

## Director/IRIMEE's Speech for Annual Day 2019

Good morning to all of you.

Respected Shri Pradeep Kumar, Director General, National Academy of Indian Railways, Shri P C Sen –the senior most alumnus of this institute, Shri Gajanan Mallya, General Manager, South Central Railway, Shri Ravinder Gupta, Principal ED Mechanical Engineering (Workshops), Railway Board, Shri Rajnish Arora, PCME/Eastern Railway, Members of the 1969 SCA - the Golden Jubilee batch, other Distinguished Alumni of this Institute, Ladies , Trainee officers, Award Winners of Courses organized by IRIMEE, officers of Jamalpur Workshop, Malda Division, Eastern Railway head Quarters and members of the Press & Media.

I extend a warm and hearty welcome to all of you Sirs and Mams for gracing the 92<sup>nd</sup> Annual Day Celebrations of this historic Institute. Hope you had an enjoyable journey to Jamalpur, and I wish you a very comfortable and memorable stay in Gymkhana. It is our proud privilege to have you all, here today to celebrate our achievements.

Initially attached to the East India Railway (EIR) Locomotive Workshop at Jamalpur, the Technical School was setup in 1888 to impart training to Artisan and Trade Apprentices. The administrative control of the Technical School was transferred to Railways Board on 1<sup>st</sup> April, 1974, and was renamed as the Indian Railways Institute of Mechanical and Electrical Engineering. IRIMEE has the distinction of being the first Centralized Training Institute on Indian Railways for in-house training of its officers and staff.

I rise to present the Annual Report of IRIMEE for the year 2018-19.

IRIMEE had a budget outlay of 23.4 Cr as against 22.2 Cr last year. The institutional Training activities can be grouped into categories of Probationary training, introductory training to probationary officers of other services, mandatory courses, professional need-based courses, SCA training and organizing seminars and workshops on subjects of current importance to Indian Railways. A total of 750 officials were trained up to December 2018.

There has been no RRB intake of supervisors in 2018 and therefore lesser number of supervisors have come for training in 2018.

1. The first category is of the probationary training, for the freshly recruited officers. The training grooms the IRSME probationers before they can start working in zonal railways and Production Units. Rly Board has reviewed the 78-week training in July 2018 and the distribution now is as follows. 17 weeks training shall be at NAIR, which includes the Foundation and Induction courses, Finance for Non-Finance Probationers, Rural attachment and Personality development. 18 weeks training will be in IRIMEE in which, all the facets of Mechanical department will be covered. The probationers will devote 5 weeks in Rly Production units & RDSO and 6 weeks in IITs, Panchgani, Foreign institutes for technical skills, Ethics and exposure to the latest technologies in the world. 8 week will be spent in other CTIs and 21 weeks training will be done in Workshops, Coaching Depots, Diesel Sheds, DEMU and EMU car sheds, Power organization, PSUs, Headquarter and Division, which are the likely areas where a Mechanical officer can get posted during his

career. 3 weeks training is also planned in Parliament and Railway Board from where the Railways and the Ministry functions.

At present 111 IRSME probationers, spread across SCAs of 2011, 2012, 2013 and 2014 Batches and ESE-2015,2016 and 2017 batches are undergoing training and 25 IRSME probationers of SCA-2014 & ESE-2017 batches have been sanctioned EOL for appearing in the Civil Services Examination.

Some special courses have also been organized for IRSME Probationers which are as follows

- ◆ A special 2-day course on project management was organized at IRIMEE in May 2018, inviting professional faculty from PMI West Bengal Chapter, Kolkata affiliated to the Project Management Institute with Indian headquarter at Mumbai and global headquarters at Philadelphia, U.S.A. The coverage included Principles & Frame work of Project management, PMI certification and Bringing agility to Project management. 30 probationers of IES 2016 batch attended the course.
  - ◆ **A 2-day Workshop on Leadership and Emotional Intelligence** for IRSME probationers was organized at IRIMEE in December 2018 by engaging the team of expert facilitators of the agency “Par Excellence”. Lectures were delivered by Shri Rajeshwar Upadhyay, Shri Dharmeshwar Upadhyay & Shri Robin Banerjee. This interactive program was attended by 53 probationers and 9 IRMEE faculty including 3 Sr Professors & 6 Professors. The workshop was highly appreciated by participants and the few important takeaways were - relevance of Indian ethos in current business paradigm, team working dynamics, effective listening techniques, personality evaluation of individuals in broad 16 orientations according to MBTI types (Myers Briggs Type Indicator) risk assessment & management tips.
  - ◆ **A special module of 2 days on GE locomotives** covering latest Diesel locomotives of GE technology, was organized at IRIMEE in December 2018 for IRSME probationers by engaging an expert team from GE Transportation Engineering company. It was informed that 1000 locomotives are being built at the Marhowra factory in a Joint Venture of Ministry of Railways with GE Transportation. These locomotives are of 4500 and 6000 Horse Power.
2. The second category is the 2-week introductory training for probationary officers of other services of Indian Railways i.e. IRSE, IRSEE, IRSS, IRSSE, IRTS, IRAS, IRPS and RPF, in mixed batches.
  3. In the third category are the mandatory courses for Group B officers, directly-recruited supervisors of Mechanical Department, Directly Recruited Chemical & Metallurgical Assistants and Chemical & Metallurgical Superintendents.

**The first mandatory course is the Induction Course of 6 weeks for Group B officers** which is the BIND course. The aim is to expose the officers to the entire gamut of technical working of Mechanical Department and their initial grooming as officers. They are also assigned project work to be completed within the duration of the course. Earlier, this

course was of 10-week which was reviewed by this institute and reduced to 6 weeks by Railway board. 4 such courses were conducted during the year.

**The second mandatory course is of 4 weeks for the Directly recruited Mechanical Supervisors, the SET course.** It gives the trainees the exposure to the working and technology used in Railways. It is a part of the 52-week initial training for these directly recruited supervisors which is being controlled by the 11 STCs of Indian Railways. Two such SET courses were conducted during the year.

**The third mandatory course is the 10-week course for Directly Recruited Chemical & Metallurgical Assistants, known as CMAs.** The course gives the trainees the exposure to various materials, manufacturing and maintenance practices followed in Railway system and also upgrades their knowledge in testing and failure analysis. The duration of this course was reviewed by this institute and reduced to 10 weeks from 13 weeks by the Railway board. 2 such courses were conducted this year.

**The fourth mandatory course is the 4-week Course for Chemical & Metallurgical Superintendents known as SCMS.** Objective is to give them a mid career upgrade in the field of new materials used in Railways, latest manufacturing & maintenance practices adopted by Railways and also to refresh their knowledge. 1 such course was conducted this year.

4. In the fourth category are the Professional need-based courses of 1 week which are conducted for serving officers and supervisors of Mechanical department to provide them an opportunity to refresh and upgrade their knowledge. Customized short-term courses are also conducted for other organizations like RITES. Courses of such type held in 2018 are as follows:

- ◆ **2 Courses on LHB Coach Maintenance** were organized for In-service Jr Scale/Sr Scale and JAG officers and 3 such courses were conducted for supervisors.
- ◆ **3 Courses on Welding Technology for supervisors of Jamalpur Workshop** were organized at IRIMEE. The course covered the metallurgy behind welding, welding defects and how to avoid them. It talked of weldability of different grades of steel & stainless steel, use of different welding machines and on the understanding of the corrosion phenomena and corrosion prevention. A total of 7 officers and 59 supervisors attended the course.  
With this IRIMEE has completed training of the entire lot of 52 supervisors dealing with welding in Jamalpur Workshops in different areas such as Wagon POH, Wagon Manufacture, Crane Manufacture, Diesel POH and Miscellaneous Manufacture & Repairs. It is hoped that with this training and with the setting up of the Centre of Excellence for Welding at Jamalpur Workshop, the quality of Welding shall improve in repair and production activities.
- ◆ **3 Course on Train Lighting & Air Conditioning** for In-service mechanical officers and supervisors were organized. The course was designed specifically for training Mechanical Officers and Supervisors, manning Coaching Depots and EMU Car sheds on

the subject of train-lighting and Air-conditioning. 24 Officers and 57 Supervisors participated in the course.

- ◆ **5 Courses on Works and Service Contracts** have been conducted at IRIMEE/JMP. A total of 60 officers, 99 supervisors and 3 clerks attended the course.
- ◆ **A Courses on Environment & House Keeping Management:** for mechanical officers of different zonal railways was conducted during the year. Legal aspects related to Solid Waste Management, Collection, Transportation & Segregation of Waste, Treatment of Waste and issues related to Contracting out E&HM activities, awareness about Green House Gases, Rain Water Harvesting (RWH), Energy conservation, Energy from Waste and effluent Treatment were covered in the course. A total of 12 officers and 9 supervisors attended the course.
- ◆ **A Course on Diesel EMU Maintenance Technology and High Horse Power Diesel Loco** was conducted with a participation of 38 trainees including 6 officers and 32 supervisors.
- ◆ **A Course on Preparation of detailed project report called DPR** was organized at IRIMEE for Officers dealing with Planning of Works under plan head 42 on Railways. Apart from IRIMEE faculty, Railway officers with relevant experience and Experts from Project Management Institute, Kolkata delivered lectures during the course. The course was well received. The course was attended by 15 Officers including 7 SAG and 07 JAG & SG officers. If necessary, more such courses shall be planned to cover a larger section of officers & supervisors across the Railways on the subject.
- ◆ **A Course on Disaster management** was conducted for in-service officers. Broadly the topics covered were of Disaster Management equipment and their maintenance, Accident Manual, P Way Manual, P Way Parameters, Vehicle Dynamics & Rail Wheel Interaction, Disaster Management Set ups in Zonal Railways, Safety and Design Features of ICF and LHB Coaches, Crashworthiness, Case Studies of Disaster Management, Investigation of Accidents, Name & Role of important Gottwald Crane systems and Gottwald crane operation at accident sites. 11 participants attended the course.

5. The 5<sup>th</sup> category of training is the SCA Training. Practical Workshop training to Special Class Railway Apprentices is mainly given in Jamalpur Workshop. Arrangement exists for providing a BE (Mechanical) Degree to them through BIT, Mesra, Ranchi, against a Memorandum of Understanding (MOU) signed in 1999. Regular teaching faculty from BIT, Mesra come to IRIMEE as visiting faculty. Till now 13 batches have passed out under this arrangement, and 1 more SCRA Batch, the 2015 Batch, comprising of 6 SCAs is under training. They are into their 8<sup>th</sup> Semester.

SCAs have to submit a major engineering project in their final year. IRIMEE has tried to encourage them to do these projects on topics of relevance to Railways. This year the 6 SCAs in their final year have been divided into 2 groups for projects. The projects are executed under a faculty guide from IRIMEE and BIT. The project topics currently taken up by the SCAs are as follows:

- One, "Slant Inclination Reverse Lock Mechanism"
- Two, "Hydraulic Suspension System in Automobiles"

IRIMEE is unique among CTIs as it caters to the training needs of posted officials, Probationary Officers as well as Special Class Railway Apprentices for whom training in undergraduate mechanical engineering studies is provided. In order to make the training of SCAs more topical and to expose the SCAs to industrial practice outside the Indian Railways, various technical courses are organized for them along with their Undergraduate Studies. They are also sent to other institutes to improve their knowledge and skills such as Advance Welding Course at FTI, Bangalore, and Special Adventure Course at “Northern Railway Trekking & Mountaineering association”, Nainital.

6 Special Class Apprentices of 2015 Batch were deputed for a 2-week training on “Welding Technology & Welding Inspection” in May-June 2018, at Foreman Training Institute / Bangalore. The course covered theoretical and practical aspects of welding, types of welding, welding safety, symbols & hands on training on welding and destructive as well as non-destructive testing. Practical training on the weld simulator was also included in the course. This course will help SCAs in better understanding of welding in the workshop for manufacture & repair.

21 SCAs of 2014 Batch including 19 Boys and 2 girls were deputed for “Northern Railway Trekking & Mountaineering association Course”, at Nainital in April 2018. The objective behind the course was to foster spirit of adventure, develop team spirit and impart professional training for undertaking tasks which demand physical fitness and observance of safe practices. The course has been a success.

23 Special Class Apprentices of 2014 Batch have undergone 1 Week Training on “Refrigeration and Air Conditioning” in June 2018 at National Institute of Technical Teachers' Training & Research, Kolkata (NITTTR). The Institute was established by the Dept. of Education, Ministry of Human Resource & Development, Govt. of India, as a fully centrally funded autonomous institution, for complementing the efforts of the Government for quality improvement in technical education across the country. The course has been appreciated by the participants for the theoretical and practical inputs provided on the subject of Refrigeration and Air Conditioning including hands on experience on the Refrigeration & AC equipment.

In an endeavor to enhance the quality of Training, Hostel facilities, energy conservation and awareness towards the environment, IRIMEE achieved requisite standards and has now been certified for ISO 9001:2015 Quality Management Systems, ISO 14001:2015 Environmental Management Systems and ISO 50001:2011 Energy Management Systems in August 2018.

**Some Digital Initiatives have been taken which are as follows:**

IRIMEE has developed training video films on topics relevant to Workshop Technology, Rolling Stock, Diesel Locomotives, Disaster Management and Metallurgy & Chemistry, Mechatronics and Train Lighting and Airconditioning. 67 videos have been developed with in-house effort involving faculty, IRSME probationers and SCAs. These are hosted on [irimee.ir](http://irimee.ir) YouTube channel and link is provided on the IRIMEE website. This enables self-learning material to be available to officers and supervisors which can be accessed at their convenience.

To make self-learning a pleasure in the model rooms at IRIMEE, **QR codes** have been provided on the cut sections, components and working models. Trainees can access video films on YouTube and text material on IRIMEE Website using their mobile, by scanning the QR codes.

IRIMEE is developing a WEB BASED Training management System through M/s Skydot, Rajkot. The system shall include Time Tabling, Hostel & Vehicle Management and hosting of Training material Online. The system is in advanced stages of development and a prototype time table has been just rolled out. Extensive uses of the system, will gradually pick up, with the fixing of bugs and teething problems.

The institute has also conducted on a trial basis, online exam for Probationers using Moodle, an open source Learning Management System. So far, online Exam has been conducted for Train lighting & Air Conditioning Module and Mechatronics Module for IRSME probationers on 2 occasions each.

**Some Other Learning Initiatives have also been taken, which are as follows:**

- ◆ Quiz competitions were organized in C&W, Diesel, Engineering Metallurgy and Environment & Housekeeping.
- ◆ Book Summarizations have been undertaken by Probationers. The books are
  - The BOX by Marc Levinson
  - The GOAL – by Eliyahu Goldratt
  - Two books of Dr A P J Kalam
    - Learning How to Fly – Life Lessons for the Youth
    - Governance for Growth in India
  - Seven Habits of Highly effective people – Stephen Covey.
- ◆ Pre-Course evaluation of Trainees to gauge the level of knowledge has been introduced. This is followed up with End-of-Course evaluation to quantify the extent of learning.
- ◆ **Project on “Speed Sensor Wiring Fault Detection for WSP of LHB Coaches” was given to IRSME probationers** undergoing theoretical training at IRIMEE. They were assigned to develop a system to detect faults in wiring of Speed Sensors in the LHB Coaches. They have developed and demonstrated a simple hardware-based solution, costing less than Rs 2000. With this, it is possible to detect faults in wiring of speed sensors easily, without disturbing the wiring of the WSP system.

**8** gazette faculty of IRIMEE attended the **Training of Trainers Course** at ASCI Hyderabad and 4 Gazette faculty attended Training of Trainers Course at PDUNASS, New Delhi. 2 non-gazetted faculty have also attended Training of Trainers Course at NAIR, Vadodara.

**The Major Achievements of Trainee officers are as follows:**

- ◆ In the **First Ever** Inter Services Sports and Cultural meet organized by NAIR Vadodara in July 2018, in which 102 Probationers of 9 services participated, the 15-member team of IRSME probationers put up an extraordinary performance and **won the Chairman’s Cup** for the **overall best performance in the Meet**. The total points scored by IRSME Probationers in the Sports events was 75 while the probationers of all other services put

together scored only 52 points. **In cultural competition also**, IRSME Probationers got **Bronze medal**.

- ◆ The IMechE “Speak out for Engineering” competition is organized by IMechE to encourage better communication skills among young mechanical engineers across all its member institutions. Universities & companies such as TATA Motors and L&T are its member institutions. In the competition, the participants need to present a 20 min presentation on any topic related to mechanical engineering which is followed by 10 minutes of questioning.

**Miss. Shivangi Chopra**, an IRSME probationer of SCA-2014 batch, has represented India, in the South Asia Region Finals, of IMechE Speak out for Engineering competition held at Colombo on 9<sup>th</sup> November’ 2018. Her presentation titled "**Cryptic Coins, the Mystery Beneath and Much Beyond**" was awarded the first position among India, Pakistan, Bangladesh and Sri Lanka. She will now be representing South Asia Region in the world finals.

- ◆ 15 IRSME probationers have been selected for MEXT scholarship in last 3 years for M.Tech. from Japanese Universities.

The Institute and its Hostels are of Pre-independence era and therefore need major inputs in Infrastructure, including sports facilities, augmentation of officer’s accommodation, additional suites, electrical cabling infrastructure and safety in Hostels. DG/NAIR and GM/ER have been considerate enough to sanction 9 umbrella works, at a total sanctioned cost of Rs. 16.41 Cr. Sir, Team IRIMEE thanks you for your consideration towards IRIMEE.

The 9 umbrella works are as follows:

- i. Infrastructure Improvement & Renovation of Queen’s Road Hostel and Construction of 4 Suites in Yantrik Niwas –Phase I
- ii. Construction of 4 Type V units.
- iii. Construction of attached toilets for 22 rooms in Gymkhana & Construction of concrete ladders for building roof inspection & attention.
- iv. Construction of boundary wall with concertina wires at Gymkhana, Yantrik Niwas & Queen’s Road Hostel and Construction of concrete road in IRIMEE and Hostels.
- v. Construction of separate water tank structures in Hostels and IRIMEE, to protect the old building roofs from water damages and leakages.
- vi. Sports facilities
  - Will be upgraded in Queen’s Road Hostel by providing a New Badminton court, a New Volleyball court and a renovated Tennis court
  - In Gymkhana, Renovation of Tennis court, Squash court, Gymnasium are planned.
  - A new Volleyball court will be constructed in Yantrik Niwas
- vii Auditorium where we are attending this function now, will be upgraded by provision of a new sound system, Video wall, Digital Podium, Granite flooring and New Chairs and augmentation of air conditioning for better cooling.
- vii. Due to age of the assets, the Electrical cabling and the power distribution system needs major inputs. Electrical Re cabling in IRIMEE and its Hostels, Augmentation of power supply, Underground cabling and new wiring, augmentation of 3 new Power transformers, Air conditioning of Hostel rooms and IRIMEE lecture halls

**viii.** A new TL&AC Model room at IRIMEE is also planned. This model room will have a Brush Less alternator, 120AH battery bank, motor for driving the Brush Less alternator, power panel, inverter, RMPU control unit, transformers, cabling & other accessories.

Before I conclude this report, I would like to share a few memorable moments of IRIMEE from the past one year through some photographs.....

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I would like to conclude this annual report by acknowledging the support of DG/NAIR. Sir, I am thankful to you for your keen interest in the functioning of IRIMEE, and specially for the approval of seven major proposals worth 12.75 Crores for improvements to institute & its hostels including civil and electrical works.

I also thank CRB Sir and MRS Sir, for their constant support, guidance and recognition of good work done by the Institute.

I am sure, that, with the kind of support we have been getting, we will scale even greater heights and strengthen Railways, by producing better trained officers.

AM/ME, AM/PU, Principal ED/ME(Workshop), Principal ED/Transformation Cell & ED/(Training & MPP) have also been very supportive.

I am thankful to GM/ER for his kind sanction of 2 major infrastructure proposals of IRIMEE worth 3.66 Cr. I am also thankful to HQs' Officers of ER, CME and his team, CWM and his team, for contributing to the effective functioning of IRIMEE. I am also grateful to DRM MALDA for extending all assistance in moving Training Cars and release of emergency quota, as and when required.

I also thank, Mrs. Kanchan Sinha, wife of Late Sri Lalit Kumar Sinha, Ex. Member Mechanical, for proposing a corpus for an annual "Lalit Kumar Sinha Memorial Award", for each batch of IRSME Probationers. The award would be for the IRSME Probationer with best overall performance during probationary training. Sri Atulya Sinha, SCRA 1983 batch, and now DRM/Sonpur has informed that, MRS has consented to her proposal. The final performance of all probationers of IES 2015 batch could not be compiled so far, as some of them had taken EOL for civil services. The EOL group would be completing the training within a few months, after which, the final evaluation of performance of the whole batch shall be possible, and the award will be announced accordingly.

I congratulate all the Award Winners and wish that they continue to contribute in an excellent manner to Indian Railways. This is the age of technology and Indian Railways is on the verge of a technology jump in terms of speed of trains, safety and passenger comfort. I congratulate the probationers passing out today and wish them good luck for a glorious career in the changing times.



Last but not the least I must thank PCMEs of all Indian Railways for sparing officers and staff for various courses and also the Trainee Officers for their active participation.

We have a long way to go and therefore I will conclude with two lines in Hindi:

पंथी हूँ मैं उस पथ का,  
अंत नहीं जिसका !  
आस मेरी है जिसकी दिशा,  
आधार मेरे मन का !!

पंथी हूँ मैं उस पथ का !!!

Thank you,  
**JAI HIND.**