47th Annual Report - 2014-15
Central Institute of Plastics Engineering & Technology (CIPET)
(Department of Chemicals & Petrochemicals)
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai-600032

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Department of Chemicals & Petrochemicals
(From 01.04.2014 to 31.08.2014)

Shri Surjit K. Chaudhary  I.A.S
Secretary to the Government of India
Department of Chemicals & Petrochemicals
(From Oct'2014 to Till date)

Member Secretary

Prof. (Dr.) S.K. Nayak
Director General
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1. INTRODUCTION

Central Institute of Plastics Engineering & Technology (CIPET) -- an extended arm of the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India -- is a premier institution fully devoted to growth of Plastics and allied industries with clear focus on Academic, Technology Support Services and Research & Development (ATR). CIPET has its foot prints across the country at 23 locations viz, 5 High Learning Centres, 11 Other Learning Centres, one Vocational Training Centre, three Specialized Units, two R & D Wings and Polymer Data Services (PDS).

During the last few years, CIPET has emerged not only as a premier national institute in the field of Polymer Science & Technology but also has achieved global recognition through collaborative Academic and Research programs with top-notch universities/institutions across the globe. CIPET is an ISO 9001:2008 QMS, ISO/IEC - 17025, ISO/IEC - 17020 accredited institution offering, design, development and conduct of specialized training courses in the area of Plastics Engineering & Technology and rendering technical /consultancy services in design, tooling, plastics processing & testing to the polymer & allied industries. CIPET also plays pivotal role in developing employment opportunities especially for youth, self-employment and entrepreneur development though various professional and vocational skill development training programs.

CIPET Centres spread across the county viz., Ahmedabad, Amritsar, Aurangabad, Bhopal, Bhubaneswar, Chennai, Guwahati, Hyderabad, Hajipur, Haldia, Imphal, Jaipur, Kochi, Lucknow, Mysore and Murthal. All the 16 state-of--art Centres are equipped with excellent infrastructural facilities in the areas of Design, CAD/CAM/CAE, Tooling & Mould Manufacturing, Plastics processing, Testing and Quality Assurance. The infrastructure facilities in terms of machinery, equipments and technology are continuously upgraded and modernized as per the requirement of the global plastics industry.

CIPET constantly interacting with the industries to implement its initiatives in the areas of Polymer Science Technology in accordance with the environmental policies of the country. CIPET’s sustained efforts in creating awareness on environmental issues towards plastics and plastics waste management has been well recognized by the industry.

Academic: The objectives of CIPET is to offer blend of specialized Academic (Doctoral, Post Graduate, Undergraduate, Post Graduate Diploma, Post Diploma and Diploma) and Skill Development Training Programs in the field of Polymer Science & Technology in order to provide qualified Human Resources with entrepreneurship qualities for Polymer & allied industries.

Apart from Long-term courses, CIPET also conducts Vocational / Skill Development Training Programs, Computer Based Training Programs, Modular Training Programs, Entrepreneurship Development Programs etc. These programs are sponsored by various State & Central Govt. agencies which include, M-DONER, NSFDC, SC&ST Welfare Dept., Minorities Dept., Ministry of Social Justice & Empowerment under different schemes and leading PSUs like M/s. Power Finance Corporation Ltd., M/s. TATA Steel, M/s. GAIL, M/s. Paradip Port Trust etc. under CSR Initiatives. Every year, CIPET trains around 12,000 students through long-term academic programs and around 30,000 through short-term programs. CIPET has signed MoU with several leading National / International Universities for Faculty and Student Exchange programmes and collaborative research projects.
**Technology Support:** CIPET provides Technology Support Services in the field of design, tooling, plastics processing, testing & quality assurance and Inspection Services to the plastics industries through a Quality Management System. CIPET has been in the forefront of strengthening the technological capabilities and has been constantly building capacities and leveraging its expertise, caliber and skill sets to meet the emerging and evolving needs of the industries. Indian Space Research Organization (ISRO), Hindustan Aeronautics Ltd (HAL), Ordnance Factory Board (OFB), Electronic Corporation of India Ltd., (ECIL) are the major Public Sector & Govt. organizations recognized CIPET as their prospective vendor for precision tooling, mould & product development.

**Research:** Envisioned to be a Global R&D hub, CIPET has established two exclusive R & D wings at Chennai and Bhubaneswar. The **Advanced Research School for Technology & Product Simulation (ARSTPS)**, functioning at Chennai and the **Laboratory for Advanced Research in Polymeric Materials (LARPM)** at Bhubaneswar, are the two world class R & D wings of CIPET, set up exclusively for initiating R & D in collaboration with the industry and the universities, both in India and abroad, to develop working prototypes, to find solution to engineering problems, and to conduct micro-analysis on behavior of materials, structures and mechanical systems.

Dedicated R & D wings on polymer materials and product development will develop new polymeric materials and its applications by generating Intellectual Property (IP) and knowledge base and also transfer the technology to industry for commercial exploitation.

CIPET has successfully completed more than 60 Research & Development projects in different disciplines of Polymer Science, Engineering & Technology, sponsored by various government and non-government funding agencies. More than 65 research papers were published in National & International journals. Also, CIPET has filed 04 Patents in different areas of product design and on polymer composites, Nano-composites, etc.

CIPET has been recognized by Department of Scientific & Industrial Research (DSIR), Govt. of India as a scientific and research recognized in the field of Plastics Engineering & Technology.

With strong Alumni base of about 80,000 Professionals, CIPET has emerged as an Apex plastics technology institution, not only in India but also a unique institution of its kind in Asia. CIPET’s Alumni network spreads across South-East, Middle-East countries, Africa, Europe, Australia, North America, etc. (Singapore, Malaysia, Thailand, Korea, UAE, Oman, Saudi Arabia, Nigeria, Kenya, USA, Canada, Germany, etc.)

CIPET’s international recognition is apparent from the fact that the prestigious assignments of academic and consultancy services are being received from Sultanate of Oman, Kingdom of Saudi Arabia, Srilanka, Qatar, UAE, Singapore, Malaysia, Nigeria, Kenya, Bangladesh, etc.

CIPET publishes series of publications like CIPET Times an in-house publication with coverage about developments, news and views about CIPET and industry trends. Also, CIPET’s International Journal of Plastics Technology (IJPT) has international recognition as the Scientific Journal in the field of plastics technology with elite and eminent international Editorial board. M/s Springer Publishers, co-publish IJPT from year 2009 onwards, which is a significant recognition to CIPET’s in-house publication- IJPT.
CIPET being a Founder Member of Plastindia Foundation - an apex body of all plastics association in India has established very good interaction with regional & national plastics associations in India.

CIPET is implementing the initiatives / schemes of Govt. of India such as “Swachh Bharath Abhiyan, Digital India, Make in India, Skill India, minimum Government and maximum Governance, etc.
2. HIGHLIGHTS

2.1 Academic

- CIPET has offered eight High-end academic programmes in Under Graduate (UG) & Post Graduate (PG) at five High Learning Centres at Ahmedabad, Bhubaneswar, Chennai, Lucknow & Kochi in affiliation with the respective State universities.

- Further the other CIPET Centres - Other Learning Centres (OLCs) are conducting various Long-term Diploma, Post Diploma & Post Graduate Diploma courses with the duration ranging from one and a half year to three years.

- In line with the National Policy on Skill Development, DGE&T has approved CIPET to conduct Vocational Skill Development Training Programs for Unemployed / Underemployed youth in the area of Plastics Processing sector. Also, CIPET had registered with NSDA as Vocational Training provider.

- During 2014-15, CIPET has initiated action for establishment of five Vocational Centres at Vijayawada (AP), Bhopal (Madhya Pradesh), Baddi (Himachal Pradesh) Medak (Telangana) and Valsad (Gujarat)

Growth in Academic programmes at a glance

- During the academic year 2014-15, 12,629 students were enrolled through long-term courses, which include 2,329 students of High-end UG & PG programs, 10,300 students through conventional Diploma programs, which shows about 10% increase in students trained as compared to previous year.

- Considerable growth is also registered in the short-term vocational skill development training programs conducted by CIPET. In the year 2014-15, 30,281 participants were benefited as against 28498 participants of the year 2013-14.

- Many Specialized Training programs sponsored by the State/Central Govt. departments for the candidates belonging to SC/ST, OBC, Physically Challenged, Minority, Women and Economically Weaker Sections of society candidates were organized.

- CIPET has signed Memorandum of Undertaking (MoU) with renowned international universities for Students/Faculty exchange academic programs, technology services and collaborative R&D projects.

- Video Conference facility established at all CIPET centres and its Sub-units facilitates telecast of expert lectures and faculty / students interaction between the centres.

- Job oriented training and awareness programmes in the areas of plastics processing, Recycling Technology, Plastics Product Design, CAD/CAM, CNC Programming & Machining for Tool Development, Machine Maintenance, etc. sponsored by the Ministry of DoNER were undertaken for 985 unemployed youths.

- The Digital Library installed at CIPET Centres to cater the needs of the students to enhance their academic knowledge. The library portal of CIPET, i.e. www.cipetlibrary.gov.in renders referral and virtual reference services to the students and faculty. The Institutional Repository of CIPET powered by Dspace – digital library software has abstract of thesis,
question bank, research publications of CIPET faculty, etc. 132 e-resources available in question bank.

- To conduct skill development training programs, CIPET Centres had signed MoU with various State Govt. Departments/Universities in their region viz. (i) Deptt. of Employment & Craftsmen Training, Govt. of Nagaland; (ii) Deptt. of Labour Employment & Industrial Training, Govt. of Mizoram; (iii) Deptt. of Employment & Craftsman Training, Govt. of Meghalaya; (iv) Deptt. of Industries, Govt. of Arunachal Pradesh; (v) Madhya Pradesh Council of Employment & Training (MAPCET), Deptt. of Tribal and Schedule Caste Welfare, Govt. of Madhya Pradesh; (vi) Odisha State Employment Mission, Employment and Technical Education & Training Department, Govt. of Odisha; (vii) Odisha Scheduled Caste & Scheduled Tribe Development Finance Co-operative Corporation Ltd., Bhubaneswar (viii) Tribal Development Department, Government of Maharashtra (ix) Rajasthan Grameen Aajeevika Vikash Parishad, Govt. of Rajasthan; (x) Backward Classes Welfare Department, Govt. of Karnataka; (xi) Aliah University, Kolkata and (xii) West Bengal Scheduled Castes & Scheduled Tribes Development & Finance Corporation, Kolkata.

- Signed MoU with the Directorate of Employment & Training, Ministry of Labour & Employment, Govt. of India for empanelment as Assessing Body for Plastics Processing Sector under Skill Development Initiative (SDI) scheme based on Modular Employable Skills (MES).

- CIPET has also signed MoU with M/s. Power Finance Corporation Ltd., M/s. GAIL India Ltd., and M/s. NTPC Ltd., for organizing Skill Development Training Programs for unemployed/underprivileged youths under various categories by Government departments and PSUs under Corporate Social Responsibility (CSR) for the requirement in the industries for skilled manpower.

- CIPET HO – VTC has signed Memorandum of Understanding (MoU) with Technical Training & Research Centre (TTRC), (a division of LOHIACORP Ltd.), Kanpur for conducting operator level course – “Plastics Sacks Machine Operations (PSMO)” and availing the facilities of TTRC.
2.2 Technology Support Services

- A total number of 45,692 Technology Support Services were rendered to the plastics & allied industries during 2014-2015, which is 11% higher than the previous year.

- The performance in the Technology Support Services domain of CIPET is in increasing trend and continued to excel in all the spheres of its activities viz. design, tooling, plastics processing & testing, inspection & quality control.

- Ministry of Health & Family Welfare, Govt. of India has approved CIPET Laboratories and awarded contract for Testing & Evaluation of Contraceptive Devices – Condoms, Copper-T and Tubal rings.

- CIPET’s expertise as third party inspection agency has been recognized by various Central & State Govt. Organizations for plastics & allied products. During 2014-15, on behalf of various State Govt. and its undertakings, around 1500 assignments were undertaken from reputed industries across the country.

- CIPET has established Polymer Data Services (PDS) with the objective of enhancing the growth of polymer industries by interlinking the industries through data base. The PDS provides various services such as – Project Management, Consultancy, Human Resource Development, organizing exhibition, National / International conferences, seminars, workshops, National awards and Business/Research Support to academia and R&D institutions.

- On behalf of the Deptt. of Chemicals & Petrochemicals, Govt. of India, CIPET has organized the 4th National Awards for Technology Innovation in Petrochemicals & Downstream Plastics Processing Industry. Out of 313 nominations received, 17 were selected as Winners, 06 as Runners-up and 23 were recommended for Commendation Certificate. The 4th National Awards function was organized at "Manekshaw Centre", New Delhi on 17th July, 2014. Hon'ble Minister for Chemicals & Fertilizers, Govt. of India - Shri Ananth Kumar had presented the awards to the 23 Awardees in the presence of Hon'ble Minister of State for Chemicals & Fertilizers, Govt. of India – Shri Nihal Chand, Shri Indrajit Pal IAS, Secretary (C&PC) and Shri Avinash Joshi IAS, Joint Secretary (PC).

- On behalf of the Deptt. of Chemicals & Petrochemicals, Govt. of India, CIPET has organized the 5th National Awards for Technology Innovation in Petrochemicals & Downstream Plastics Processing Industry. Out of 290 nominations received online, 16 were selected as Winners, 14 as Runners-up and 30 were recommended for Commendation Certificate. The 5th National Awards function was held on 21st February, 2-15 at The Lalit Ashok, Bengaluru. Shri Ananth Kumar, Hon'ble Union Minister for Chemicals & Fertilizers gave away the awards under 8 categories.
CIPET is the Runner-Up of National Awards 2014-15 under the Academic and R & D Institution Category of “Innovation in Polymeric Material” held on 21st February 2015.

The 6th series of the International Conference – Advancements in Polymeric Materials (APM – 2015) – Exploring the hidden potential of Polymeric materials was organized by the Laboratory for Advanced Research School for Technology and Product Simulation (ARSTPS), Chennai at NSSC, Indian Institute of Science (IISc), Bengaluru during February 20-22, 2015. Eminent scientists, renowned researchers and students participated from more than 174 universities academic institutions, R&D laboratories from India and overseas countries. Shri Hansraj Gangaram Ahir, Hon’ble Minister of State for Chemicals & Fertilizers, Government of India inaugurated the International Conference on February 19, 2015. 406 Research Papers were published during the Conference. Participants from countries like USA, Australia, Brazil, Malaysia, Canada, Belgium, Italy and New Zealand shared their research expertise during the conference.
2.3 Research and Development

- CIPET has signed Memorandum of Understanding (MoUs) with following world renowned Universities / Institutions for collaborative research projects; faculty/ students exchange programs and formulation of standards and specifications.
  - Unesp, Brazil
  - Shanghai University, China
  - Hannam University, South Korea
  - Kyung Hee University, South Korea
  - The Institute of Biopolymers and Chemical Fibres Lodz, Poland
  - The CIATEQ, A.C. Advanced Technology Centre
  - University of Toronto (UoT), Canada
  - Michigan State University (MSU), East Lansing, USA
  - Penn State University, Pennsylvania, USA
  - University of Massachusetts (UMass), Lowell, USA
  - ASTM International, Philadelphia, USA
  - Massachusetts Institute of Technology (MIT), USA
  - University of Guelph, Canada
  - European bio-plastics and international Biodegradable products Institute, Europe
  - European Higher Institute for the Enterprise and its Techniques (ISEETECH), Metz-France
  - M.V. Lomonosov Moscow State University, Moscow, Russia

- Several sponsored R & D projects from various Govt. agencies like DST, DCPC, CSIR, OIDB & DBT, DRDO etc., have been taken up and some of them have been successfully completed and validated during past 05 years. Around 60 projects, 65 research papers presented / published in peer-reviewed international journals were undertaken by both the R & D wings. 04 patents in the areas of product designs and on polymer composites, nano-composites, etc., were filed during the above period.

- Centre of Excellence on 'Sustainable Green Materials' (CoE - II) was initiated at LARPM - CIPET w.e.f March 2013 for a period of 03 years. The project was initiated in collaboration with Michigan State University (MSU), USA, Biodegradable Products Institute, USA and industries like M/s Roidec India Chemicals Pvt. Ltd., Haryana, M/s Harita NTI, Chennai and M/s E-Parisaraa, Bengaluru. As per the project deliverables, 13 Research Scholars and 01 Research Associate have been selected to work in three phases of the project and research fellowships/stipend were fixed as per DST/CSIR norms & guidelines. The project addresses major issues pertaining to depletion of non-renewable resources as well as waste plastic disposal.

- Experts from Michigan State University conducted interview for the 19 candidates at CIPET Bhubaneswar and at CIPET Head Office and based on the performance of candidates in the interview, 08 candidates were shortlisted and informed to apply for the Ph.D., program by following the guidelines of Michigan State University-USA. A total number of 05 students have submitted online application to MSU and awaiting for the results.
During the reporting period, the Expert panel constituted by the administrative Ministry to review the implementation of the scheme visited LARPM on 13/04/2015 and assessed the performance of the project.

ARSTPS - CIPET India in collaboration with University of Toronto, Canada has under taken joint project funded by Deptt. of C&PC, Govt. of India for setting up of Centre of Excellence (CoE) for “Green Transportation Network (GREET)”. As per the project deliverables, 20 research scholars were selected to work in the four themes and research fellowship/stipend fixed as per DST/CSIR norms & guidelines. Out of 20 research scholars, 05 scholars have registered for Ph.D programme at University of Toronto, Canada and 15 scholars registered for Ph.D programme under the affiliated Universities in India and the project will be completed by September 2015.

CIPET has signed a Memorandum of Understanding (MoU) with M/s Hindustan Aeronautics Ltd., (HAL), Bengaluru for Indigenous development of Prepegs for Aircraft structural components, Development of structural Adhesives for Aircrafts, Training programme on Characterization of Prepegs, Composites and Adhesives. CIPET has also signed a MoU with M/s Bharat Electronics Ltd., Bengaluru in the areas of Conductive Housing for Portable Electronics and Pressure Sensors for Naval Applications. A MoU will be signed shortly with Ordnance Factory Board, (OFB) to provide Technical Support Services for indigenization of defence products, latest technology in the Polymer materials & production system.

CIPET had signed an MoU with M/s. SABIC Bengaluru for collaborative research project works of mutual interest and Ph.D programs on 19th February, 2015 in the augst presence of His Excellency - Dr. Saud Mohammed Alsati, Ambassador, Kingdom of Saudi Arabia.

NTPC Project on Development of Floating Mechanism for Solar PV Panel:

NTPC Energy Technology Research Alliance NTPC Limited, Noida has sanctioned an R&D project for Indigenous Development of Floating Mechanism for Solar PV Panel with a project cost of Rs.4.00 crores in April 2015 to ARSTPS - CIPET Chennai for the development of Plastic floating Mechanism for solar PV panels. The objective of the project is as below.

- To develop plastic floating mechanism for solar PV panels.
- To Manufacture & Supply of 400sets of plastic floating mechanism for solar PV panels.
- To Install 100 kWp Floating PV System at NTPC Reservoir, Kayankulam, Kerala.

2.4 Project Activities

Advanced Tooling & Plastics Products Development Centre (ATPDC), Madurai

The project for establishment of ‘Advanced Tooling & Plastics Products Development Centre (ATPDC) Madurai - a unit of CIPET Chennai at a total cost of Rs.24.80 crore equally shared by Govt. of India and Govt. of Tamilnadu is under final stage of completion. The construction of new campus for ATPDC Institutional Block & Boys Hostel was completed and the Centre started functioning in the new campus from 29th June, 2015 onwards.
Centre for Bio-polymer Science & Technology (CBPST), Kochi

The “Centre for Bio-polymer Science & Technology (CBPST)” was established at M/s. FACT Campus at Udyogmandal, Kochi at a project cost of Rs.24.90 crore and functioning in the temporary premises. CBPST is conducting 2 years M.Sc. Biopolymer Science course and Doctoral Programme in Material Science with Special Emphasis on Bio-Polymers in collaboration with Cochin University of Science & Technology (CUSAT) with the intake capacity of 40 students. The State Govt. is in the process of allotting the land for construction of permanent buildings for the Centre.

Skill Development Centre (SDC) at APPTC, Balasore, Odisha

The Govt. of Odisha had approved establishment of “Skill Development Centre (SDC)” at Balasore and sanctioned Rs.10 crore for construction of building in the 5.6 acres of land allotted at Bampa Industrial Estate, Balasore. For construction of buildings, M/s. National Buildings Construction Corporation Ltd., (NBCC), Govt. of India has been engaged and the works are in progress. The SDC will provide skill oriented development training to the unemployed youth of Odisha.

HLC/VTC at Rudraram, Medak Distt. (Telengana):

For establishment of High Learning Centre-cum-Vocational Training Centre at Medak (Telangana), CIPET has already acquired 20 acres of land from M/s. Hindustan Fluorocarbons Ltd., (HFL). In this regard, a project proposal was submitted to Principal Secretary, Higher Education, Govt. of Telangana on 23.03.2015 for establishment of CIPET-HLC at the land taken over from M/s. Hindustan Insecticides Ltd., Rudradam, Medak Distt., Hyderabad. The matter is actively being followed up for early approval of the proposal. Simultaneously, CIPET is in the process of submitting proposals to various State Govt. departments for getting sanction of the programs.

OLC at Vijayawada (Andhra Pradesh):

Govt. of Andhra Pradesh has issued consent letter on 16.03.2015 and agreed in-principle to allot 15 acres land for establishment of CIPET Centre at Vijayawada. In this connection, CIPET has identified a site at Vijayawada division i.e. Ibrahimpatnam which was found most suitable for setting up of the CIPET Centre. In this regard, application was submitted to Joint Collector, Krishna Distt. for alienation of the land to CIPET which is in process. It is expected that the possession of the land will be taken over by CIPET shortly.

Meanwhile, CIPET has identified the building of Common Critical Machinery & Common Testing Centre, M/s. Vijayawada Auto Cluster Development Company Ltd., located at J. Auto Nagar, Vijayawada for immediate commencement of skill development programs. Further follow up actions are being taken in this regard.

VTC at Dharampur, Valsad (Gujarat):

Establishment of VTC for Scheduled Tribes at Dharampur, Valsad (Gujarat) at a total cost of Rs.31.77 crore is actively being followed up with the State Govt. of Gujarat. During the reporting period, CIPET has hired a rental accommodation at NH-8 Dharampur Chokhandi, Atak Pardi, Valsad for starting the VTC programs immediately. Manpower from CIPET Ahmedabad have already been shifted to initiate the training
program. The requisite machinery identified at CIPET Ahmedabad Centre shall be shifted to VTC, Valsad. Candidates have been shortlisted to undergo Plastic Product Manufacturing Technology (PPMT) program which would likely to be started by May 2015. Further, a MoU has been signed with State Government of Gujarat for providing training to 900 Tribal Youths, which include the 2000 candidate targeted for the year 2015-16.

❖ **VTC at Baddi, (Himachal Pradesh)**

The establishment of VTC at Baddi, Himachal Pradesh (HP), at a total project cost of Rs.40.10 crore to be shared on 50:50 basis between Govt. of HP and Govt. of India is actively being followed up. The Deptt. of Technical Education, Govt. of HP had already transferred 7 acres of land in the name of Technical Education Department. During the financial year 2014-15, the State Govt. had made a budget provision of Rs.1.0 crore for establishment of the project. It is proposed to train 3000 candidates at VTC- Baddi during the year 2015-16.

❖ **VTC at Bhopal:**

A proposal to establish a “Vocational Training Centre (VTC)” at Bhopal, Madhya Pradesh (MP), at a total project cost of Rs.40.10 crore, to be shared on 50:50 basis between Govt. of M.P. and Govt. of India was submitted to Central & State Govt. The Govt. of M.P. had allotted 10 acres of land at free of cost at Semera Village, adjacent to Govindpura Industrial area for establishment of VTC. The transfer of land from District Industries Centre (DIC) to CIPET is under process. It is proposed to train 2500 candidates by the VTC at Bhopal during the year 2015-16.
The academic activities of CIPET are categorized into ‘4 Categories’ as per the Human Resource requirement of Indian Plastic Industries and to provide employment opportunities to the youth.

- **Doctoral, Postgraduate & Undergraduate Programs are high – ended Programs conducted at High Learning Centres (HLCs).**

- **Conventional CIPET’s Diploma, Post Diploma and Post Graduate Diploma Programs at Other Learning Centres (OLCs).**

- **Skill Development Programmes / Vocational Training Programmes.**

- **Industry Specific Programs.**

The UG, PG & Doctoral programmes at HLCs are being offered at Ahmedabad, Chennai, Bhubaneswar, Lucknow & Kochi in affiliation with respective State Universities.

The admission for the UG & PG programs are carried out through the respective affiliated Universities of the State and the admission for Diploma, Post Diploma & PG Diploma courses for the academic year 2014-15 was successfully conducted on 13.07.2014 across the country at 50 centres and the academic session for the year 2014-15 commenced on 11.08.2014 as per the data furnished below:-

<table>
<thead>
<tr>
<th>Details</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale of Application Forms</td>
<td>35,234</td>
</tr>
<tr>
<td>Number of Application Received – Duly filled</td>
<td>27,419</td>
</tr>
<tr>
<td>Applicants called for Joint Entrance Examination (JEE)</td>
<td>25,537</td>
</tr>
<tr>
<td>Applicants appeared for JEE</td>
<td>18,709</td>
</tr>
<tr>
<td>Number of Students admitted</td>
<td>4,398</td>
</tr>
</tbody>
</table>
3.1 Academic Programmes

To provide qualified Human Resources to the polymer industry, CIPET offers a blend of the following Academic Programmes

<table>
<thead>
<tr>
<th>No.</th>
<th>Title of the Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.E / M.Tech. in Plastic Engineering / Technology</td>
<td>2 Years</td>
</tr>
<tr>
<td>2</td>
<td>M.Tech. in Polymer Nanotechnology</td>
<td>2 Years</td>
</tr>
<tr>
<td>3</td>
<td>M.E. in CAD / CAM</td>
<td>2 Years</td>
</tr>
<tr>
<td>4</td>
<td>M.Sc. Tech. (Material Science &amp; Engineering)</td>
<td>5 Years</td>
</tr>
<tr>
<td>5</td>
<td>M.Sc. (Bio Polymer Science)</td>
<td>2 Years</td>
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<tr>
<td>6</td>
<td>M.Sc. Polymer Science</td>
<td>2 Years</td>
</tr>
<tr>
<td>7</td>
<td>B.E. / B.Tech. in Plastics Engineering / Technology</td>
<td>4 Years</td>
</tr>
<tr>
<td>8</td>
<td>B.E. / B.Tech. in Manufacturing Engineering / Technology</td>
<td>4 Years</td>
</tr>
<tr>
<td>9</td>
<td>Post Graduate Diploma in Plastics Processing and Testing (PGD-PPT)</td>
<td>1 ½ Years</td>
</tr>
<tr>
<td>10</td>
<td>Post Diploma in Plastics Mould Design with CAD/CAM (PD-PMD with CAD/CAM)</td>
<td>1 ½ Years</td>
</tr>
<tr>
<td>11</td>
<td>Diploma in Plastics Technology (DPT)</td>
<td>3 Years</td>
</tr>
<tr>
<td>12</td>
<td>Diploma in Plastics Mould Technology (DPMT)</td>
<td>3 Years</td>
</tr>
</tbody>
</table>

The total number of students enrolled for the long-term courses in various disciplines of the academic year 2014-15 are furnished in Annexure – I
3.2 CIPET’s Network with National and International Universities

National:

- National Seminar on Biopolymers & Green Composites (BPGC 2014-2nd in the series) organized by CBPST at Kochi on 14.11.2014. The event was inaugurated by Prof. K.V. Thomas, Member of Parliament, Ernakulam & Chairman, Parliament Public Accounts Committee (PAC).

- Seminar on “Biodegradable Plastics” in association with District Industries Centre & CFSC Changanacherry was conducted at all 14 Districts of Kerala from Jan. 2015 to Mar.2015. The seminars were attended by around 70 – 80 participants in each districts.
CIPET, Chennai organized a National Technical Symposium – TEPIC’14, the first in the series on 12\textsuperscript{th} September 2014. Students from 50 engineering colleges had participated.

International:

- An expert lecture was delivered through Video Conference on “Recent Evolution of Standards in Weathering, the Testing needs and requirements in the Polymer and Coating Industry” by Mr. John Boisseau (Ex.BASF, USA) and Q-Lab Corporation, USA on 10\textsuperscript{th} September, 2014.

- An Expert Lecture was delivered through Video Conferencing on “Development of Plastic Pipes for water distribution systems” by Mr. Richard Hirst, Vice President, New Business Development, Hultec Group, USA and his colleague – Mr. Peter, Australia on 20\textsuperscript{th} November, 2014.

MoU with Moscow State University:

The Indian delegation comprising of Shri Prannoy Sharma, Director (PC), Dept. of C&PC, Govt. of India and Dr. Subhas Chandra Shit, Deputy Director (TS), CIPET Head Office visited M.V. Lomonosov Moscow State University, Moscow, Russia during June 15-22, 2014. During their visit, Memorandum of Agreement was signed between M.V. Lomonosov Moscow State University, Moscow, Russia and CIPET, India on 20\textsuperscript{th} June 2014 for students exchange and collaborative research programs.
3.3 Short-term / Tailor made / Modular training programmes

- CIPET conducts industry specific/oriented short-term technology up-gradation/ modular / tailor-made programs for updating the knowledge of technical personnel working in all the key domains, viz., plastics processing, manufacturing of moulds & dies, testing & quality control and CAD/CAM/CAE.

- A total number of 1843 short-term courses were conducted during 2014-15 which include regular short-term / tailor-made courses; Central / State Govt. sponsored programmes in specific areas for the benefit of VRS opted employees of PSUs, SC/ST, minority candidates, women entrepreneurs and unemployed youths of north eastern region; in-plant / vocational courses etc, through which 30281 candidates got benefited.

3.4 Vocational Skill Development Programmes

- The National Policy on Skill Development has been formulated with an objective to create a workforce empowered with improved skills, knowledge and internationally recognized qualifications to gain access to decent employment and ensure India’s competitiveness in the dynamic global labour market.

- It aims at increase in productivity of workface both in the organized and the unorganized sectors, seeking increased participation of youth, women, disabled and other disadvantaged sections and to synergize efforts of various sectors and reform the present system. The National Skill Development Policy has set the ambitious target of training about 15 million persons annually.

CIPET conducts Vocational Skill Development Programmes ranging from 3 months to 6 months duration at Vocational Training Centres of CIPET in the following areas:

- Signed MoU with the Directorate of Employment & Training, Ministry of Labour & Employment, Govt. of India for empanelment as Assessing Body for Plastics Processing Sector under Skill Development Initiative (SDI) scheme based on Modular Employable Skills (MES).

- CIPET has also signed MoU with M/s. Power Finance Corporation Ltd., M/s. GAIL India Ltd., and M/s. NTPC Ltd., for organizing Skill Development Training Programs for unemployed/underprivileged youths under various categories by Government departments and PSUs under Corporate Social .Responsibility (CSR) for the requirement in the industries for skilled manpower.

- Signed Memorandum of Understanding (MoU) with M/s Eastern Coal Field Ltd., West Bengal and National Safai Karamcharis Finance and Development Corporation (NSKFDC), New Delhi for conducting Skill Development Training programs at CIPET centres.
CIPET provide skill development training programs to fulfill the requirement of skilled manpower for the plastics and allied industries.

The details are given below:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Course Details</th>
<th>Courses</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Regular Short Term courses</td>
<td>1161</td>
<td>8226</td>
</tr>
<tr>
<td>2.</td>
<td>In-plant/Vocational Training Programs</td>
<td>71</td>
<td>8467</td>
</tr>
<tr>
<td>3.</td>
<td>Tailor Made Courses</td>
<td>93</td>
<td>429</td>
</tr>
<tr>
<td>4.</td>
<td>Sponsored Programs</td>
<td>518</td>
<td>13159</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1843</strong></td>
<td><strong>30281</strong></td>
</tr>
</tbody>
</table>
Selected list of typical training programmes conducted at CIPET Centres are given in Annexure – II.


Skill Development Programme: Machine Operator – Injection Moulding (MO-IM) – 6 months duration sponsored by Power Finance Corporation Ltd., New Delhi

Short-term course on Plastic Recycling & Waste Management conducted by CBPST, Kochi during 20.06.14 & 21.06.14


Inaugural Function of the Trade "Maintenance of Machinery" Sponsored by Power Finance Corporation Ltd., New Delhi under CSR Scheme on 11.12.2014 at CIPET Campus II, Bhubaneswar

Valedictory Function of the Training Program Sponsored by OSFDC, Govt. of Odisha
Valedictory Function held on 12.07.2014 for trainees completed Injection Mouling Machine Operator Course (IMMO) under M-DONER, Govt. of India at APPTC, Balasore from 15.01.2014 to 14.07.2014

Industrial Visit at Railways Carriage Workshop, Mancheswar, Bhubaneswar for MMIA trainees Sponsored by M-DoNER, New Delhi.

Shri P.K. Dash, I.A.S. Addl. Chief Secretary, Dept. of Commerce, Industries & Employment, Govt. of M.P. has inaugurated the new Academic Block of CIPET-Bhopal on 05.04.2014.

CIPTE Chennai conducted Short term course on Testing & Quality Control of Plastics Materials & Products during 08&09.12.2014
Skill Development Training programs for SC/ST/OBC/PWD/WOMEN & EWS of Society Sponsored by Power Finance Corporation Limited, New Delhi and conducted by CIPET Murthal for the year 2014-15


CIPET, Guwahati conducting Short Term Training Programme on “Plastics Product Manufacturing (PPM)” sponsored by M/s GAIL (India) Limited from 10.11.2014 to 11.05.2015. Photograph on inauguration ceremony of the programme.

Dr. Upendranath Biswas, Hon’ble MIC, BCWD, Govt. of West Bengal inaugurated Skill Development Training Programme on 03.11.2014 for the SC candidates.


CIPTE Chennai conducted Short term course on Testing & Quality Control of Plastics Materials & Products during 08&09.12.2014

STC on “Injection moulding technique for Plastics” (May 2014)

Tailor Made Course for M/s. Hindustan Unilever Limited, Mumbai - One day workshop on “Plastic Materials and its selection criteria” conducted on 10.11.2014

CIPTE Guwahati conducted six months training program on Machine Operator (Tool Room) sponsored by Ministry of DONER during 27th February 2015 to 27th August 2015

STC on Injection and Blow Moulding Techniques for Plastics (December 2014)
4. TECHNOLOGY SUPPORT SERVICES

Equipped with state-of-the-art facilities, CIPET renders Technology Support Services (TSS) in Processing, Testing, Quality Assurance & Inspection, Calibration and Design (CAD/CAM/CAE) & Tooling, to the plastics and its allied industry in India and abroad.

The Plastics Testing Centres (PTC) of CIPET are recognized as one of the best plastics testing facilities in Asia, recognized by Bureau of Indian Standards (BIS), National Accreditation Board for Testing & Calibration Laboratories (NABL), Customs etc. CIPET has been accredited by National Accreditation Board for Certification Bodies (NABCB) for undertaking inspection services. CIPET is playing a vital role and rendering 3rd Party Inspection Services for plastics products across the country particularly in the agriculture/irrigation sectors.

CIPET has installed latest designing software in CAD/CAM/CAE and its Tool-Room is equipped with modern machinery to impart hands on practical exposure to students and providing technology support services to industries.

During the reporting period, a total number of 45,692 technology support service assignments were successfully completed.

4.1 Design and Tooling of Plastics

CIPET provides a world class Technology Support Services in the areas of CAD/ CAM/ CAE by complementing customer’s efforts to fulfill their design and engineering requirements and to deliver them optimum solutions with high quality. The design and CAD/ CAM/ CAE departments in all CIPET centres are equipped with latest software. Based on the combination of engineering knowledge and software skills & industrial experience, CIPET offers spectrum of services in CAD, CAM and CAE.

Tool Rooms at CIPET Centres are well equipped with state-of-the-art CNC machinery and extended its facilities for taking up commercial job assignments for mould fabrication, high precision machining and manufacturing of standard mould bases. Besides fabrication of moulds, the tool rooms also undertakes job orders of varying magnitude such as repair of moulds and dies, CNC machining, CNC spark erosion, CNC wire-cut, grinding, drilling, designing, development of jigs and fixtures, tool parts etc. During the year 2014-15, 1241 number of Design & Tooling assignments were undertaken and the selected list of assignments are given in Annexure – III.

Design and Development of Plastics Inspection cover wind Turbine Gear Box

Design and Development of Grid for GPS based Time management systems
Design of Drive line shaft components

Design and proto development of vacuum cleaner

Design and development of Conch shell

Name of the Mould : 2 impression injection mould for big connector
Customer Name : M/S Craft Creations Pvt.Ltd, Aurangabad.
Product Function : Used as assembly part in wooden almira rack
Tool Material : Mild Steel & P20 steel

Design & development of Mud Flap, Front cover, Rear Cover, Petrol tank, Assembly block, Engine head for Enfield motor cycle

4 Cavity Textile Bobin Mould Developed for M/s. Oberoi Electromech, Jalandhar
4.2 Processing

Plastics Processing Departments at CIPET centres have wide range of facilities which include – conventional plastic processing machinery, state-of-the-art advanced microprocessor controlled machinery to undertake mould proving and molding job works.

During the year 2014-15, 2376 number of Processing assignments were undertaken and the details are given in Annexure – IV.

- Name of component: Case for Renault
- Material used: PC-GF (10%)
- Machine Used: JSW all electric Injection Moulding 180 Ton
- Customer: M/s. Sanjay Technoplast Pvt Ltd, Aurangabad
- Description: The component processing carried out at CIPET Aurangabad. It has six inserts and is used for holding the electronics circuit in Car. The mould has core pull mechanism in it.

- Name of Product: Electrical Panel Top cover / Material: HIPS / Mould Type: Single cavity injection mould
  Cad Tool: CREO (PRO-E)

- Terafill Water Filter - PPCP - This product used for filtering of water.
- Kitchen Ware trolley
4.3 Testing

The Plastics Testing Centers (PTC) of CIPET Centres are well equipped and fully devoted for fulfilling the objectives of offering consultancy & advisory services to the plastic industries by undertaking testing assignments viz: plastics materials/products/composites as per the national and international standards. The testing facilities available at PTC include: Characterization Lab, Mechanical Laboratory, Thermal Laboratory, Electrical Laboratory, Optical Laboratory, Chemical Laboratory, Rheology Lab and specialized testing facilities are available at Chennai for testing of Biodegradability.

The PTC of all Centres except Imphal are accredited as per NABL – ISO / IEC 17025. 19707 testing assignments were undertaken during the year 2014-15. (Annexure-V)

UPVC PIPES from Water Supply & Sanitation Department, Punjab

Horticulture Deptts. Punjab

Development HDPE of Long lasting insecticide net (llin) for HIL
4.4 Calibration

CIPET Calibration Laboratory at Lucknow is accredited as per ISO/IEC: 17025: 2005 by NABL, Department of Science and Technology, Govt. of India. The laboratory currently provides quality instrument calibration services to manufacturing, Research and Development, testing and engineering organizations nationwide. High accuracy master equipments, trained personnel and strict environmental conditions are maintained by CIPET calibration centre. The calibration services is extended to various laboratories and the onsite & offsite calibration are being carried-out by the Centre.

4.5 Pre-Delivery Inspection (PDI)

CIPET’s expertise as third party inspection agency for plastics products is recognized by various Central & State Govt. organizations for pre-dispatch / delivery inspection and Post delivery inspection of plastics & allied products. CIPET PDI has been accredited by National Accreditation Board for Certification Bodies (NABCB) as per ISO/IEC – 17020 (General criteria for the operation of various types of bodies performing inspection) as TYPE – A Inspection body with the scope of around 23 products. During the period of 2014-15, 5046 PDI assignments were undertaken from reputed industries across the country and also on behalf of Government organizations.

4.6 Consultancy

As per the specific needs of the plastic and its allied industries, CIPET undertakes consultancy assignments on long-term and short-term basis. The services are rendered by deputing technical personnel to the industry to study and solve the problems on the spot. The major area of consultancy services include:

- Material selection for newer products substitution;
- Setting up of Tool Room/ Processing units/ Testing laboratory;
- Process optimization and formulation development ;
- Analysis, characterization and large scale development of materials and products;
- Turnkey consultancy on major projects;
- Plastics sector survey on technical aspects.

During the year 2014-15, 1093 application development / consultancy assignments were undertaken by CIPET centres and selected list is given in Annexure – VI.

Occlusal Stress Distribution in a Human Skull with Two Different Premolar Extraction Pattern for M/s. Raagas Dental College.

Stress distribution on TMJ with mandibular condyle fracture with Different fixations
4.7 UNIDO-ICAMT project on ‘National Program for Developing Plastics Manufacturing Industry in India’

The UNIDO-ICAMT project on “National Program for Developing Plastics Manufacturing Industry in India” sponsored by (i) Deptt. of IPP, Govt. of India (ii) Deptt. of C&PC, Govt. of India and (iii) UNIDO with project outlay of US $ 1,300,000 is under final stage of implementation. In this programme, 100 plastic units were identified through 05 Clusters i.e Chennai, Gujrat, NCR Delhi, Mumbai and Bhubaneswar (20 units from each locations). UNIDO appointed one National Consultant for each clusters. During the reporting period, the diagnostic study report of the Bio-polymers industry was finalized along with budget split as agreed upon between UNIDO-ICAMT and CIPET. The revised and final report on the diagnostic study of the bio degradable plastics in India has been submitted to UNIDO. The procurement of equipments for two R&D Centres one at CIPET, Chennai and another at CIPET Bhubaneswar will be completed by March 2015.
In order to become a Global R&D Hub and to keep abreast with new research and technology development, CIPET established two exclusive R&D wings - **Advanced Research School for Technology and Product Simulation (ARSTPS) at Chennai** and **Laboratory for Advanced Research in Polymeric Materials (LARPM) at Bhubaneswar** in the field of Product Simulation and Material Development respectively. The laboratories have become self-sustaining over these years and have created a technologically fertile environment emphasizing collaboration with the top-notch universities across the globe as well as industries through joint research ventures. The laboratories have been orienting its research areas as per the technology advancements thereby opening up new vista of innovations.

**EXPERTISE**

- Synthesis of eco-friendly polymers
- Composites and nanocomposites
- Polymer analysis and characterization
- Development of carbon nanotubes of high purity
- Functionalization of fillers
- Conducting polymers and their applications
- Energy storage and sensors
- Reverse engineering and analysis
- Rapid prototyping of components
- Design and simulation techniques

**CURRENT RESEARCH – A GLIMPSE**

- **Bi-aspheric Lenses for Indirect Ophthalmoscopy**: Technology for producing highly precise bi-aspheric lenses has been developed. This technology leads to production of thin, lightweight aesthetic lenses with balanced correction of power discrepancies and astigmatism at the lens periphery.

- **Centre of Excellence on ‘Green transportation Network’**: Utilizing the agricultural waste such as natural fibers as a reinforcing agent in polymeric matrices can be a potential substitute for the petroleum based feedstocks for automobile applications. This CoE would generate materials with desired attributes while reducing the carbon footprints as well as light weight fuel efficient composites.

- **Synthesis of high performance oligomer end-caps**: High performance oligomers are tailored for optimized molecular weight for coating application for detecting fuel leakage in aircrafts.

- **Bio-based composites for automobile applications**: Sustainable automobile components from microfibril reinforced polyolefins are developed as an effective alternative for mineral filler polymers in use. This would aid in reducing the weight of the auto-part thereby increasing the fuel efficiency.

- **Electronic waste recycling**: The menace of WEEE is addressed through segregation of plastics waste and development of value-added products therefrom. Their toxicity, evolution of toxic gases during processing etc. are evaluated in detail.
• **Polymer electrolyte membranes for fuel cells**: Novel polymeric membranes are developed for low and medium temperature fuel cells and detailed investigation on their service performance through fuel cell stack studies are carried out.

• **Centre of Excellence on ‘Sustainable Green Materials’**: The potential of vegetable / plant oils are being explored for generating eco-friendly polymers and interpenetrating networks. Their sustainability as coatings and adhesives are investigated in detail. Moreover, environmentally friendly techniques for recycling plastic waste are also being extensively studied.

![Expert Committee Members from UoT visited CIPET on 06.08.2014 to review the progress of GREET research scholars registered Ph.D programe at UoT, Canada.](image1)

CIPET helps people of weaker sections of the Society like SC/ST, Youths and particularly from North-Eastern region and Underprivileged to upgrade their knowledge by providing opportunities to get self employment and also to improve their social status for a better living in the society. In this regard, CIPET conducts many Central and State Government sponsored programs in the areas of Plastics Engineering & Technology. Various modes of publicity were made to create awareness among people about the latest technology development in plastics and also about the plastics waste management.

6.1 Plastics Waste Management

Plastic Waste Management is one of the social issues in our country. In order to manage the curbing the issue effectively, CIPET has been organizing a series of seminars / conferences on Plastics Waste Management at different parts of the country with an aim to educate the stakeholders about the various facets of this problem. During the year 2014-15, four such seminars have been organized at Vijayawada, Jaipur, Sirsi and Kochi in which more than 12,000 participants were benefited.

Technical Seminar on “Creating Awareness about Plastic Attributes of Plastics/Recycling Properties of Plastics” was organized on 28th Aug., 2014 at Vijayawada. Shri Indrajit Pal, I.A.S., Secretary to Govt. of India, Department of Chemicals & Petrochemicals, Ministry of Chemicals and Fertilizers and President – CIPET Governing Council inaugurated the Seminar in the presence of Shri C. Hari Kiran, I.A.S., Commissioner, Vijayawada: Municipal Corporation; Smt. Usha Kumari, IAS, Vice Chairman, VGTM – Urban Development Authority; Shri. M. Raghunandan Rao, IAS, District Collector and Magistrate, Krishna District and Prof. (Dr.) S. K. Nayak, Director General, CIPET.
Technical Seminar on “Creating Awareness about Plastic Attributes of Plastics/Recycling Properties of Plastics” was organized during 13th to 15th Nov., 2014 at Sirsi - Hon’ble Minister for Chemicals & Fertilizers, Shri Anantha Kumar inaugurated the Seminar and Shri Shrimajjagadguru Shankaracharya Shri Sonda Swarnavalli Swamiji presided over the conference. Sri Vishweshwar Hegde Kageri, MLA, Sirsi Constituency, Prof. (Dr.) S.K. Nayak, Director General, CIPET & Dr. T.V. Ramachandra, Indian Institute of Science were also present in the inaugural function. During the inaugural session a book on “Plastics & Environment” (Kannada version) was released by the Hon’ble Minister for Chemicals & Fertilizers, Govt. of India.

Technical Seminar on “Creating Awareness about Plastic Attributes of Plastics/Recycling Properties of Plastics” was organized at Jaipur on 19th December 2014. Shri Avinash Joshi, I.A.S. Joint Secretary (PC), Deptt. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt of India inaugurated the seminar and addressed the gathering.
A One Day Technical Seminar on “Creating Awareness about Positive Attributes of Plastics & Waste Management” was organized at Hotel Gem Park Ooty, Sheddon Road, Udagamandalam on Saturday, January 31, 2015. Shri Surjit K. Chaudhary, I.A.S., Secretary (C&PC), Govt. of India has inaugurated the Seminar.

A Technical Seminar on “Creating Awareness about Positive Attributes of Plastics & Waste Management” was organized on 13.02.2015 at Aurangabad. The seminar was inaugurated by Shri Prakash Mahajan, I.A.S., Commissioner, Aurangabad Municipal Corporation. Dignitaries from Industry Associations, Government officials, MIDC officials, Municipal Corporation, Eminent persons from Industries, Health Officials, NGOs etc. were present in the Seminar.

A brainstorming session on ‘Plastics Waste Management’ was organized at CIPET Imphal on 4th September 2014 at CIPET Imphal with the participation of officials from Government Deptts/NGOs/industry.
7.1 Advanced Tooling & Plastics Product Development Centre (ATPDC), Madurai

The project for establishment of ‘Advanced Tooling & Plastics Products Development Centre (ATPDC) Madurai - a unit of CIPET Chennai at a total cost of Rs.24.80 crore equally shared by Govt. of India and Govt. of Tamilnadu is under final stage of completion. The construction of new campus for ATPDC Institutional Block & Boys Hostel is completed and the Centre started functioning in the new campus from 29th June, 2015 onwards.

7.2 Centre for Bio-Polymer Science & Technology (CBPST), Kochi

The “Centre for Bio-polymer Science & Technology (CBPST)” was established at M/s. FACT Campus at Udyogmandal, Kochi at a project cost of Rs.24.90 crore and functioning in the temporary premises. CBPST is conducting 2 years M.Sc. Biopolymer Science course and Doctoral Programme in Material Science with Special Emphasis on Bio-Polymers in collaboration with Cochin University of Science & Technology (CUSAT) with the intake capacity of 40 students.

7.3 Skill Development Centre (SDC), Balasore, Odisha

APPTC, Balasore has submitted a proposal for establishment of “Skill Development Centre (SDC)” at APPTC, Balasore along with a request of Rs.10.00 crores and allotment of 5.00 acres of land to APPTC, Balasore, which has been principally approved by the Govt. of Odisha. The land for the establishment of SDC have been allotted to APPTC, Balasore, selection of executing agency have been finalized and further activities in terms of tender are in process. The proposed centre is meant to train 1000-2000 Nos. of trainees per annum in different short term skill oriented courses on Plastics Processing and its allied areas.

7.4 HLC/VTC at Rudraram, Medak Distt. (Telengana):

For establishment of High Learning Centre-cum-Vocational Training Centre at Medak (Telangana), CIPET has already acquired 20 acres of land from M/s. Hindustan Fluorocarbons Ltd., (HFL). In this regard, a project proposal was submitted to Principal Secretary, Higher Education, Govt. of Telangana on 23.03.2015 for establishment of CIPET-HLC at the land taken over from M/s. Hindustan Insecticides Ltd., Rudradam, Medak Distt., Hyderabad. The matter is actively being followed up for early approval of the proposal. Simultaneously, CIPET is in the process of submitting proposals to various State Govt. departments for getting sanction of the programs.
7.5 **OLC at Vijayawada (Andhra Pradesh):**

Govt. of Andhra Pradesh has issued consent letter on 16.03.2015 and agreed in-principle to allot 15 acres land for establishment of CIPET Centre at Vijayawada. In this connection, CIPET has identified a site at Vijayawada division i.e. Ibrahimpatnam which was found most suitable for setting up of the CIPET Centre. In this regard, application was submitted to Joint Collector, Krishna Distt. for alienation of the land to CIPET which is in process. It is expected that the possession of the land will be taken over by CIPET shortly.

Meanwhile, CIPET has identified the building of Common Critical Machinery & Common Testing Centre, M/s. Vijayawada Auto Cluster Development Company Ltd., located at J. Auto Nagar, Vijayawada for immediate commencement of skill development programs. Further follow up actions are being taken in this regard.

7.6 **VTC at Dharampur, Valsad (Gujarat):**

Establishment of VTC for Scheduled Tribes at Dharampur, Valsad (Gujarat) at a total cost of Rs.31.77 crore is actively being followed up with the State Govt. of Gujarat. During the reporting period, CIPET has hired a rental accommodation at NH-8 Dharampur Chokhandi, Atak Pardi, Valsad for starting the VTC programs immediately. Manpower from CIPET Ahmedabad have already been shifted to initiate the training program. The requisite machinery identified at CIPET Ahmedabad Centre shall be shifted to VTC, Valsad. Candidates have been shortlisted to undergo Plastic Product Manufacturing Technology (PPMT) program which would likely to be started by May 2015.. Further, a MoU has been signed with State Government of Gujarat for providing training to 900 Tribal Youths, which include the 2000 candidate targeted for the year 2015-16.

7.7 **VTC at Baddi, (Himachal Pradesh)**

The establishment of VTC at Baddi, Himachal Pradesh (HP), at a total project cost of Rs.40.10 crore to be shared on 50:50 basis between Govt. of HP and Govt. of India is actively being followed up. The Deptt. of Technical Education, Govt. of HP had already transferred 7 acres of land in the name of Technical Education Department. During the financial year 2014-15, the State Govt. had made a budget provision of Rs.1.0 crore for establishment of the project.

During the reporting period, application for transfer of land, has been submitted to the Principal Secretary (TE) to the Govt. of HP for possession and transfer of land to CIPET-VTC. The State Govt. of HP has been requested to provide the land to CIPET free of cost on lease for 99 years and waive off the lease amount or to consider nominal premium or salami of Rs.1/- (One) only as the project is aimed at good cause for the growth and development of the State. The Principal Secretary, Ayurveda & Technical Education, Govt. of HP has informed that the request of CIPET will be put up for Cabinet approval.

Further, for starting the vocational training programs immediately, CIPET has hired a rented accommodation of 5040 sq ft consisting of two class rooms & one workshop of BTTL, from Baddi Infrastructure at license fee of Rs.10/- per sq ft. per month initially for a period of one year. Requisite machinery has been shifted at this temporary campus and manpower has been posted on deputation basis.

Once the facilities are created, the registration process for undertaking SDI VTC programs under DGET shall be taken up on priority basis and action will be taken for getting other sponsored & non sponsored programs.
It is proposed to train 3000 candidates at VTC- Baddi during the year 2015-16.

7.8 VTC at Bhopal:

A proposal to establish a “Vocational Training Centre (VTC)” at Bhopal, Madhya Pradesh (MP), at a total project cost of Rs.40.10 crore, to be shared on 50:50 basis between Govt. of M.P. and Govt. of India was submitted to Central & State Govt. The Govt. of M.P. had allotted 10 acres of land at free of cost at Semera Village, adjacent to Govindpura Industrial area for establishment of VTC. The transfer of land from District Industries Centre (DIC) to CIPET is under process.

In the meantime, a temporary premise for office & hostel has been hired for VTC at Samrat Colony, New Ashoka Garden, Bhopal for commencing the vocational training programs immediately. A Skill Development Training Program of six month duration for batch of 50 SC candidates sponsored by MAP CET (Govt. of M.P.) has been started from 01.05.2015. Advertisements for hiring temporary shed and manpower recruitment have been published in leading news paper. A proposal has been submitted for Technology Upgradation Programme (TUP) for SC/ST/OBC/GEN students of Engineering & Polytechnic Colleges of Madhya Pradesh to the Directorate of Technical Education, Govt. of MP. It is proposed to train 2500 candidates by the VTC at Bhopal during the year 2015-16.
8.1 Faculty Development Programmes

In order to strengthen the manpower capabilities and upgrade their knowledge in tune with latest developments, CIPET has been imparting specialized training to its officials in various spheres of activities like NABL, Lean Six Sigma Green Belt & 5S and ISO 9001.

- CIPET is constantly interacting and collaborating with leading educational / academic institutions and universities of the world so as to strengthen / enhance the academic excellence and professional, superiority of the organization through Faculty Exchange Programs. The full-fledged HRD Centre established at CIPET, Chennai campus has been activated for organizing training programs for internal faculty and external clients focusing mainly on the international training assignments.

- An expert lecture on “Recent Evolution of Standards in Weathering, the Testing needs and requirements in the Polymer and Coating Industry” delivered through Video Conference by Mr. John Boisseau (Ex-BASF, USA) & Q-Lab Corporation, USA on 10.09.14 at 10:00 AM. at CIPET-Chennai;

- A workshop on “5S and Kaizen Techniques” was organized for the employees of CIPET Aurangabad during 1st to 5th August, 2014

8.2 Vigilance Activities

CIPET has vigilance set up at Head Office headed by CVO (Internal) reporting to CVO of Administrative Ministry and each CIPET Centre has Vigilance Officer. Periodical reports are collected from Centres, compiled and sent to Central Vigilance Commission (CVC). Vigilance Awareness Week was also observed in all the CIPET Centres.

Vigilance examination is done systematically on all CIPET Centres on the functioning of testing, purchase, accounts & processing, tool room, inspections etc., Review of property returns, job rotations and other preventive vigilance actions are done in a periodical manner at CIPET HO and its centres.
8.3 Swachh Bharat Abhiyan

- The Hon’ble Prime Minister of India has given National Call for “Swachh Bharat” as a mass movement to realize Gandhiji’s dream of a clean India during the 150th Birth Anniversary of Mahatma Gandhi in 2019. CIPET begins its intensive national cleanliness campaign from 25th September, 2014.

- In CIPET, the drive has been named as “CIPET SWACHH ABHIYAN”, wherein the activities / programs have been performed from 02nd October, 2014 across the country through operative CIPET centres for the said noble cause.

- Regularly carrying-out cleaning of office premises and peripheral area of the CIPET Campuses with the help of officers, faculty & staff with the commitment of atleast 2 to 3 hrs weekly spend for this swachh mission.

- Each CIPET Centre has adopted one village / colony close to CIPET Centre for performing the campaign on cleanliness. Apart from organizing cleaning camps for delivering the speeches, presentation, drama, display of posters, stickers & Banners and distribution of the dustbins for segregation of waste materials. Also, more than 30 road shows and rallies were organized by CIPET under Swachh Bharat.
Constructions of Girls Toilet:

As per the guidelines of Ministry of HRD, Govt. of India, CIPET has committed to construct 25 Boys & Girls Toilets at various schools across the country. CIPET Centres have identified the listed schools which do not have toilets in their premises and accordingly started the activities for construction of toilets.

Construction of Toilet for Physically disabled persons:

CIPET Centre, Hajipur specially constructing one separate toilet for physically disabled persons under the banner of Swachh Bharat mission.

Make in India:

Director General, CIPET along with Senior Ministry officials attended the meeting on “Make in India” - A new initiative of Govt. of India and presented the CIPET’s activities to the Hon’ble Minister (C&F) and Hon’ble Prime Minister on 29.12.2014 at New Delhi. As per the action plan envisaged for Deptt. of C&PC by the Govt. of India under the new initiative, Director General, CIPET and Director (PC) held meeting with CMD, M/s. Hindustan Aeronautics Ltd., (HAL), at Bangalore on 28/01/2015 for finalization of Indigenous Development of Glass, Carbon Prepregs and Adhesives with CIPET. Further interacted with the Officials of M/s. Boeing Company and M/s. E-Parisara Pvt. Ltd., Bangalore on 29/01/2015.
9. WELFARE MEASURES

- In order to strengthen the manpower capabilities and upgrade their knowledge in tune with latest developments, CIPET has been imparting specialized training to its officials in various spheres of activities like NABL, Lean six sigma, Green Belt & 5S & ISO9001 and through faculty exchange programme. The faculties of CIPET were also deputed to participate in Seminars / Conferences / equipment training abroad, visit to exhibitions, training programmes to upgrade their knowledge & skill etc.
10. IMPLEMENTATION OF OFFICIAL LANGUAGE – HINDI IN CIPET:

- Implementation of Official Language has been monitored through Administration Department at Head Office level as per the official language policy. Untrained staff are encouraged to undergo training in Hindi to pass Hindi Examinations organized through Hindi Teaching Scheme.

- CIPET Head Office is a member of Town Official Language Implementation Committee, Chennai, which works under the Department of Official Language, Ministry of Home Affairs, Govt. of India. Participation in TOLIC helps CIPET to more effectively implement the Official Language Policy.

- Hindi Day / Hindi Fortnight have been organized at CIPET Head Office and CIPET Centres in which various competitions conducted for officers/staff/trainees.

- The First Sub-committee of the Committee of Parliament on Official Language inspected the implementation of official language Hindi at CIPET centre, Mysore on January 16, 2015. Similarly, the Sub-committee also inspected CIPET centre, Jaipur on February 6, 2015.

- Also the First Parliamentary Sub-committee on Official language inspected the implementation of official language Hindi at CIPET Centre, Imphal on 15.04.2015. The committee noted the good progress on implementation of Hindi language by CIPET Centres Mysore, Jaipur & Imphal. The committee praised the work done in Hindi at CIPET – Imphal, Mysore & Jaipur

- CIPET – Campus II has organized “HINDI PAKHVADA” from 14th to 29th September, 2014. During this period, different competitions had been organised for Staff & Students and winners of the various competitions have been motivated by awarding prizes.

- Hindi Day was celebrated at CIPET Bhubaneswar on 14.09.2013 and prizes were distributed to the winners of the various competitions.
113th Governing Council Meeting of CIPET held under the Chairmanship of Shri Surjit K. Chaudhary I.A.S, Secretary, Deptt. of Chemicals & Petrochemicals on 19.02.2015 at Bangalore.

Shri Rajiv Yadav I.A.S, Aditional Secretary & Financial Adviser Deptt. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt of India visited and reviewed the performance and progress of the CIPET Aurangabad on 13 & 14th June 2014

Ms. Nita Chaudhury, I.A.S., Secretary (Official Language), Ministry of Home Affairs, Govt of India visited CIPET Aurangabad on 15.09.2014
Shri Dietmar Hahn, Sr. Consultant, Institute for Vocational Training, Labour Market and Social Policy, Germany has visited the CIPET Aurangabad on 04.02.2015.

Shri P.K. Dash, I.A.S. Addl. Chief Secretary, Dept. of Commerce, Industries & Employment, Govt. of M.P inaugurated the new Academic Block of CIPET-Bhopal on 05.04.2014.

Shri Surjit K. Chaudhary, IAS, Secretary (C&PC), Ministry of Chemicals & Fertilizers, Govt. of India visited CIPET, Chennai on 21.01.2015 and reviewed the activities.
Shri Surjit K. Chaudhary, IAS, Secretary (C&PC), Ministry of Chemicals & Fertilizers, Govt. of India visited CIPET Guwahati on 17.10.2014 to review the activities.

Dr. Th. Munindro Singh, Director, Planning Department, Govt. of Manipur and Shri L.N.Kashung, Addl. Deputy Commissioner, Chandel, Manipur visited the facilities and activities of CIPET Imphal on 20th March, 2015 to see.

The committee on Welfare of Scheduled Castes & Scheduled Tribes of Odisha Legislative Assembly visited CIPET HLC, Bhubaneswar on 12.09.2014.
Standing Committee on Chemicals & Fertilizers visited CIPET Centre, Hyderabad on 8th January, 2015 and reviewed the activities of the centre.

CIPET, Head Office has implemented the E-Tender/E-Procurement towards procurement activities from January, 2015. The same has been linked with Central Public Procurement Portal (CPP Portal) through Service Provider M/s. Karnataka State Electronics Development Corporation Ltd. (KEONICS) website - www.tenderwizard.com/CIPET.

12. CIPET PUBLICATIONS:

CIPET has published the following text books for the benefit of students. These books were authored by CIPET faculties and are widely accepted by the students studying at various institutions.

- CIPET Times – an in house publication of CIPET is being published at regular intervals.

13. SEMINARS / SYMPOSIA / EXHIBITIONS / CONFERENCES:

In line with the National Policy on Petrochemicals, CIPET organizes Promoting program on "Creating awareness about positive attributes of plastics/recyclable properties at different parts of the country in order to create awareness about plastics & its usefulness, effective and efficient ways of tackling the issues related to Plastics Waste Management and to promote environment friendly recycling technologies. In addition, CIPET is also organizing International Conference on “Advancements in Polymeric Materials” (APM) every year.

- CIPET has deputed 200 officials for participation in various seminars / conference / exhibitions / equipments training as a part of Faculty Development Programs which include 04 CIPET officials deputed to visit China Plas 2014.

- Regional Advisory Committee (RAC) meeting of CIPET Aurangabad was held under the Chairmanship of Shri Apurva Chandra, I.A.S., Principal Secretary (Industries), Govt of Maharashtra on 24.09.2014.
21st Regional Advisory Committee (RAC) meeting of CIPET HLC, Bhubaneswar was held on 12.12.2014.

The 5th edition of IPLEX-2014 was organized by CIPET in association with TAPMA, KPMA, KSPA during August 8-11, 2014 at Hyderabad which was inaugurated by Shri Ananth Kumar, Hon’ble Minister for Chemicals & Fertilizers, Govt. of India. Around 50,000 visitors across India had visited the 3 days event. CIPET had participated with 40 sq.mts stall wherein the activities of CIPET and the policies of Govt. of India being implemented through Deptt. of C&PC, MoC&F specifically in the area of plastics segment were displayed.

Seminar on Biodegradable Plastics in association with District Industries Centre & CFSC Changanacherry was conducted at all 14 Districts of Kerala from Jan. 2015 to Mar.2015. The seminars were attended by around 70 – 80 participants in each districts.

The 5th International specialized Exhibition “ROSPLAST–Plastics Equipment and Items” was organized at Crocus Expo IEC, Moscow region, Moscow during 15-22 June, 2014 with focus on new development in the tool making industry as well as in the field of plastics processing machinery. The Indian delegation comprising of Shri Prannoy Sharma, Director...
(PC), Dept. of C & PC, Govt. of India, and Dr. Subhas Chandra Shit, Deputy Director (TS), CIPET Head Office visited ROSPLAST 2014. More than 50 companies from Russia, China, Taiwan, Japan, Italy, Germany, Turkey, Sweden, Denmark, Finland and Portugal participated in the exhibition for exhibiting their products.

- Organized a Workshop on “Leadership & Motivation” for the Sr. Officials of administrative Ministry and PSUs of Ministry of C&F during January 16-17, 2015 at Lavasa (Maharashtra); The workshop was inaugurated by Shri Hansraj Gangaram Ahir, Hon’ble Minister of State for Chemicals & Fertilizers, Govt. of India.

- **India Chem 2014:**

  Participated in the 8th Edition of the mega event “India Chem”, jointly organized by the Deptt. of C&PC along with FICCI during 9-11th, October 2014 at Bombay Exhibition Centre, Goregaon, Mumbai. CIPET stall was inaugurated by Shri Surjit K. Chaudhary, I.A.S., Secretary (C&PC), Govt. of India. More than 800 visitors visited the stall in 3 days.

- **IMS 2014:**

  Participated in IMS 2014 exhibition held at Bangalore on September 10-14th, 2014. This event was inaugurated by Shri Ananth Kumar, Hon’ble Minister (C&F), Govt. of India. More than 1000 visitors visited the stall in 3 days.

- **PolyIndia 2015:**

  PolyIndia 2015 – 3rd International Exhibition & Conference on Plastics and Petrochemicals scheduled to be held during October 2015. CIPET officials actively participated in the first meeting of the Steering Committee held under the Chairmanship of Secretary (C&PC), Govt. of India on 3rd February, 2015 and the 2nd meeting on March 4, 2015.
Plastindia 2015:

Plastindia 2015 is the 3rd largest Exhibition of its kind in the world and largest in India will have more than 2000 Exhibitors and 1,50,000 Business visitors from all over the world, spread over 1,25,000 sq.mts. area. Plastindia 2015 was held for the first time outside the Capital Delhi i.e at Gandhi Nagar, Ahmedabad, Gujarat from February 5-10, 2015. CIPET & DCPC has jointly propagated the specific Government of India’s Schemes for growth of Plastics/Polymer Industry and the programs / activities carried-out by CIPET.

Director General, CIPET and Joint Secretary (PC), Deptt. of C&PC, Ministry of Chemicals & Fertilizers, Govt. of India visited South Africa in March 2015. During the tour - (i) Visited to the facilities of DST/CSIR National Centre for Nanostructured Materials (NCNSM) and signed MoU at Pretoria on March 16&17, 2015. The proposed area of collaboration with NCNSM-CSIR, South Africa shall be in Materials & Product Development in the areas of – Bio-composites, Bio-polymers, Polymer Nano-additives & Polymer Sensors. (ii) Visited the Durban University of Technology at Durban on March 18, 2015 (iii) Visited University of Stellenbosch at Stellenbosch on March 19, 2015 and (iv) Visited NAMPAC Packaging Company at Cape Town on March 20, 2015.
TEPIC’14 - National Technical Symposium:

Department of Plastics Technology and Department of Manufacturing Engineering, Central Institute of Plastics Engineering & Technology, Chennai has organized a National Technical Symposium – TEPIC’14, the first in the series on 12th September 2014 at CIPET. Students from around 50 engineering colleges from Tamilnadu had participated.

TECHFEAST 2015 & CIPOFEST 2015:

TechFeast 2015 – the 4th in the series of Annual Technical event exclusively for the undergraduate and postgraduate students was organized at CIPET, Chennai on March 20-21, 2015. Events like poster presentation, elocution completion and quiz program were organized during the Techfeast-2015. In commemoration with Techfeast-15, CIPOFEST 2015 an intercollegiate cultural event was also organized at CIPET Chennai. Students from HLC centre of CIPET and students from other colleges also participated in various programmes.
AUDITOR’S REPORT

To the Members of
CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY:

We have audited the attached Balance Sheet of M/s. CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY, Chennai as at 31.03.2015 and also the Income & Expenditure Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the Society’s Governing Council. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards required that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, proper books of accounts as required by the rules and regulations of the Memorandum of Association of the Institute have been maintained so far as it appears from our examination of the same. Subject to the notes on accounts enclosed, we report that:

1. The Balance Sheet and Income & Expenditure Account referred to in this report are in agreement with the Books of Accounts.

2. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit.

3. In our opinion and the best of our information and according to the explanations given to us, the said accounts read with the notes give a true and fair view:

   (i) In the case of the Balance Sheet, the state of affairs of the Institute as at 31.03.2015.
   AND

   (ii) In the case of the Income and Expenditure Account, of the excess of Income over Expenditure for the year ended on that date.

For MOUNTBATTAN & CO.,
CHARTERED ACCOUNTANTS

Place: Chennai.
Date: 03.07.2015

(K. VIDYADHARAN)
SENIOR PARTNER
Memb.No.021924
Firm Regn.No.008296S
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<thead>
<tr>
<th>Sl. No</th>
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<td>CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS</td>
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## CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY (CIPET)

### INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 2015

(Amount - ₹)

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<th>Sl. No</th>
<th>Particulars</th>
<th>Schedule</th>
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<td>[incl. R &amp; D, Consultancy Services &amp; Others]</td>
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