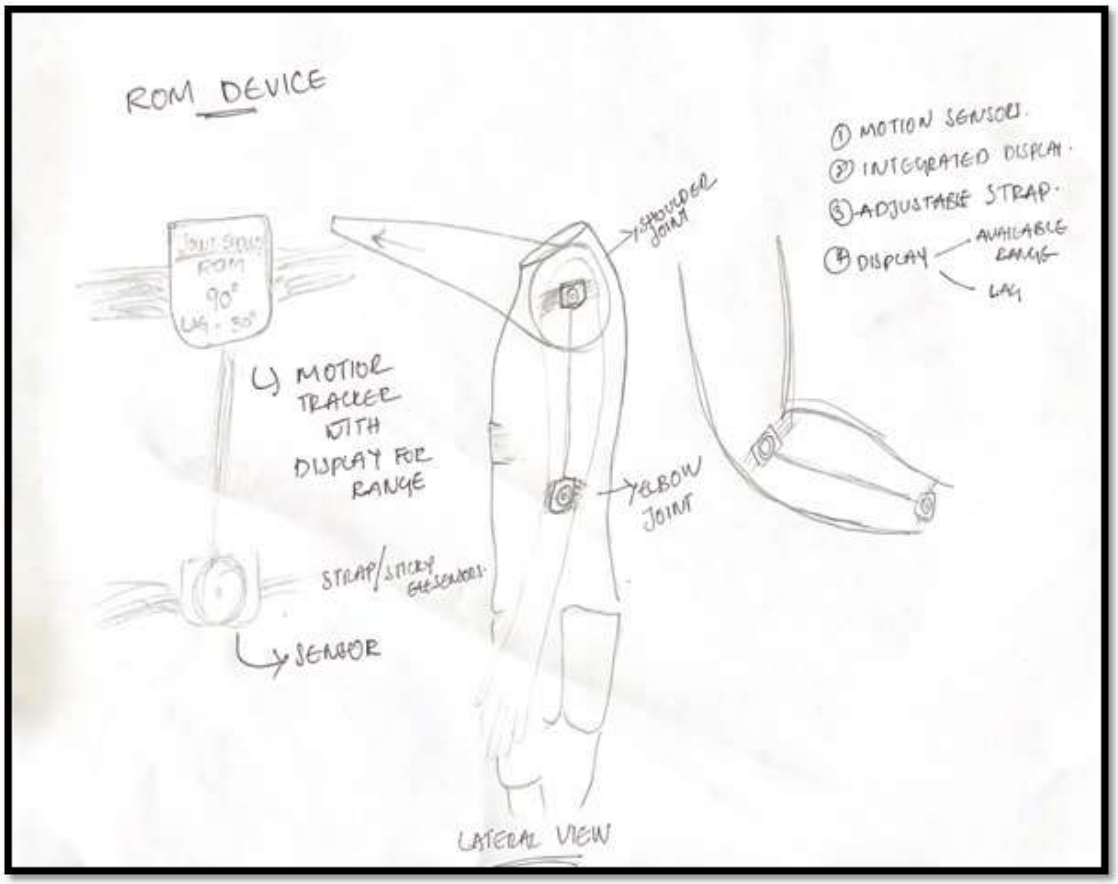

Figure 1

DIGITALLY SIGNED#####
MADHU SMITA (IN/PA-3454) and
PREM CHARLES I (IN/PA – 3311)
Registered Patent Agents on behalf of the Applicant(s)

FORM 3

THE PATENT ACT, 1970
(39 of 1970)
AND
THE PATENTS RULES, 2003
STATEMENT AND UNDERTAKING UNDER SECTION 8
[(See section 8; Rule 12)]

1. Name of the applicant(s).	I/We **Sri Devaraj Urs Academy of Higher Education and Research, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.,** Applicant Type **- EI** , hereby declare:
2. Name, address and nationality of the joint applicant.	(i) that I/We who have made the application for patent number **202541044049** in India, dated **06/05/2025 21:08:32**., alone / jointly with ....., (ii) that I/We have not made any application for the same/substantially the same invention outside India Or (iii) that I/We have made for the same/ substantially same invention, application(s) for patent in the other countries, the particulars of which are given below:

Name of the country	Date of application	Application No.	Status of the application	Date of publication	Date of disposal
NA	NA	NA	NA	NA	NA

3. Name and address of the assignee	(i) that the rights in the application(s) filed in India has/have been assigned to **None.Rights remained with the Applicant.**. (ii) that I/We undertake that upto the date of grant of the patent by the Controller, I/We would keep him informed in writing regarding the details of corresponding applications for patents filed outside India in accordance with the provisions contained in section 8 and rule 12. Dated this **6th** day of **May 2025**
4. To be signed by the applicant or his authorized registered patent agent.	Signature(s) .....
5. Name of the natural person who has signed.	.....
	To The Controller of Patents, The Patent Office, at **New Delhi**
Note: ” Strike out whichever is not applicable; ”	

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FORM 5

THE PATENT ACT, 1970
(39 of 1970)
&
THE PATENTS RULES, 2003

DECLARATION AS TO INVENTORSHIP

[See section 10(6) and rule 13(6)]

1. NAME OF APPLICANT(S) **Sri Devaraj Urs Academy of Higher Education and Research**,

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of my/our application numbered **202541044049** dated **06/05/2025** is/are

2. INVENTOR(S)

Name	Country	Nationality	Address
Naveen Kumar I	India	India	S/o. Mr. Inbaraj A, Assistant Professor, R. L. Jalappa College of Physiotherapy, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.
Likhit M	India	India	S/o. Mr. Manjunath M, Lecturer, R. L. Jalappa College of Physiotherapy, Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.

Dated this. **06/05/2025**Day of **2025**

Signature

Name of the signatory

3. DECLATRATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY:--

We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).

Dated this. **06/05/2025**.Day of **2025**

Signature

Name of the signatory

4. STATEMENT (to be signed by the additional inventor(s) not mentioned in the application form)

I/We assent to the invention referred to in the above declaration, being included in the complete specification filed in pursuance of the stated application.

Dated this(Final Payment Date):----------

Signature

Name of the signatory

This form is electronically generated.

UNIVESRITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110002

विश्वविद्यालय अनुदान आयोग
बहादुर शाह जफर मार्ग
नई दिल्ली – 110 002

No.F.6-24/2006 (CPP-I) June, 2007

20 JUN 2007

NOTIFICATION

In exercise of the powers conferred by Section 3 of the University Grants Commission Act, 1956, the Central Government on the recommendation of the Commission has declared Sri Devraj Urs Academy of Higher Education and Research, Tamaka, Kolar, Karnataka, comprising Sri Devraj Urs Medical College, Tamaka, Kolar, Karnataka, as a 'Deemed to be University' for the purpose of the aforesaid Act, from the date of disaffiliation of 'Sri Devraj Urs Medical College', Tamaka, Kolar, Karnataka, from Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka.

2. This declaration is subject to the conditions mentioned at S.No.2 of the endorsement of this notification.

3. The Ministry of Human Resource Development or the University Grants Commission will not provide any Plan and Non-Plan grants to Sri Devraj Urs Academy of Higher Education and Research or any of its constituent institutions.

(Urmil Gulati)
Under Secretary

Copy forwarded to :-

1. The Vice-Chancellor, Rajiv Gandhi University of Health Sciences, 4th 'T' Block, Jayanagar, Banaglore-560 041, Karnataka

2. Chairman, Sri Devraj Urs Academy of Higher Education and Research, Tamaka, Kolar-536101, Karnataka. The declaration made in para 1 of this notification relating to conferment of status of deemed-to-be-university will be subject to the following conditions:-

(a) The 'Deemed-to-be-University' shall finalise its Memorandum of Association (MoA) and Rules immediately in conformity with the University Grants Commission's Model MoA and Rules for the Deemed to be Universities and get it approved by the UGC.

(b) The management of Sri Devraj Urs Medical College, Tamaka should legally vest with Sri Devraj Urs Academy of Higher Education and Research.

(c) The moveable as well as immovable assets, including that of Sri Devraj Urs Medical College should be legally transferred in the name of the Trust formed for management of the deemed-to-be-university institution through a valid deed registered under the Indian Registration Act, in the interest of future of students, members of faculty, employees and for maintaining the standards of higher education.

(d) The deemed-to-be-university institution or its constituent unit shall not offer any course/programme that has not been approved by the Ministry of Health and Family Welfare or other relevant Ministries and/or the relevant Statutory Councils such as Medical Council of India, etc.

(e) The deemed-to-be-university institution or its constituent unit shall not offer/award, as the case may be, any degrees that are not specified by the UGC. The deemed-to-be-university institution will continue to ensure that the nomenclature of the degrees awarded by it are specified by the UGC under Section 22 of the UGC Act,1956.

(f) The deemed-to-be-university institution shall award degrees to only those students who are admitted/enrolled with it or its constituent unit subsequent to the date of this notification.

(g) As for those students who are already enrolled with the Institution concerned prior to the date of this notification, they shall continue to be enrolled with the present affiliation university, namely, Rajiv Gandhi University of Health Sciences, Bangalore, which shall have to agree to examine and grant degrees to them on successful completion of the courses/ programmes they are pursuing at present in the teaching institutions of the deemed-to-be-university institution.

(h) The deemed-to-be-university institution shall regularly obtain the requisite 'renewal' of approval / permission of Ministry of Health and Family Welfare and other relevant Statutory Councils, as the case may be, well within the prescribed time limit, in respect of the courses offered, intake capacity of students, etc.

(i) The deemed-to-be-university institution and its constituent unit shall start/offer, as the case may be, the courses/programmes in accordance with the relevant prescribed norms and guidelines of the UGC and the relevant statutory professional regulatory Councils, such as Medical Council of India (MCI), Indian Nursing Council (INC), Dental Council of India (DCI), AICTE, etc.

(j) The 'Deemed-to-be-University' as well as its constituent institutions shall strictly abide by all the norms and guidelines as laid down by the UGC and other Statutory Councils such as Medical Council of India, etc. from time to time, as are applicable to institutions notified as 'Deemed-to-be-Universities.

The Secretary, Government of India, Ministry of Human Resource Development, Department of Secondary & Higher Education, Shastri Bhawan, New Delhi-110 001

4. The Principal Secretary (Higher Education), Education Department, Government of Karnataka, M.S.Building, 5th Floor, Bangalore-560 001

5. PS to Chairman, UGC, New Delhi

6. The Joint Secretary (NET) UGC, New Delhi

7. The Joint Secretary (DU), UGC, New Delhi

8. Secretary General, Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110 002

9. Member Secretary, AICTE, IG Sports Complex, I.P.Estate, New Delhi-110 002

10. All Regional Offices of UGC

11. Senior Statistical Officer, UGC, 35, Ferozeshah Road, New Delhi

12. All Sections in the UGC Office

13. Guard File

(Urmil Gulati)
Under Secretary

(TO BE PUBLISHED IN THE GAZETTE OF INDIA PART-I, SECTION-1)

(1)

No.F.9-36/2006-U.3(A)
Government of India
Ministry of Human Resource Development
Department of Higher Education

Shastri Bhawan, New Delhi,
Dated the 25th May, 2007.

NOTIFICATION

In exercise of the powers conferred by Section 3 of the University Grants Commission (UGC) Act, 1956, the Central Government, on the advice of the University Grants Commission, hereby declare Sri Devaraj Urs Academy of Higher Education and Research, Tamaka, Kolar, Karnataka, comprising Sri Devaraj Urs Medical College, Tamaka, Kolar, Karnataka, as a 'Deemed-to-be-University' for the purposes of the aforesaid Act, from the date of disaffiliation of 'Sri Devaraj Urs Medical College', Tamaka, Kolar, Karnataka, from Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka.

2. This declaration is subject to the conditions mentioned at Sl. No. 5 of the endorsement of this notification.

3. Government of India or the University Grants Commission will not provide any Plan or Non Plan grants to Sri Devaraj Urs Academy of Higher Education and Research or any of its constituent institutions.

(Sunil Kumar)
Joint Secretary to the Government of India

The Manager,
Government of India Press,
Faridabad (Haryana).

Copy to: -

1. The Secretary, University Grants Commission, Bahadurshah Zafar Marg, New Delhi -110002.

2. The Secretary, Medical Council of India, Pocket - 14, Sector - 8, Dwarka Phase-I, New Delhi - 110075.

3. Vice Chancellor, Rajiv Gandhi University of Health Sciences, 4th 'T' Block, Jayanagar, Bangalore - 560041, Karnataka.

4. Under Secretary(ME-P.II), Ministry of Health and Family Welfare (Department of Health & Family Welfare), Nirman Bhavan, New Delhi - 110001.

5. Chairman, Sri Devaraj Urs Academy of Higher Education & Research, Tamaka, Kolar - 536101, Karnataka. The declaration made in para 1 of this notification relating to conferment of status of deemed-to-be-university will be subject to the following conditions:-

(a) The 'Deemed-to-be-University' shall finalise its Memorandum of Association (MoA) and Rules immediately in conformity with the University Grants Commission's Model MoA and Rules for the Deemed to be Universities and get it approved by the UGC.

(b) The management of Sri Devaraj Urs Medical College, Tamaka should legally vest with Sri Devaraj Urs Academy of Higher Education & Research.

(c) The movable as well as immovable assets, including that of Sri Devaraj Urs Medical College should be legally transferred in the name of the Trust formed for management of the deemed-to-be-university institution through a valid deed registered under the Indian Registration Act, in the interest of future of students, members of faculty, employees and for maintaining the standards of higher education.

(d) The deemed-to-be-university institution or its constituent unit shall not offer any course/programme that has not been approved by the Ministry of Health and Family Welfare or other relevant Ministries and/or the relevant Statutory Councils such as Medical Council of India, etc.

(e) The deemed-to-be-university institution or its constituent unit shall not offer/award, as the case may be, any degrees that are not specified by the UGC. The deemed-to-be-university institution will continue to ensure that the nomenclature of the degrees awarded by it are specified by the UGC under Section 22 of the UGC Act, 1956.

25/5

(f) The deemed-to-be-university institution shall award degrees to only those students who are admitted/enrolled with it or its constituent unit subsequent to the date of this notification.

(g) As for those students who are already enrolled with the Institution concerned prior to the date of this notification, they shall continue to be enrolled with the present affiliating university, namely, Rajiv Gandhi University of Health Sciences, Bangalore, which shall have to agree to examine and grant degrees to them on successful completion of the courses / programmes they are pursuing at present in the teaching Institutions of the deemed-to-be-university institution.

(h) The deemed-to-be-university institution shall regularly obtain the requisite 'renewal' of approval / permission of Ministry of Health and Family Welfare and other relevant Statutory Councils, as the case may be, well within the prescribed time limit, in respect of the courses offered, intake capacity of students, etc.

(i) The deemed-to-be-university institution and its constituent unit shall start/offer, as the case may be, the courses/programmes in accordance with the relevant prescribed norms and guidelines of the UGC and the relevant statutory professional regulatory Councils, such as Medical Council of India(MCI), Indian Nursing Council(INC), Dental Council of India(DCI), AICTE, etc.

(j) The 'Deemed-to-be-University' as well as all its constituent institutions shall strictly abide by all the norms and guidelines as laid down by the UGC and other Statutory Councils such as Medical Council of India, etc. from time to time, as are applicable to institutions notified as 'Deemed-to-be-Universities'.

6. Press Information Bureau, Shastri Bhawan, New Delhi-110001.

7. The Secretary-General, Association of Indian Universities, A.I.U. House, 16, Kotla Marg, New Delhi - 110002.

8. Director(Administration) & Web Master, Department of Higher Education, Shastri Bhavan, New Delhi. It is requested that suitable instructions may be issued to CMIS to upload this notification on the website (Home site) of the Department.

9. Guard file / Notification file.

Madhukar Sinha
29.05.13
(Madhukar Sinha)
Director

FORM 28
THE PATENT ACT, 1970
(39 OF 1970)
&
The Patents Rules, 2003
TO BE SUBMITTED BY SMALL ENTITY /STARTUP/EDUCATIONAL INSTITUTION
[See rules 2 (fa), 2(fb), 2(ca) and 7]

We, **SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH,** an **INDIAN EDUCATIONAL INSTITUTION** recognised by **UNIVERSITY GRANTS COMMISSION,** the applicant in respect of the patent application no **2025410**_____ hereby declare that we are an educational institution in accordance with rule 2(ca) and submit the following document(s) as proof:

i) Notification of May 25th, 2007 issued by UGC and MHRD.

The information provided herein is correct to the best of our knowledge and belief.

Dated this 6th Day of May, 2025

SIGNATURE:

DIGITALLY SIGNED#####
MADHU SMITA (IN/PA-3454) and
PREM CHARLES I (IN/PA – 3311)
Registered Patent Agents on behalf of the Applicant(s)

To,

The Controller of Patents,

The Patent Office, at Chennai

FORM 9

THE PATENT ACT, 1970
(39 of 1970)
&
THE PATENTS RULES, 2003

REQUEST FOR PUBLICATION

[See section 11A (2) rule 24A]

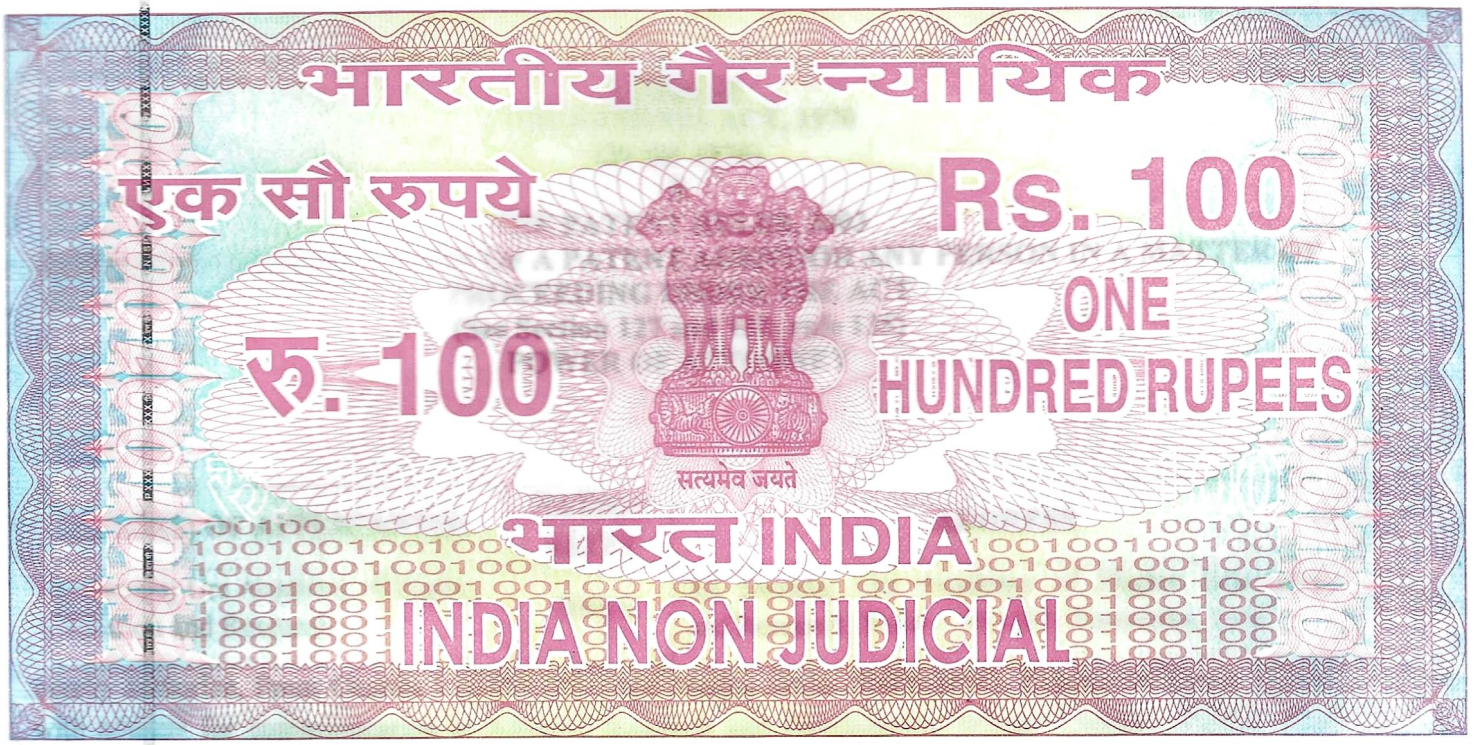
I/We **Sri Devaraj Urs Academy of Higher Education and Research** hereby request for early publication of my/our [Patent Application No.] TEMP/E-1/49124/2025-CHE

Dated **06/05/2025 00:00:00** under section 11A(2) of the Act.

Dated this(Final Payment Date):----------
Signature
Name of the signatory

To,
The Controller of Patents,
The Patent Office,
At Chennai

This form is electronically generated.



தமிழ்நாடு तमिलनाडु TAMILNADU

DS 115721

I. Pream Charless
Krishnagiri.

22 APR 2025

V. RADHA
S.V.L. No: 3936/B1/2000
163-A, Salem Road
KRISHNAGIRI-635 001

STAMP DUTY FOR
APPLICATION No: 202541044049

FORM 26
THE PATENTS ACT, 1970
(39 OF 1970)
&
THE PATENT RULES, 2003
FORM FOR AUTHORIZATION OF A PATENT AGENT/OR ANY PERSON IN A MATTER OF PROCEEDING UNDER THE ACT
(See Section 127 and 132; rule 135)
POWER OF ATTORNEY

I / we,

NAME(S) OF APPLICANT(S)	NATIONALITY	ADDRESS
Sri Devaraj Urs Academy of Higher Education and Research	Indian	Sri Devaraj Urs Academy of Higher Education and Research, Kolar – 563101, Karnataka, India.

hereby authorize, Prem Charles I (INPA3311) and Madhu Smita (INPA3454), Registered Patent Agents with address for communication at Allinnov Research and Development Private Limited, #360A, First Floor, Senthur Murugan Kovil Street, Opp. S.M. Mahal, Oldpet, Krishnagiri - 635001, Tamil Nadu, India, to act on our behalf in connection with Patent filing and further prosecution, filing of assignments and any document related thereto, with reference to our patent application/ reference no. 202541044049 dated 06-05-25 and all further patent applications filed by them in future, on our behalf and request that all notices, requisitions and communications relating thereto may be sent to such person at the above address unless otherwise specified. They are also authorized to substitute another attorney / agent to attend hearings (if any) in relation to the patent. We hereby revoke all previous authorizations, if any, in respect of same matter or proceeding. We hereby assent to the action already taken by the said persons in the above matter.

Dated 07-05-25

Registrar

Sri Devaraj Urs Academy of Higher Education and Research
Tamaka, Kolar - 563 103.

Sri Devaraj Urs Academy of Higher Education and Research

To,

The Controller of Patents

The Indian Patent Office

At Chennai, Kolkata, Delhi, Mumbai

Controller General of Patents, Designs & Trade Marks

सत्यमेव जयते

INTELLECTUAL PROPERTY INDIA
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G.A.R.6
[See Rule 22(1)]
RECEIPT

Docket No 45958

Date/Time 2025/05/06 21:08:32

To
Madhu Smita

UserId: madhusmita

#01, Dwarka Sector 14

CBR Detail:

Sr. No.	App. Number	Ref. No./Application No.	Amount Paid	C.B.R. No.	Form Name	Remarks
1	202541044049	TEMP/E-1/49124/2025-CHE	1600	27317	FORM 1	WEARABLE DEVICE FOR REAL-TIME JOINT RANGE OF MOTION MEASUREMENT USING INTEGRATED SENSORS AND DISPLAY
2	E-12/10390/2025/CHE	202541044049	2500	27317	FORM 9	----
3	E-106/9057/2025/CHE	202541044049	0	-----	FORM28	----

TransactionID	Payment Mode	Challan Identification Number	Amount Paid	Head of A/C No
N-0001663022	Online Bank Transfer	0605250059293	4100.00	1475001020000001

Total Amount : ₹ 4100.00
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E-mail: chennai-patent@nic.in
Web Site: www.ipindia.gov.in

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Docket No 45960

Date/Time 06/05/2025

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Sr. No.	App. Number	Ref. No./Application No.	Amount Paid	C.B.R. No.	Form Name	Remarks
1	202541044049	E-5/4059/2025/CHE	0	-----	FORM 5	
2	202541044049	E-3/9177/2025/CHE	0	-----	FORM 3	

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Web Site: www.ipindia.gov.in

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INTELLECTUAL PROPERTY INDIA
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Docket No 46472

Date/Time 07/05/2025

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Sr. No.	App. Number	Ref. No./Application No.	Amount Paid	C.B.R. No.	Form Name	Remarks
1	202541044049	E-45/5908/2025/CHE	0	-----	FORM 26	

Total Amount : ₹ 0
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