

A Brief Profile and Progress Report

DST FIST Supported

UGC SAP Supported

AICTE Approved

NIRF Ranked

Department of Mechanical Engineering

Faculty of Engineering

2013-2019

Department Website

<https://www.dei.ac.in/dei/engineering/index.php/2012-12-08-09-16-45/mechanical-engg>





Highlights of the Mechanical Engineering Department

Success in National Competitive Exams in last 5 yrs

GATE : 109 in number with Highest percentile 99.9 Every Year

Campus Placement is ~ 90%



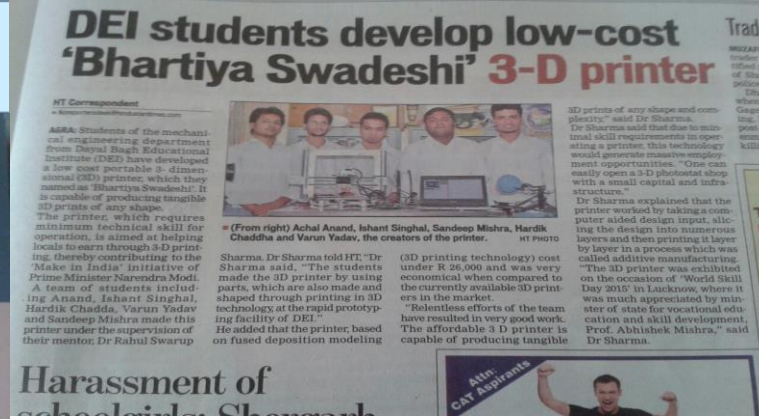
Inaugural & Awards Function
Chief Guest **Prof. Masri Dr. V. K. Saraswath**
Special Advisor to Raksha Mantri, India.

International Journal of
of
ADVANCED MANUFACTURING SYSTEMS
Volume 15, Issue 1, Year 2014

IJAMS

EXECUTIVE EDITORS
Suren N. Dwivedi
K. Hans Raj
Rahul Swarup Sharma

PUBLISHED BY INTERNATIONAL SOCIETY OF AGILE MANUFACTURING



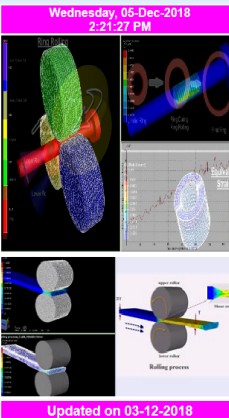
Student Achievements

Metal Forming Virtual Simulation Lab
Dayalbagh Educational Institute, Agra
Sakshat Virtual Labs

Home | Equipments | Processes | Applications | Registration | Feedback | Contributors | References | Workshops | MEM-103

PREAMBLE

METAL FORMING process is a widely used manufacturing process mainly for its minimum waste and dimensional precision, and it usually improves the mechanical properties of the formed product. Metal forming process is an important module that is being taught to undergraduate courses of **MECHANICAL ENGINEERING** because this process is widely used in the manufacturing industry for manufacturing of hand tools, surgical instruments, machine parts for automobile, machine tools, aeronautical and many others industries. There is a great difficulty when teaching various metal forming processes due to various process parameters, materials, complex die shapes, and high capacity presses involved in the process. The virtual prototypes generated from computer numerical simulations provide an efficient understanding of processes and concepts and allows the analysis and visualization of metal flow. Computer numerical simulation has become a reliable and acceptable tool to model the metal forming process. The **OBJECTIVE OF METAL FORMING VIRTUAL SIMULATION LAB** is to make students understand the various fundamental metal forming processes and to recognise the effect of various process parameters with the help of computer numerical simulations. In this lab animations of upsetting process, extrusion process, multi-step forging processes, closed die forging, rolling process, sheet metal processes and intricate phenomena during these processes are incorporated to make the student appreciate and develop better understanding of the fundamental concepts.



LIFETIME ACHIEVEMENT AWARD to Prof. K. Hans Raj at Oakland, USA.

Research, Consultancy and Extension



Research Output

- *Ph.D. Awarded* : 10
- *Ph.D. Submitted* : 2
- *Ph.D. Enrolled* : 19
- *Patents* : 1

Organization of Scientific Events

- *International Conferences /Workshops*: 8
- *National Conferences/Workshops* :15
- *Seminars –Distinguished Scientists* : 16

Faculty Awards and Recognitions

- *International* : 12
- *National* : 18
- *Best Paper Awards* : 18
- *Visiting Professorship* : 5
- *Visiting Scientists* : 5
- *Invited Talks* : 17
- *Fellows, Professional Bodies* : 5
- *Editorial Boards of Journals* : 6
- *Review Boards of Journals* : 6

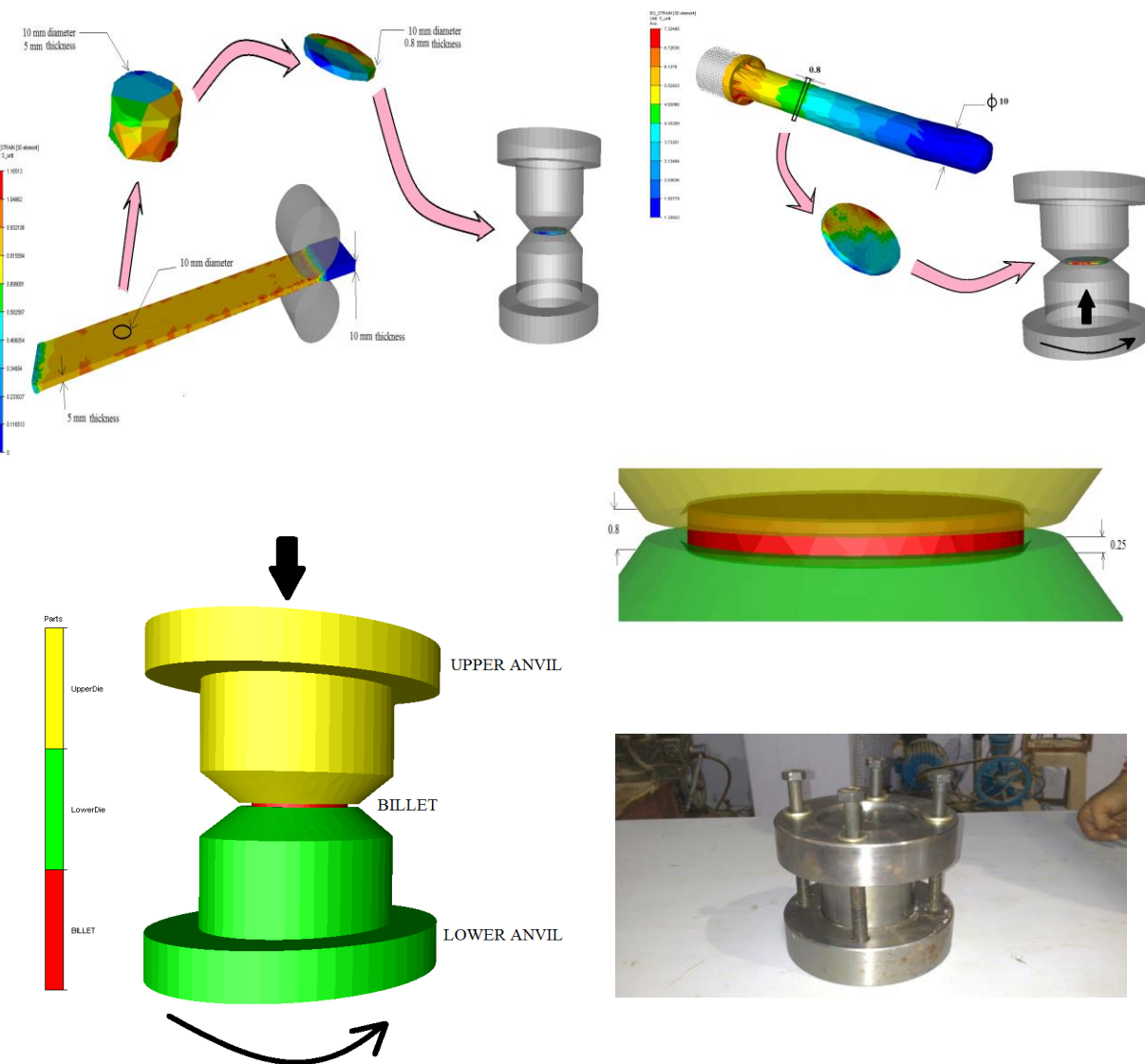



Joint International Conference ICAM of DEI and IIT-BHU

National Seminar on Ergonomics


National Workshop on Bio-Fuels

PATENT - 3D ECAP DIE Development of Bulk-Nano Materials with SPD






**INTELLECTUAL
PROPERTY INDIA**
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 Of The Patents Rules)

क्रमांक : 044111953
SL No : 

पेटेंट सं. / Patent No. : 315986

आवेदन सं. / Application No. : 3318/CHE/2013

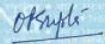
फाइल करने की तारीख / Date of Filing : 25/07/2013

पेटेंटी / Patentee : 1.DR. RAHUL SWARUP SHARMA (ASSISTANT PROFESSOR) 2.PROF.K. HANS RAJ (PROFESSOR) 3.MR. ATUL DAYAL (RESEARCH SCHOLOR)

प्रमाणित किया जाता है कि पेटेंटी को उपरोक्त आवेदन में यथाप्रकटित PROCESS AND APPARATUS FOR 3D CIRCULAR EQUAL CHANNEL ANGULAR PRESSING नामक आविष्कार के लिए, पेटेंट अधिनियम, 1999 के उपबन्धों के अनुसार आज तारीख 25th day of July 2013 से बीस वर्ष की अवधि के लिए पेटेंट अनुरत किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled PROCESS AND APPARATUS FOR 3D CIRCULAR EQUAL CHANNEL ANGULAR PRESSING as disclosed in the above mentioned application for the term of 20 years from the 25th day of July 2013 in accordance with the provisions of the Patents Act,1970.

**INTELLECTUAL
PROPERTY INDIA**
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATION



पेटेंट नियंत्रक
Controller of Patent

अनुदान की तारीख : 15/07/2019
Date of Grant :

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, 25th day of July 2015को और उसके पश्चात क्रमिक वर्ष में उसी दिन देय होगी।
Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 25th day of July 2015 and on the same day

3. Research, Innovations and Extension

Funds generated from Extra-Mural Projects:

Completed : Rs. 9 crores

In Progress : Rs. 3.55 crores

Major Funding

- **DST-FIST : 114 lakhs**
- **UGC-SAP : 35 Lakhs**
- **MHRD-NMEICT Mission Programme: 6.18 Crores**
- **TEQIP : 2.0 Crores**



CEMEF Laboratory, France



MOU with Oakland University USA



Western Michigan University, USA

Research Collaborations International

- **CEMEF, France**
- **Oakland University, USA**
- **MIT, Boston, USA**
- **University of Maryland, USA**
- **Western Michigan University, USA**
- **University of Groningen**

National

- **IIT, Delhi**
- **JNTU Hyderabad**
- **Confederation of Indian Industries**
- **ADRDE(DRDO)**
- **IIT-BHU**



University of Groningen, The Netherlands

Research Impact

Research Publications in last 5 years

Journals : 46

Intl./Natl. Conf. Proc. : 34

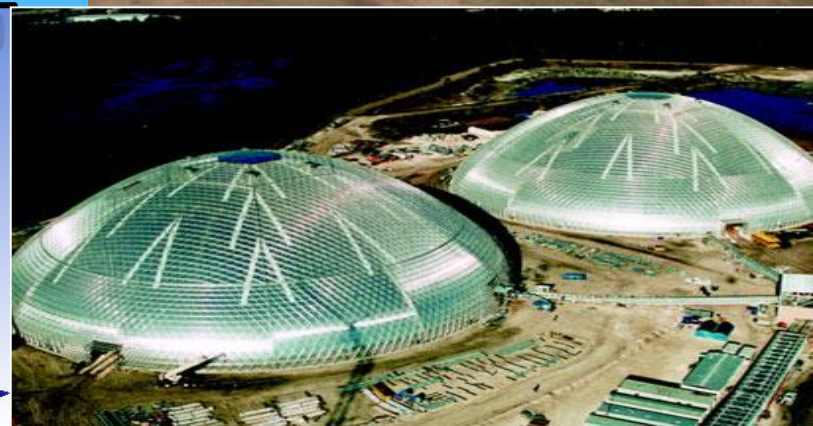
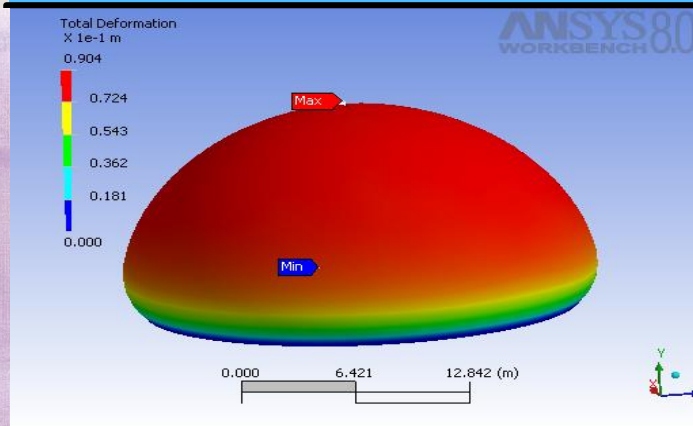
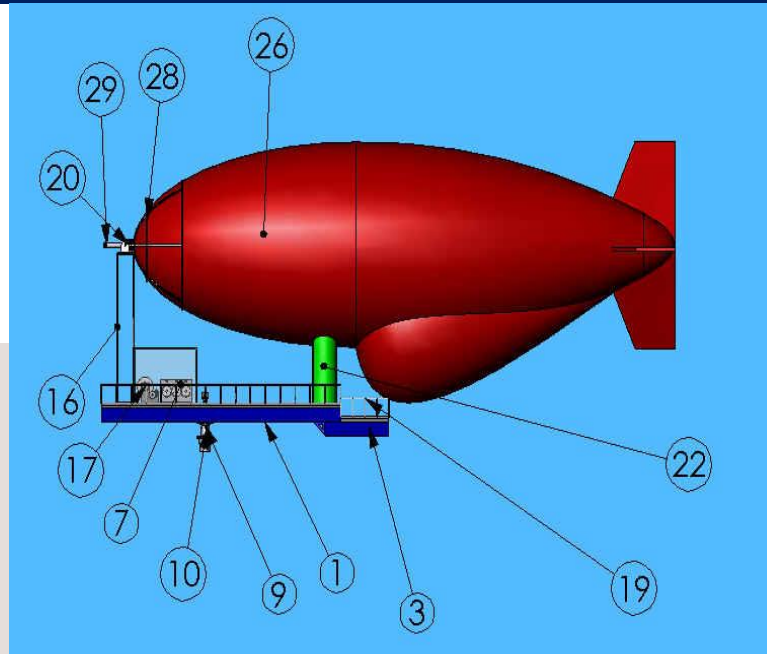
Books/Book Chapters: 3

h-Index (Faculty): 2 – 10

i-10 Index : 1 – 10

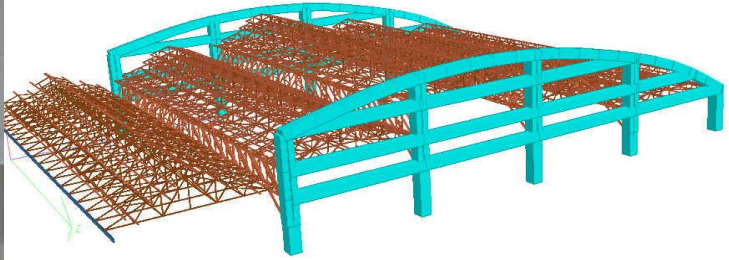
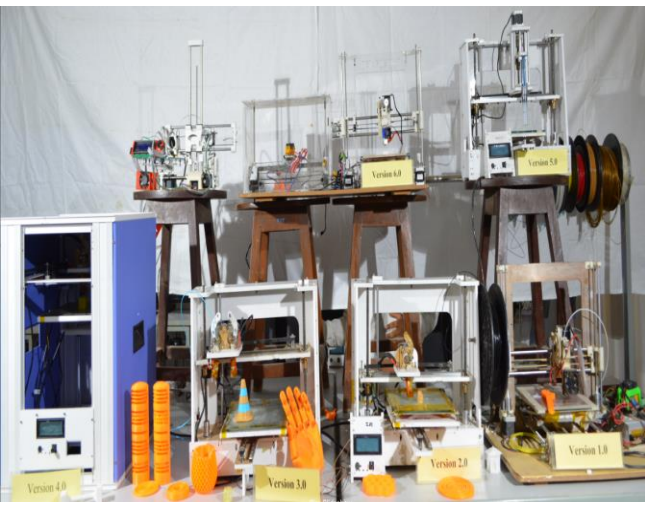
Impact Factor: 0.280 – 4.99

Total Citations: 780



ADRDE CONSULTANCY - RADOME & AEROSTATS (AKAASHDEEP -2000 m³ & NAKSHATRA 3000m³) and EMERGENCY FLOTATION

Many projects immensely contributed to Society and industry



Community Prayer Hall Finite Element Analysis with STAAD Pro

Low cost 3D Printers for all

Industrial Kinesiology Lab

Offers medical diagnostic tests to patients of economically weaker section referred by Saran Ashram Hospital, Dayalbagh.

1. Digital X-Ray Facility
2. Spirometer
3. Nerve Conduction Velocities



COLLABORATING WITH LAVA COFOUNDED BY Mr. S.N. RAI, AN ALUMINUS OF DAYALBAGH EDUCATIONAL INSTIITUE.

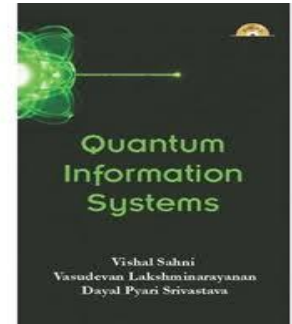
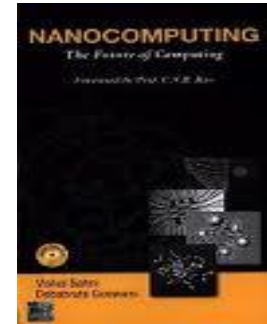
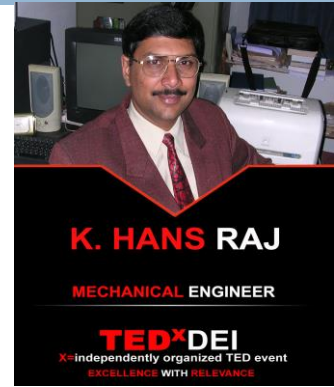
International Attention to DEI Values

FLEXIBLE MANUFACTURING

Values: Waste Nothing, Work is Worship, Discipline and Economy. In terms of agile manufacturing these are translated to Flexible and Lean enterprises doing quality work quickly and economically with discipline.



Tradition of Felicitating the Teachers by Alumni after 25 years of Graduation. Also the Emeritus Professors serve even after retirement.



“The significant problems we face cannot be solved from the same level of consciousness that created them”.

Einstein

“People see things and say why, I dream of things that never were and say why not”.

Bernard Shaw

Education, More Education, Education made perfect is the only panacea of our countries ill's and evil's ...

**His Holiness Sahabji Maharaj
Founder of Dayalbagh**

STAFF AWARDS AND ACHIEVEMENTS



Students Achievements at National Level

1. **Second PRIZE (Rs. 2.5 Lakh), Students' Innovation Pavilion-2015**
2. **First prize (Mitsubishi Gold Cup and Rs. 1.0 Lakh) and The Most Popular Team Award at Mitsubishi Electric Cup.**
3. Participation in **Rashtrapati Bhawan Code for India Hackathon for Social Innovations** held at President's Estate, New Delhi, India (March 2016)
4. **First prize (Mitsubishi Gold Cup and Rs. 1.0 Lakh) and The Most Popular Team Award at Mitsubishi Electric Cup 2018.**
5. **Champion 2017 : Best Solar Skills Training Institute, Renewable Energy India Expo, September 21, 2017, Greater Noida.**
6. **Best Graduate Engineer Trainee/ Best New Comer/ Star Performer of the Year/ Best Analyst/ Best Team at Maruti Udyog, HCL, TCS, ST Microelectronics, Accenture, ACC Ltd., Siemens India.**



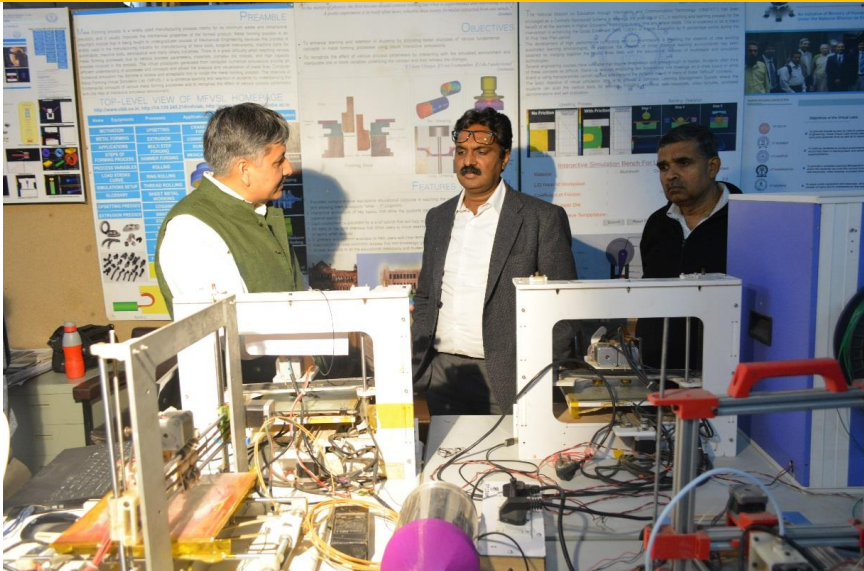
Governance and Leadership – Director DEI leading by Example



Commissioner Agra



Vice Chairman Niti Aayog



Exhibition at IIT-D student showcasing projects

OUT REACH PROGRAM OF SOCIAL SERVICE AT VILLAGE PADAHAN- HIMACHAL BY STAFF OF MECHANICAL ENGINEERING DEPARTMENT



VISITS BY EMINENT PERSONS

- **Mitsubishi Team**
- **Prof. Jannes Slomp**
- **Padamshree Dr. D.K. Hazra**
- **Bharat Ratna Dr. A.P.J. Abdul Kalam**
- **Nobel Laureate Prof. Richard R. Ernst**



Dr. D.K. Hazra



Prof. Jannes Slomp



Bharat Ratna Dr. A.P.J. Kalam

7. Future Plan of Action

Vision – 2031

Important Milestones to be achieved

- ***To make the department one of the top 10 departments of India.***
- ***100% students to appear in GATE Examination***
- ***Maintaining percentile 99.9 in GATE as was done for last 33 years.***
- ***Aim towards 100% Entrepreneurs.***
- ***To create the following Centers of excellence:***
 - ***Agile Manufacturing***
 - ***3D Printing***
 - ***Non-conventional Energy***
 - ***Innovation, Incubation and Entrepreneurship***
- ***Excellence in Research and Development***
- ***10 Significant Start- ups in Engineering.***

NIRF POINTERS THAT HIGHLIGHT FACULTY OF ENGINEERING DEI DAYALBAGH

Pointer	IIT Madras 2019	DEI 2019	DEI 2018	Remarks
FSR (out of 30)	30.00	30.00	30.00	DEI is in position 1 along with IIT Madras in Faculty Student Ratio (FSR)
FQE (out of 20)	18.34	16.24	16.46	DEI is comparable to IITM in Faculty Qualification and Experience (FQE)
GPHE (out of 40)	32.05	25.49	29.43	DEI is comparable to IIT Madras in Metric for Placement, Higher Education and Entrepreneurship (GPHE)
GUE (out of 15)	15.00	15.00	15.00	DEI is in position 1 along with IIT Madras in Metric for University Examinations
WD (out of 30)	13.72	22.63	22.30	DEI is in better position than IIT Madras in Women Diversity



7. Future Plan of Action

S. No.	Important Milestone	Timeline
1.	NBA Accreditation	2019
2.	100% GATE Participation	2020
3.	90% Placement	2021
4.	10 Startups	2028
5.	National Recognition	2031