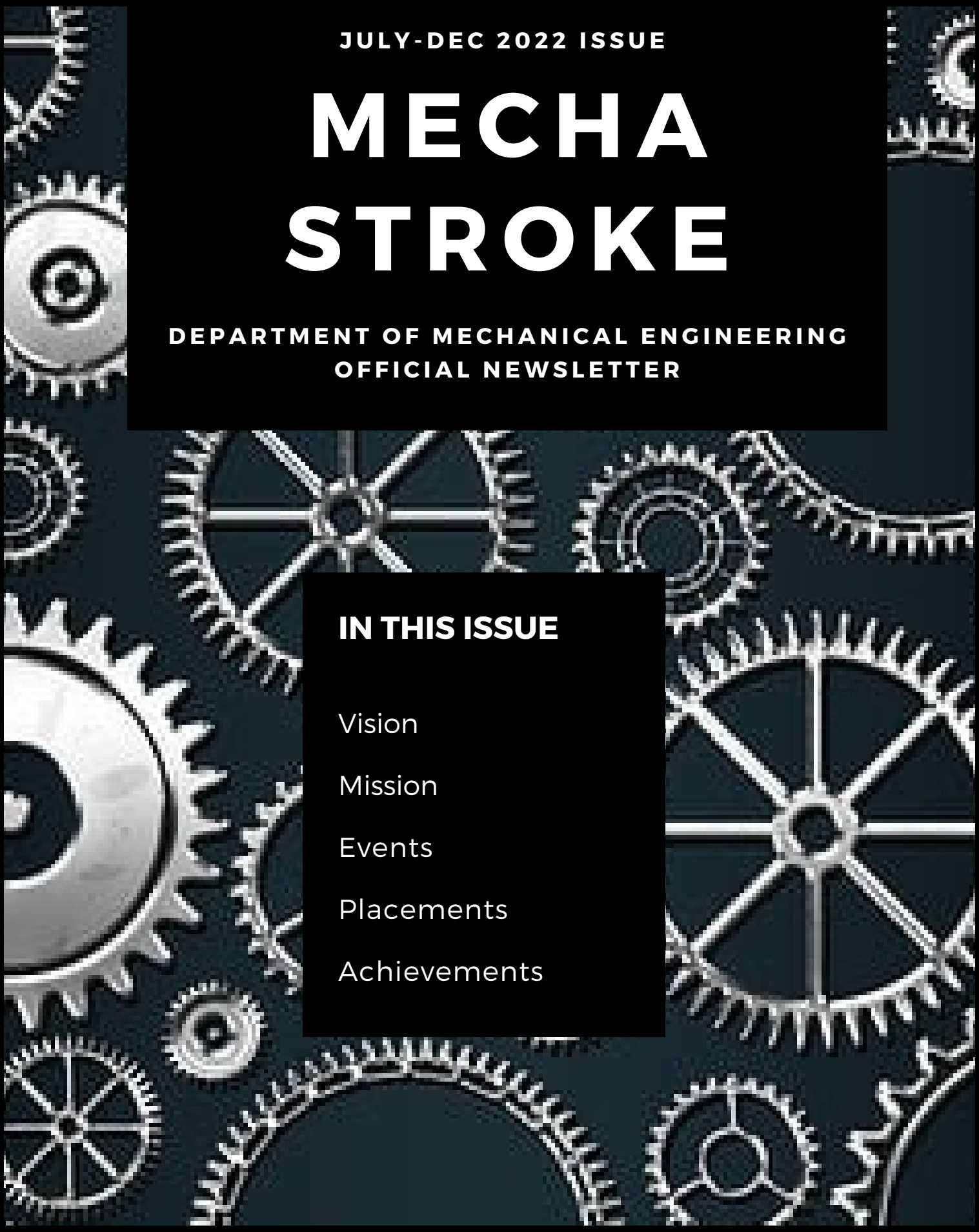
JULY-DEC 2022 ISSUE

# MECHA STROKE

DEPARTMENT OF MECHANICAL ENGINEERING
OFFICIAL NEWSLETTER



## IN THIS ISSUE




Dr. Akhilesh Das Gupta Institute of Technology & Management
Formerly Northern India Engineering College
Shastri park, New Delhi, 110053
Approved by AICTE and Affiliated to GGSIPU

# DR. AKHILESH DAS GUPTA INSTITUTE OF TECHNOLOGY & MANAGEMENT

## VISION

To produce globally competent and socially responsible technocrats and entrepreneurs who can develop innovative solutions to meet the challenges of 21st century.

## MISSION

**M1.** To Provide Value-Based Education through Multi Grade Teaching Methodologies and Modern Education Facilities.

**M2.** To Sustain an Active Partnership Program with Industry and Other Academic Institutes with an Aim to Promote Knowledge and Resource Sharing.

**M3**. To Conduct Value-Added Training Programme to Enhance Employability.

**M4.** To Provide a Conducive Environment for Development of Ethical and Socially Responsible Technocrats, Managers and Entrepreneurs.

# DEPARTMENT OF MECHANICAL ENGINEERING

## VISION

To produce competent mechanical engineers having distinct employability skills, involving innovative ideas to fulfill societal needs.

## MISSION

**M1.** To provide resourceful education through training and skill upgradation.

**M2.** To inspire the young dynamic minds towards innovation and research to meet the societal needs and responsibilities.

**M3.** To strengthen the industry-academia interface for better employability.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

**PEO1**. Graduates shall excel in their career through participation in multidisciplinary fields.

**PEO2.** Graduates shall develop cost effective innovative technologies and methodologies to solve engineering problems and contribute to sustainable development.

**PEO3.** Graduates shall have a successful career in academia, industries or as an entrepreneur to serve societal needs.

# Events


**WORKSHOP ON "NEXTUP ROBOTICS".**
**DATED: 26 SEPT. 2022**
**DEPARTMENT: MECHANICAL ENGINEERING**
**VENUE: SEMINAR HALL ROOM NO. 2310**

**MR. KIRAT SINGH, FOUNDER DIRECTOR (NEXTUP ROBOTICS)**
**MR. DHIRENDRA KUSHWAHA DIRECTOR (NEXTUP ROBOTICS)**
**MR. SHUBHAM SINGH (NEXTUP ROBOTICS)DELEIVERD THEIR WORDS OF WISDOM.**

**ALUMNI TALK "REDEFINING VOLUNTEERING"**
**DATED: 12 OCT. 2022**
**DEPARTMENT: MECHANICAL ENGINEERING**
**VEUNE: SEMINAR HALL ROOM NO. 2310**

**MR. PAWAN SHARMA (2010-2014 BATCH) MANAGER- GOVT. RELATIONS NASSCOM FOUNDATION DELEIVERD THE SESSION.**

# Events

## Industrial Visit to NSIC, Okhla New Delhi


**DATED: 20 OCT 2022**
**2ND YEAR STUDENTS OF MECHANICAL ENGINEERING**
**VENUE: NATIONAL SMALL INDUSTRIES CORPORATION (NSIC), OKHLA NEW DELHI.**


**NATIONAL MISSION SUCH AS MAKE IN INDIA IS LEVERAGING THE ABUNDANT TALENT POOL IN THE COUNTRY, CREATING MORE SCOPE FOR JOBS. SKILL DEVELOPMENT HAS BEEN THE MAJOR TOPIC FOR PUBLIC DEBATE, FOCUSING ON ITS CRUCIAL ROLE IN FUELING THE GROWTH OF THE ECONOMY. THE STUDENTS VISITED THE INCUBATOR CENTRE AND CENTRAL WORKSHOP.**

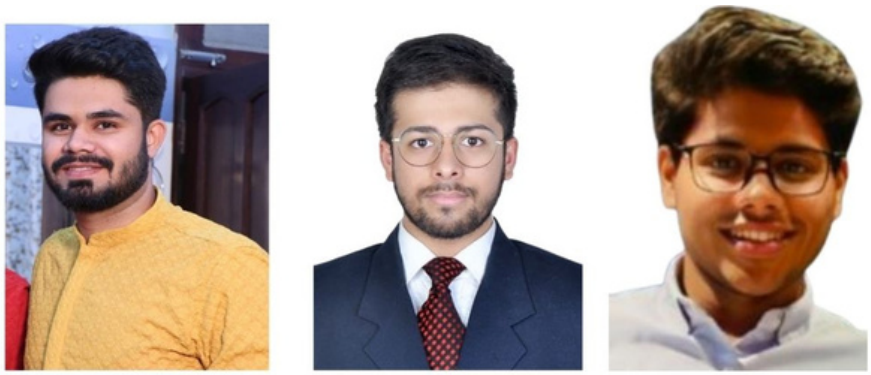

**ENTREPRENEURSHIP AWARENESS PROGRAMME DATED ON 18, NOV. 2022 BY MSME MSME-DEVELOPMENT INSTITUTE, OKHLA, NEW DELHI**

**SEMINAR ON "CAREER OPPORTUNITIES ON EMERGING TECHNOLOGIES BY: MR. ARJUN CHHABRA M.TECH (DTU), FIVE TIMES GATE QUALIFIED (FACULTY AT ACE ENGINEERING ACADEMY)**


**FELICITATION CEREMONY ON ENTREPRENEURSHIP AWARENESS PROGRAMME**


**IN TECHNOUTSAV-2022, IEEE ADGITM IN COLLABORATION WITH SAE SOCIETY (DEPARTMENT OF MECHANICAL ENGINEEERING) ORGANISED DESIC (DESIGNING & SIMULATION COMPETITION USING SOLIDWORKS.**

# Placements

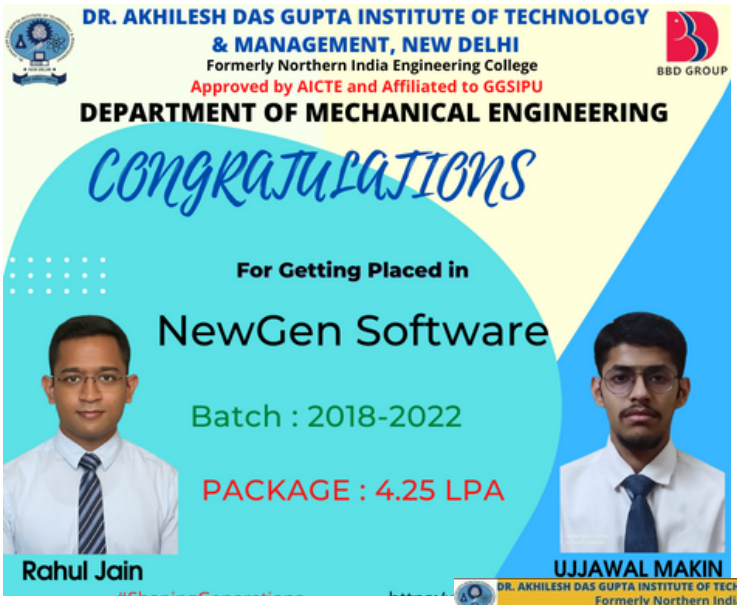
SHANTANU SINGH Antriksh Vaibhav jain

Vaibhav sharma Avijit Sharma Shubham Rai

Total 7 Students of Mech Engg.Batch 2018-2022 placed in Honda Cars India Ltd.

# Placements

**STUDENTS OF MECHANICAL ENGINEERING PLACED IN NEW GEN SOFTWARE TECHNOLOGIES LTD, JARO EDUCATION AND TCS.**







# Students Acheivements

## Universirty Gold Medalist



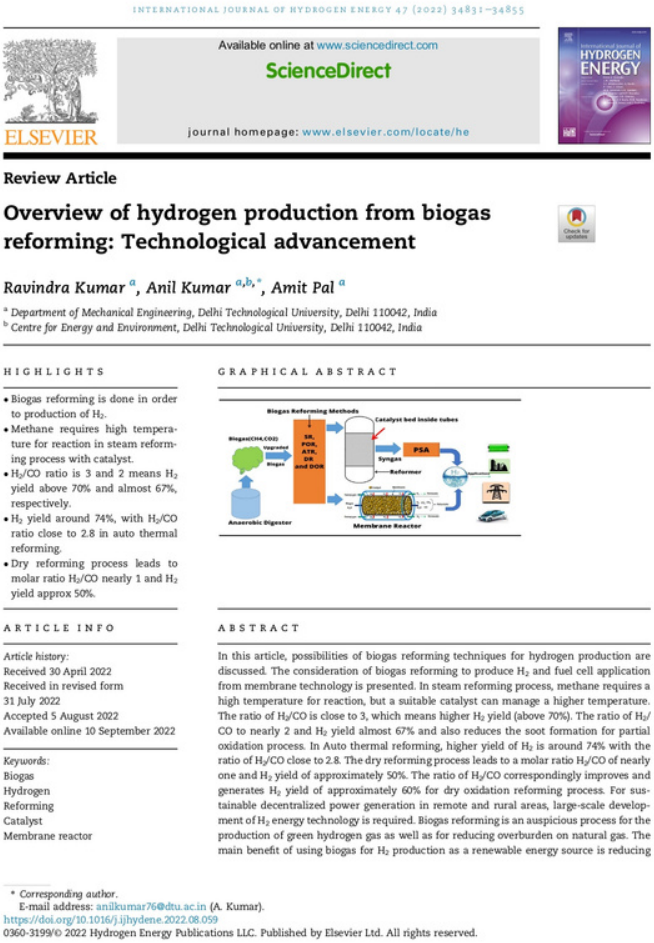

**Harsh Dubey (00715611119) Student of Mechanical Engineering 2019-2023 batch passed certificate 'B' in NCC**


**2ND YEAR STUDENTS MADE A FOUR BAR CHAIN CONSIST OF ALL TURNING PAIRS. ITS APPLICATION ARE SEEN IN BEAM ENGINE, COUPLING ROD OF LOCOMOTIVE AND WATT INDICATOR MECHANISM.**

**MAAZ KHAN 00215611121**
**AADIB AMAAN SHEIKH 00815611121**
**KAMAL NAYAN 01915611121**
**AMAN SHARMA 02115611121**
**SUNDRAM 02215611121**

# Faculty Acheivements

**DR. PARDEEP ROHILLA , ASSOCIATE PROFESSOR (ME) ATTENDED AICTE-IDEA (IDEA DEVELOPMENT, EVALUATION & APPLICATION) CURRICULUM DEVELOPMENT WORKSHOP ON JANUARY 17TH, 2023 AT E BLOCK AUDITORIUM GGSIPU , NEW DELHI, INDIA. AICTE-IDEA LAB ENCOURAGES THE FACULTIES AND STUDENTS TO THE APPLICATION OF SCIENCE, TECHNOLOGIES, ENGINEERING, AND MATHEMATICS (STEM) FUNDAMENTALS TOWARDS ENHANCED HANDS-ON EXPERIENCE AND LEARNING.**



INTERNATIONAL JOURNAL OF HYDROGEN ENERGY 47 (2022) 34831–34855

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/he

Review Article

## Overview of hydrogen production from biogas reforming: Technological advancement

*Ravindra Kumar* [a], *Anil Kumar* [a,b,*], *Amit Pal* [a]

[a] Department of Mechanical Engineering, Delhi Technological University, Delhi 110042, India
[b] Centre for Energy and Environment, Delhi Technological University, Delhi 110042, India

HIGHLIGHTS

- Biogas reforming is done in order to production of $H_2$.
- Methane requires high temperature for reaction in steam reforming process with catalyst.
- $H_2$/CO ratio is 3 and 2 means $H_2$ yield above 70% and almost 67%, respectively.
- $H_2$ yield around 74%, with $H_2$/CO ratio close to 2.8 in auto thermal reforming.
- Dry reforming process leads to molar ratio $H_2$/CO nearly 1 and $H_2$ yield approx 50%.

GRAPHICAL ABSTRACT




ARTICLE INFO

*Article history:*
Received 30 April 2022
Received in revised form
31 July 2022
Accepted 5 August 2022
Available online 10 September 2022

*Keywords:*
Biogas
Hydrogen
Reforming
Catalyst
Membrane reactor

ABSTRACT

In this article, possibilities of biogas reforming techniques for hydrogen production are discussed. The consideration of biogas reforming to produce $H_2$ and fuel cell application from membrane technology is presented. In steam reforming process, methane requires a high temperature for reaction, but a suitable catalyst can manage a higher temperature. The ratio of $H_2$/CO is close to 3, which means higher $H_2$ yield (above 70%). The ratio of $H_2$/CO to nearly 2 and $H_2$ yield almost 67% and also reduces the soot formation for partial oxidation process. In Auto thermal reforming, higher yield of $H_2$ is around 74% with the ratio of $H_2$/CO close to 2.8. The dry reforming process leads to a molar ratio $H_2$/CO of nearly one and $H_2$ yield of approximately 50%. The ratio of $H_2$/CO correspondingly improves and generates $H_2$ yield of approximately 60% for dry oxidation reforming process. For sustainable decentralized power generation in remote and rural areas, large-scale development of $H_2$ energy technology is required. Biogas reforming is an auspicious process for the production of green hydrogen gas as well as for reducing overburden on natural gas. The main benefit of using biogas for $H_2$ production as a renewable energy source is reducing

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https://doi.org/10.1016/j.ijhydene.2022.08.059


**Mr. Ravindra kumar, Assistant Professor, ME Department published a review article entilted "Overview of hydrogen production from biogas reforming: Technological advancement" in Elsevier (SCI Journal) having 7.139 impact factor.**

# Faculty Acheivements

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :30/12/2021

(21) Application No.202211061883 A
(43) Publication Date : 07/01/2022

(54) Title of the invention : MOTION ASSISTANCE DEVICE FOR CRIPPLE

(51) International classification :A61H0001020000, A61H0003000000, A61G0005140000, A63B0021068000, A63B0021040000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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Address of Applicant :Assistant Professor, Department of Computer Science and Engineering, KIET Group of Institutions, Ghaziabad Uttar Pradesh-201206 ---------- ----------

(57) Abstract :
A motion assistance device for cripple comprising a body 1 configured with multiple motorized wheels 2 for maneuvering the body 1, a pair of telescopic supporting bars 3 that extends/retracts in accordance to height of a user and adapted to move in back and forth direction, a rigid pole 6 that is held by the user while moving through the body 1, a tilt sensor 7 in sync with an artificial intelligence image capturing module 8 for detecting angle of inclination of the user, a telescopic pusher 9 for moving the bars 3 for providing balance to the user, an adjustable strap 10 wrapped on a motorized which is accessed by the user to rest lower portion of the body, a pair of L-shaped telescopic rod 12 for providing support on rear portion of knees of the user and a seating pad 13 for providing seating space to the user.

No. of Pages : 16 No. of Claims : 6

The Patent Office Journal No. 01/2022 Dated 07/01/2022 82

**Dr. Jayant Singh,Mr. Ankit Saxena,Dr. Pardeep kumar Rohilla, and Dr. Deepak Bhardwaj ME Department granted a patent entilted "AUTOMATIC TABLET DISPENSING DEVICE" . Application No. 202211065834 A Date of filing of Application :16/11/2022 Publication Date : 25/11/2022**