TECHNOLOGY INFORMATION, FORECASTING AND ASSESSMENT COUNCIL (TIFAC)

(An autonomous body of Department of Science & Technology, Govt. of India)

Annual Report

2016-2017

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Contents

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- Professor Sibaji Raha, Director, Bose Institute, Kolkata
- Executive Director, TIFAC (Member-Secretary)

EXECUTIVE SUMMARY

TIFAC by its mandate has been delineating country's future technological pathways for almost three decades, most notably through the Technology Visions. Besides, it has focussed on knowledge intermediation across sectors of socio-economic importance, a role that has made it carve a niche for itself in the S&T landscape of the country.This year has been extremely exciting to us in many ways and challenging too.

After the release of Technology Vision 2035, towards realization of the vision "Technology in the service of India: Ensuring the security, enhancing the prosperity and strengthening the identity of every Indian", TIFAC has been placing before the country, sectoral technology roadmaps. In all, five technology roadmaps, those of Materials, Manufacturing, ICT, Medical Sciences & Healthcare and Transportation were released during the year and remaining seven to follow.

Stretching itself beyond socio-economic sectors, TIFAC has taken up technology foresight studies in the area of security technology. The focus here is on understanding malicious threats and vulnerabilities, assessing global and national status for technology of countermeasures and identifying the gaps therein. It is hoped that this will be an important contribution on an issue that is non-negotiable.

MSMEs are the backbone of any developing economy. With a view to empower them, TIFAC has undertaken technology gap analysis for the clusters, three of which were completed during the year. Around 200 engineering students were offered internship under MSME Internship Scheme, helping these industries find solutions to their problems.

TIFAC has been protecting the intellectual property of researchers from academic and R&D institutions, and also creating awareness among this community. Under KIRAN-IPR scheme, 8th batch of women scientists completed their training during the year even as the selection for the 9th batch gets completed. TIFAC had the privilege of actively participating and in contributing to the National IPR Policy. During the year, TIFAC- SIDBI Revolving Fund for Technology Innovation Programme (Srijan), helped some more interesting technologies finding their way into the commercial space.

We are living in times of increasing environmental degradation, where issues like global warming and depleting natural resources are almost constantly impacting the planet. A study, funded by TIFAC and carried out by International Institute for Applied System Analysis (IIASA) revealed that 60 per cent of fine particulate matter pollutants in Delhi comes from the neighbouring states; an important finding for managing the pollution in the national capital.

TIFAC chose its Foundation Day this year, to sensitize the masses in general and policy-makers in particular, on the foreseeable upheavals on the technology horizon. The day was devoted to debate on Exponential Technologies which will impact not just humans but humanity as well. In fact, the impact has started happening as changes around us are happening at much faster rate than in the last decade.

I am happy to place this report before you, even as we spread out and connect with more stakeholders in the run up to our 30th year milestone.

(Professor Prabhat Ranjan)
Executive Director

1.0 Technology Foresight

Technology Foresight in its latest manifestation is emerging as a tool for 'wiring up' innovation system, anticipating future socio-economic demands and designing appropriate strategies. TIFAC since its inception has been involved in technology foresight exercise by way of bringing out technology vision documents, techno market survey reports, sector specific technology foresight reports, technology roadmaps etc. Several technology foresight initiatives were taken by TIFAC, most prominent being Technology Vision 2020 and Technology Vision 2035.

1.1 Technology Vision 2035 exercise

The Technology Vision 2035 was released by the Hon'ble Prime Minister in the 103rd session of the Indian Science Congress on January 3, 2016 at Mysore. The document has been prepared on a consultative framework and it roots itself into the collective aspirations of the people of India, the ambition of our youth and the likely expectations of Indians in 2035 as the country moves ahead.

1.1.1 Vision document

The vision document is now being referred to and for initiating actions by stakeholders across sectors. NITI Aayog, while preparing Vision 2030 for Transforming India also referred this document and TIFAC was consulted many times in the preparatory work. Presentations on TV 2035 document were made at various fora as follow-up activities throughout the year and also to create awareness in general.

Several proactive actions were taken during the period prompting different state governments, Ministry of Health & Family Welfare, Ministry of Heavy Industries and Ministry of Railways to take up actions. Notable actions are mentioned below

A. Preparation of Action Plan on Grand Challenges in TV 2035

Guaranteeing nutritional security and eliminating female and child Anaemia' ranks first in the list of 10 Grand Challenges identified in vision document. It was decided to bring out an action plan document on the challenge in collaboration with ICMR. In order to examine the present evidence on Anaemia, assess the knowledge gaps and set the agenda for future research needed in this area, a task force on Anaemia has been constituted. Its first meeting was conducted on February 20, 2017 at ICMR Headquarters, New Delhi. Specific research areas (fortification, novel iron delivery methods, etiology of Anaemia and bio-availability of iron from enteric coated tablets etc.) were identified and it is planned to

seek proposals in those areas for pursuing targeted research work.

B. Interaction with state governments

Dialogues have been initiated with governments of Punjab, Madhya Pradesh and Kerala towards drawing state-specific actions based on the Technology Vision 2035 document. Detailed action plan will be drawn, after extensive consultation with stakeholders.

1.1.2. Technology Roadmaps

Technology Roadmap for 12 sectors towards achieving the vision, were taken up in parallel, to preparation of vision document and this gained momentum after the release of the main TV 2035 document. 5 technology roadmaps were released during the year. Brief account of these roadmaps and their release is given below:

A. Materials

The technology roadmap on Materials was released on July 28, 2016 by Dr. Anil Kakodkar, Chairman-TIFAC during the "National Seminar on Technology Thrusts on Materials & Manufacturing Sector in India'' organised in Kolkata jointly by Central Glass & Ceramic Research Institute (CSIR-CGCRI), the Indian Institute of Metals-Kolkata Chapter and, the Millennium Institute of Energy & Environment Management. The two-day seminar was organized to mark the first death anniversary of Dr. A P J Abdul Kalam.

The roadmap on Material foresees "India to be a global leader in niche materials and its processing technologies by 2035.'' This roadmap covers materials in five sectors critical to development and progress of the country, viz. Glass & Ceramics, Polymers & Composites, Metallic Materials, Electronic & Energy Materials and Biomaterials. The sections on these cover the current technology trends on national and global production and usage, the directives for R&D pointers for blue sky research as well as the likely challenges and policy requirements for the sector.

On this occasion of release of roadmap, authors of the technology roadmap presented glimpses of respective sections and interacted with participants.

B. Manufacturing

The technology roadmap on Manufacturing was released by Shri Y S Chowdary, Hon'ble

Minister of State for Science and Technology & Earth Sciences on August 20, 2016 at PSG College of Technology, Coimbatore. It covers the R&D directives, pointers on future technology, emerging trends and policy imperatives in eight sub-sectors namely Leather, Chemicals, Food Processing, Textiles, Micro-nano Manufacturing, Electronic appliances & ICT products and Composites Manufacturing. The roadmap also highlights the need to imbibe concepts such as use of smart machines and equipment complete with self-diagnostic capabilities, zero waste and zero defect principles in all the sectors. Such a process is likely to promote clusters of investment induced, innovation oriented MSMEs to strengthen "made in India" brand. The relevance of appropriate skill development, training of trainers and retraining has also been highlighted.

The Advisory Committee led by Prof. P. Radhakrishnan, Director, PSGIAS as the Chairman and senior experts from academia and industry professionals shaped up this roadmap. During the full day interactive session of the industry representatives especially entrepreneurs, with the Hon'ble Minister of State for Science and Technology & Earth Sciences was organised. This was followed by presentations from each of the sub-sectors by the respective authors. There was a good coverage on the release function by media.

C. Information and Communication Technology

Information and Communication Technology (ICT) is permeating in almost every aspect of human society and has made its footprint in the inclusive growth of our nation. Considering the profound impact of the sector and its transformatory potential, the technology roadmap of ICT envisions "Leadership in ICT: Towards transforming India into a digitally empowered society and knowledge economy".

The roadmap presents a snapshot of several thematic areas where ICT is rapidly changing and making an impact. The basic technology areas driving the ICT sector and covered include - solid state and display, VLSI design, photonics, processors and computers, quantum computing and IC manufacturing, image processing, speech technologies, robotics, cloud computing technologies, artificial intelligence, decision, control and security, solar PV power generation and distribution. The roadmap also examines the application areas- cyber-security, telecom, education, healthcare, banking, commerce, transport, governance, energy, industry,

agriculture, disaster management, inclusive society and entertainment.

For each of the areas, the state of technology, the current strength in India and the future direction in each area over the next five, fifteen and twenty-five years has been elaborated. The roadmap recommends making India a product nation, with a strategy which includes strengthening the component and semiconductor industry; design and development of product as well as IP creation.

The technology roadmap on ICT was launched on September 17, 2016 at Visvesvaraya Museum, Bengaluru, by Dr. Anil Kakodkar, Chairman, TIFAC in presence of Shri. T.V. Mohandas Pai, Chairman, Manipal University; Dr. S.V. Rangnathan, Former Chief Secretary, Govt. of Karnataka; Prof. Ashok Jhunjhunwala, Chairman Advisory Committee on ICT roadmap; Prof. Prabhat Ranjan, Executive Director, TIFAC and Dr. Gautam Goswami, Head, TV 2035 Exercise.

D. Medical Sciences & Healthcare

Technology roadmap on Medical Sciences & Healthcare roadmap was released on September 29, 2016 by Shri Y S Chowdary, Hon'ble Minister of State for Science and Technology & Earth Sciences at Oakridge International School, Hyderabad. During the release event, the document was discussed in great detail under three sessions viz. Universal Healthcare and Public Hygiene; Maternal and Child Health and Advances and Innovations in Biomedical Technologies.

The technology roadmap has comprehensively covered the current situation of diseases and health conditions, comparison of health indicators in global perspective, technology advancement in the field of screening, diagnosis, prevention, control and rehabilitation. The document also provides insights on future technology trends, R&D directives, challenges on 10 identified health missions namely, Enhancing longevity; Nutritional intervention; Health awareness; Mother and child healthcare; Control of infectious diseases; Novel therapeutic approaches; Minimization of all forms of disabilities; Indigenous and modern systems of healthcare; Rural and urban healthcare delivery systems and Indigenous biomedical technologies.

The roadmap highlights the need to meet the challenges through technological interventions such as self-diagnosis, digital

health delivery and personalized healthcare. Implementation of technologies and identification of the future concepts including bio-printing, targeted drug delivery system, next generation genomics, promoting public health practices, integration of traditional and modern health practices would transform overall health system and help in achieving defined set of sustainable development. The roadmap assimilates technologies in different timelines, policies and strategies to provide efficient and affordable healthcare to all citizens of India.

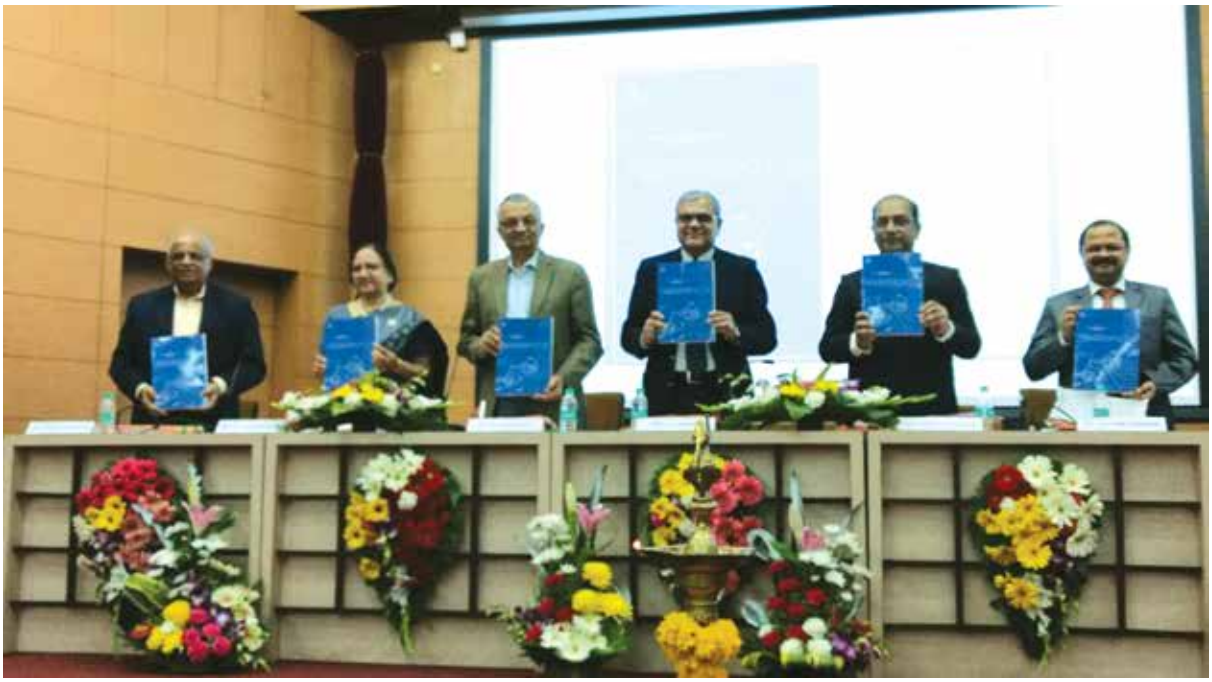
E. Transportation Technology

Technology Vision 2035 document foresees six types of Indians in 2035 and their needs articulated as 12 prerogatives. Safe and speedy mobility is one such prerogative which every Indian should be assured of. The roadmap is guided by the “Sustainable, clean, safe, inclusive, smart and integrated mobility system”. To achieve this vision, environment friendly, energy efficient, safe, intelligent, integrated and affordable transportation technologies are identified.

The roadmap covers all the four modes of transport - roadways, railways, airways, and waterways. Besides covering specific technologies for each, it also focuses on the energy, environment, safety, control and management aspects.

Detailed roadmap with timeline of short (0-5 years), medium (5-10 years) and long term (15 years and beyond), implementation strategies as well as the future imaginative technologies are captured for each mode of transport. For each mode, recommendations on the implementation of the technologies, policies and strategies to be developed/ adopted in India have been made.

The roadmap was released on December 23, 2016 at ARAI, Pune by Dr. Anil Kakodkar, Chairman, TIFAC in presence of Sh. Rashmi Urdhwareshe, Director, ARAI; Prof. Ashwini Kumar Nangia, Director, NCL, Pune; Sh. Srikant Marathe, Chairman Advisory Committee on Transport Roadmap; Prof. Prabhat Ranjan, Executive Director, TIFAC and Dr. Gautam Goswami, Head, TV 2035 Exercise.



The release function- cum- seminar was attended by about 150 participants from Industry, Academia and government officials as well as the students.

Technology Roadmaps (nearing completion)

Technology roadmaps on Education, Energy, Infrastructure and Habitat are in advanced stage of completion.

1.2 Technology Foresight for Automotive R&D (TFAR)

1.2.1 Sensitizing the R&D & industry community about the technology priorities in electric mobility

Under the TFAR Programme, TIFAC studies emerging technologies in the automotive sector, aiming at catalysing and nucleation of technology development efforts. During the process of preparation of the R&D plan for the FAME India Scheme, TIFAC

S. No	Project/ Activity	Progress/ Achievements
1.	Preparation of Detailed Project Report for the R&D Programme under National Mission on Electric Mobility	The Detailed Project Report for the R&D Programme under the scheme Faster Adoption of Manufacture of Electric and Hybrid Vehicles in India (FAME India) of the National Mission on Electric Mobility was validated through a stakeholder workshop. The report is expected to be released shortly. Based on this report, inputs have also been provided for the next phase of the Mission (FAME-II).
2.	Technology Foresight Study on Impacts of Electric Mobility	Work has been carried out on models for assessment of grid impacts of electric mobility, optimization of charging infrastructure, stochastic model for estimation of future penetration of electric vehicles, and lifecycle assessment. Collation of data related to electric vehicles, component technologies, its ecosystem and policies adopted have also been carried out. These models and data will be utilized for quantitative analysis of future scenarios of electric mobility.
3.	Technology Foresight Study on Lightweight-ing of Electric Vehicles	Studies have been carried out on emerging materials, manufacturing technologies and design aspects for lightweighting of electric vehicles, along with life cycle analysis. TIFAC in association with Indian Institute of Science (IISc) has engaged into dialogues with stakeholders such as Association of State Road Transport Undertakings (ASRTU) for formulating a technology development effort as well as impact assessment exercise on lightweighting of urban transport buses.
4.	Study on Interface Standards for “India Integrated Electric Wheelchair”	An Android App has been developed to enable use of smartphones as an integrated interface for the wheelchair control. In-built sensors of the phones are utilized for navigational and environmental control. Study has also been made on the use of EEG signals for control of electric wheelchair and wireless interface for remote monitoring and control of appliances

interacted with stakeholders from R&D and industry. This helped in sensitizing about the technology priorities in electric mobility and discuss implementation aspects of these priorities. This also helped in creating a conducive ecosystem for collaborative R&D in the field, prompting good response to the calls for proposals issued by the Department of Heavy Industry (DHI) under the Technology Platform on Electric Mobility.

1.3 Thematic Foresight Studies

1.3.1 Security Technologies

Security is considered critical for growth and stability of the country. TIFAC has taken up technology foresight studies in the area of security technology with the objective of understanding malicious threats and vulnerabilities, assessing global and national status for technology of countermeasures and identifying the gaps therein. The studies would delineate actions in terms of defining a technology roadmap in three different time frames namely actionable, strategic and visionary. The study would also prescribe a set of policy initiatives as enabler for the aforesaid technology roadmap. The following three technology foresight studies in security technologies have been undertaken:

A. Natural Resources/ Environment Security

The study has been carried out in association with The Energy and Resources Institute (TERI), New Delhi. The study covers subsectors namely forest & wildlife resources, agriculture & allied resources, mineral resources, water resources, air & atmosphere and marine resources. The final report is expected by December 2017.

B. Cyber Security for Digital Economy…. A Roadmap

The study is carried out in partnership with Centre for Development of Advanced Computing (CDAC), Pune and Data Security Council of India (DSCI), New Delhi. It encompasses key technology areas such as Internet of Things (IoT), Cloud & Virtualization, Big Data, SCADA and Financial Sector. The draft report is currently being reviewed by the Study Steering Committee and the final report is expected to be completed by December 2017.

C. Securing Individuals, Society and Infrastructure

The study is being carried out in association with Sardar Vallabhbhai Patel National Police Academy (SVPNPA), Hyderabad and International Institute of Information Technology (IIIT), Hyderabad. The study encompasses security of individuals, mass gatherings, and threats emanating from social media etc. The study also covers security of critical infrastructure like transport (railways, shipping, and aviation), energy (oil refinery, oil pipelines, power generation etc.) and communication. Preparation of the draft report for this study is underway.

1.3.2 Relationship between GDP Growth and Technology Causes in Select Districts of Andhra Pradesh & Telangana

The study ascertains the relation between S&T inputs and growth in Gross District Domestic Product (GDDP) in five select districts of Andhra Pradesh and Telangana. The study covers the districts of Visakhapatnam, East Godavari, Srikakulam, Guntur and Adilabad. The report is under finalization and is expected to be completed by December 2017.

1.3.3 Bioprocess and Bioproducts

The Programme aims at carrying out systems studies in the field of bioprocess

and bioproducts and supporting R&D in niche areas. Under the Programme, four specialized reports were published and twelve projects launched towards development and demonstration of new technologies in the areas of biotransformation & enzymatic processes for API, nutraceuticals, phyto-chemicals, value-added bioproducts, bio-energy & biofuels, etc

Technology Assessment Studies on biomass availability and technologies for conversion to biofuels is being carried out. The study aims to develop zone-wise recommendations for appropriate technologies for conversion of crop residues into environment friendly biofuels and to provide technological options to concerned industries. The aforesaid studies launched in partnership with Indian Agricultural Research Institute (IARI), New Delhi & National Remote Sensing Centre (NRSC), Hyderabad. IARI and NRSC would support 'Estimating generation and surplus amounts of crop residues in India' and spatial distribution for selective crops.

1.4 Quantitative Technology Foresight

With a view to further enrich and strengthen TIFAC's technology foresight efforts, development of capacities in quantitative technology foresight has been initiated. Quantitative methods offer the opportunity to represent the driving forces and the possible futures with much better precision. It allows comparison of the scale of developments in various circumstances, and enables visualization through tables, graphs etc. Thus it enables a better insight into the impacts of various socio-economic factors, policy options and the roadmap to a desirable future.

S. No	Project/ Activity	Progress/ Achievements
1.	Quantitative analysis of technology pathways towards achieving the TV2035 prerogative on safe and speedy mobility	With a view to assess the present status of accessibility and mobility in the country, a tool has been developed that uses Big Data from Google maps to prepare isochrone maps of various districts/ states showing travel times from various places to the district headquarters, state capital or national capital. Such maps will be useful for identifying areas where improvement in transportation infrastructure is required. Effects of implementing emerging transportation technologies can also be studied.
2.	Modelling transportation sector with cross sectoral influences	A study has been taken up on use of Artificial Intelligence in travel mode choice analysis. Work has been carried out on development of traffic simulation models using open source software. Study on key technology trends and drivers in transportation sector as well as related sectors have been taken up.

1.5 Horizon Scanning

TIFAC is following the developments, breakthroughs and upheavals on the global technology landscape on a regular and continuous basis. Horizon Scanning is carried out routinely for feeding forward technology intelligence in foresight activities for India and generating thematic reports assessing potential opportunities and threats linked with technologies showing up on the horizon.

Technology updates from multiple sources were collected regularly and posted on the TIFAC Facebook page (www.facebook.com/tifac.dst.india) which had 2029 followers on March 31, 2017; in all, there were about 5,500 posts during the year. The readership/reach of these posts was, on an average over 49000 per month. A database of the posts is maintained using Facebook and Twitter.

The technology updates were also used as inputs in the sectoral technology roadmaps that are underway.

1.6 Climate Change

1.6.1 COP 22, Marrakech, Morroco

The Ministry of Environment & Forests and Climate Change (MoEF&CC) and TIFAC hosted a panel discussion on two themes-'Sustainable Energy Technologies' and "Climate Change and Health in Indian Cities: Modeling the Impacts of Heat And Air Pollution and Potential Co-Benefits From Mitigation and Adaptation" as a side event of the Conference of Parties 22 (COP 22), held in Marrakech during November 7-18, 2016. For the theme "Sustainable Energy Technologies", TIFAC hosted panel discussion bringing experts from The Energy Research Institute (TERI), New Delhi; Bhabha Atomic Research Centre (BARC), Mumbai; Centre for Science, Technology and Policy, Bangalore and Indian Institute of Technology (IIT), Delhi. For the other theme, experts from Council on Energy, Environment and Water, New Delhi; International Institute of Applied Systems Analysis (IIASA) Austria and National Environmental and Engineering Institute (NEERI), Nagpur participated.

The discussion covered technology gaps, needs and challenges in Indian climate change context in the area of sustainable energy technologies and health and climate change. They also deliberated on India's strategy towards capacity building, finance need, technology transfer issues in R&D and deploy cleaner and energy efficient technologies available globally that befit long-term Indian climate change scenario.

1.6.2 Technology Needs Assessment (TNA) Project

TIFAC signed an agreement with InsPIRE Network for Environment (INE) to execute the preparation of "Third National Communication (TNC) and other new information to the UNFCC" under the project titled "Technology Needs Assessment (TNA) and related aspects" supported by MoEF&CC. The study is aimed to provide updated information on the information on gaps, constraints and financial/technical needs, towards fulfillment of India's obligations to the UNFCC. Carrying out assessment of India specific technology needs and transfer of technologies at sectoral level is the major focus. Ten sectors have been identified from mitigation and adaptation point of view, for

the preparation of TNA report. These sectors are Coal and energy, Transport, Industrial Product & Processes (IPP), Forestry, Agriculture, Habitat, Renewable, Water Resources, Health and Waste.

A National Steering Committee (NSC) for each sector is constituted to steer and guide the preparation of TNA report in seven out of ten sectors as mentioned above (Coal and energy, Transport, Industrial Product & Processes (IPP), Forestry, Agriculture, Habitat, Renewable). The constitution of NSC remains for three sectors. The respective Committees had their first meetings as given in table below :

The Committees decided on the strategy for preparation of TNA report in their sector, including technology scouting/mapping and prioritization.

Sector	Date of meeting
Habitat	January 24, 2017
Forestry	February 3,2017
Renewable	February 20, 2017
Agriculture	March 20, 2017
Coal and energy	March 22, 2017

1.6.2 Global Technology Watch Group (GTWG)

TIFAC has created Global Technology Watch Group (GTWG) reports for six sectors namely Renewable Energy, Green Forest, Sustainable Habitat, Water, Sustainable Agriculture and Manufacturing, with support from Department of Science and Technology. The GTWG is an initiative under National Mission on Strategic Knowledge for Climate Change (NMSKCC) with an objective to keep track of state-of-the-art technologies emerging globally in the key sectors of economy. The major activities under GTWG includes mapping, selection and prioritization of technologies relevant to mitigation & adaptation process, sustainable for India and energy efficient and forecasting technologies for the next 20 years. Other major component of the project is development of GTWG-NMSKCC web-portal, interactive and highly dynamic in nature to feed information to various other Climate Change missions.

1.7 Alternate Fuels

Two assessment studies on Production and Utilization related aspects in Methanol and Di-Methyl-Ether (DME) were prepared at the behest of NITI Aayog and DST. The primary objective is to reduce the carbon footprint or well-to-wheel Green House Gas emissions besides securing our energy needs. Subsequently, roadmaps have been prepared towards ushering utilization of these alternate fuels. Now, efforts are on to undertake a mission- mode approach for the implementation. For this and towards broadening the stakeholder base and also synergizing the efforts of different organizations, a meet has been planned involving all the major and relevant Public Sector Undertakings (PSUs), R&D Institutes and academia.

2.0 Nurturing Innovation

TIFAC has been supporting innovations at academic institutions, government R&D institutes, industry and also at individual level under its various innovation support Programmes. Mainly this technical and financial support is provided in the form of protecting intellectual property and upscaling the technologies from pilot scale to industrial production scale, under different Programmes. These Programmes are Patent Facilitating Centre (PFC) and TIFAC-SIDBI Revolving Fund for Technology Innovation Programme (SRIJAN). TIFAC also endeavours to synergise the functioning and output of these Programmes.

2.1 Patent Facilitating Centre (PFC)

PFC has been constantly creating awareness and deeper understanding of patents and IPR amongst scientific community in the country. PFC facilitates filing, obtaining and maintaining of patents on sustained basis. It also provides patent information as vital input to the process of R&D in the form of patent search reports, patent analysis reports and keeps watch on the developments in the area of IPR and make it known to policy makers. It has played a key role in providing inputs for National IPR Policy announced by Government in May 2016 and its implementation, especially the action points of DST.

2.1.1 Patent/IP Facilitation

PFC assessed the patentability of about 80 new cases for filing of patents on behalf of academic and government R&D institutions; out of there 32 new patent 1 copyright and 3 design applications were filed through patent attorneys in India and other countries. These include 3 patent applications in US, 3 in Europe, 1 in China and 2 Patent Cooperation Treaty (PCT).

2.1.2 Grant of Patents

During this period, 20 Indian and one Chinese patents have been granted as per the details given below:

One Chinese patent (No CN103764671) was granted on Polyvinyl chloride surface co-immobilized with enzymes and uses thereof, to MD University, Rohtak during this year. The invention is on a PVC surface co-immobilization with the multiple enzymes for removal of stains useful in the field of washing or cleaning cloth and other household textile such as towels and sheets. This invention also provides a process of preparation of the PVC surfaces and using such surface. The PVC surface co-immobilized with the

S. No	Patent No.	Grant Date	Applicant	Title
1	272480	04-04-2016	Department of Science & Technology	An improved process for the alkylation of phenols
2	272564	08-04-2016	Department of Science & Technology	An improved narrow gap gas metal arc welding torch
3	272938	04-05-2016	University of Calcutta	Microencapsulated enzyme biosensor for pesticide
4	273805	29-06-2016	Indian Institute of Technology Delhi	Engineered bamboo pipes made of radially split bamboo slats
5	274256	25-07-2016	Indian Institute of Technology Kharagpur	A method of separation of pectin during membrane clarification of fruit juice for productivity improvement
6	274345	21-07-2016	Mumbai University & Institute of Chemical Technology	Novel mesoporous superacid catalyst
7	275517	08-09-2016	M. S. University Baroda	Liquid phase non-solvent oxidation of styrene with molecular oxygen
8	196749	20-06-2016	Indian Institute of Technology Delhi	Process for the isolation and purification of a glycoprotein avidin
9	275797	22-09-2016	University of Hyderabad	Nanoparticles of apotrasferrin/ transferring, pharmaceutical composition containing them and processes for their preparation
10	276183	04-10-2016	Indian Institute of Technology Delhi	Pollution preventing temperature sensitive lithographic ink composition and process for preparing the same
11	277138	11-11-2016	Indian Institute of Technology Kharagpur	Fire retardant intumescent high density rigid polyurethane foam for speciality applications

12	277274	16-11-2016	University of North Bengal	High liquid crystalline azoxy compounds and method of preparation
13	277832	01-12-2016	Panjab University, Kakatiya University and Council of Scientific & Industrial Research	Novel thienopyridines as pharmacologically active agents
14	278099	23-12-2016	Indian Institute of Technology Guwahati	A clean process for the preparation of alkyl and aryl isothiocyanates.
15	278934	04-01-2017	University of Delhi	A process for extraction of bioactive psoralen compound
16	275416	13-01-2017	Punjabi University	Microbial arginine biosensor
17	279359	19-01-2017	Indian Institute of Technology Guwahati	Evaporation induced lithography
18	280792	28-02-2017	Dr. B.R. Ambedkar National Institute of Technology	A leg exerciser machine
19	281500	20-03--2017	Rajiv Gandhi Centre for Biotechnology	A synergistic anti-tumor composition
20	282062	30-03-2017	Himachal Pradesh University	Transition element complexes of carbaryl and their synthesis

enzymes is useful as cheap and reusable alternative for washing of cloths and also helpful in reducing enzyme load on environment.

In addition to the facilitation of filing of patents and IP applications, PVC assessed patentability of 15 cases with regard to INSPIRE projects of which, 5 cases are in process. PFC also filed request for examination for 20 patent applications in respect of INSPIRE projects of previous years. The patentability of 60 inventions exhibited for shortlisted projects for INSPIRE Awards during the INSPIRE 2016 exhibition at NPL has been taken up. .

2.1.3 National IPR Policy

PFC provided input for National IPR Policy, to Department of Industrial Policy & Promotion (DIPP), at all three stages viz concept note, feedback and cabinet note; also participated in one to one discussion with think tank established by the government under DIPP to frame this policy. The Executive Director of TIFAC has been nominated as nodal officer for implementation of the National

IPR Policy. This responsibility seeks follow up on following policy stipulations, on behalf of DST.

- Focus on improving IPR output of national research laboratories, universities, technology institutions and other researchers by encouraging and facilitating the acquisition of Intellectual Property Rights by them;
- Encourage researchers in public funded academic and R&D institutions in IPR creation by linking it with research funding & career progression;
- Encourage researchers in public funded academic and R&D institutions by having uniform guidelines for division of royalties between the organizations, individual researchers and innovators;
- Provide guidance to researchers and innovators about national priority areas to focus on, for instance in energy and food security, healthcare and agriculture, as well as specific sectors such as biotechnology, data analytics, nanotechnology, new materials and ICT; (TV2035 along with patent analysis have been recognised as guiding document for the purpose)
- Create an industry-academia interface for encouraging cross-fertilization of ideas and IPR-driven research and innovation in jointly identified areas;
- Consider incentives to promote R&D, including the following steps:

  a. Promote R&D through tax benefits available under various laws, through simplification of procedures for availing direct and indirect tax benefits;

  b. Consider financial support for a limited period on sale and export of products based on IPRs generated from public funded research;

  c. Creation of an effective and simple loan guarantee scheme in order to encourage start-ups and cover the risk of genuine failures in commercialization based on IPRs as mortgageable assets;

  d. Promote licensing and technology transfer for IPRs; devising suitable contractual and licensing guidelines to enable commercialization of IPRs; promote patent pooling and cross licensing to create IPR based products and services;

  e. Promote collaborative IP generation and commercialization efforts between R&D institutions, industry, academia and funding agencies;

First meeting of Nodal Officers from other government departments was held on September 15, 2016.Two task forces have been constituted to initiate actions in close association with DST and DIPP.

2.1.4 IPR Awareness Workshops and Training

PFC conducted nine (9) one-day workshops on IPR and patents; one each at Pondicherry, Bangalore, Katra (J&K), Coimbatore, Shimla, Atigre (Maharashtra), Tezpur (Assam), Ludhiana, Kosani (Uttarakhand). In all, these workshops were attended by about 1200 participants.

A two-days workshop-cum-discussion on National IPR Policy was held at Trivandrum on July 14-15, 2016 in association with Patent Information Centre at Kerala State Council of Science & Technology Environment (KSCTE). Inaugurated by the Chief Secretary of Govt of Kerala, the workshop was attended by leading IP experts in the state of Kerala.

2.1.5 Advanced Training with DRDO

In collaboration with DRDO, a training workshop on IPR was conducted during January 12-14, 2017. There were 37 participants from DRDO Labs, 9 from ICAR and other institutions, 17 from PICs, universities and other DST institutions. Speakers were from leading IP management institutions, attorney firms, IP offices and other IP practitioners within India and from USA, Germany etc.

2.1.6 IPR Workshop with UNIDO

A two day workshop was organised on Patents and IPRs for the technical staff of National Council for Cement and Building Materials (NCCBM) and cement industries on March 21-22, 2017 at the NCCBM premises at Ballabhgarh. This workshop was conducted on the request from UNIDO International Centre for Inclusive & Sustainable Industrial Development (IC-ISID).

2.1.7 Training to Women Scientists in IPR (KIRAN-IPR)

PFC started training of 8th batch of Women Scientists under Knowledge Involvement in Research Advancement through Nurturing (KIRAN-IPR) from April 1, 2016. KIRAN-IPR aims at mainstreaming the women having qualification in science & technology and have not been able to pursue their career due to domestic compulsions. It prepares them towards self-employment by providing on-job training in the area of IPR. 120 women scientists were selected out of which 110 joined. 33 out of these cleared patent agent examination conducted by patent office and are eligible to practice patents before the patent office.

One month orientation Programme with 57 lectures covering different aspects of IPR was held from April 1-30, 2016 at New Delhi. Three days hands-on-training on patent searches using various free and paid patent database was also imparted. Lectures on motivation, entrepreneurship, public speaking, yoga etc. were introduced for the first time in the orientation Programme.

With a view to provide up-to-date course content, moodle based online course has been created. This allows online access to all lectures delivered during the course, to the participants even after the orientation Programme. Other relevant learning material and all recent developments on IPR are also posted to keep the trainees updated.

It is planned to use the module for continuous training, feedback, assignments etc. The system provides online evaluation of assignments, opportunity for interaction amongst themselves as well as resource persons of the orientation Programme. Regular interactions through Google Hangout were also done.

The trainees were given assignment for preparing technology scan reports on 100 select raw materials being exported by India.

A two day workshop was held for the interns of Pune Centre on patent drafting on August 8-9, 2016.

About 10% of the women from this scheme have joined as Facilitators under the Scheme for Facilitating Startups Intellectual Property Protection (SIPP) launched by the Patent Office of India during the year. PFC announced the commencement of 9th batch for training of 120 women scientists in this batch. About 1800 application were received and an all India examination was conducted for selection of these trainees.

2.2 TIFAC-SIDBI Technology Innovation Programme (Srijan)

Under the Programme during 2016-17, 2 projects were continued, 4 successfully completed and 12 new projects were technically recommended to SIDBI for further consideration.

The Programme was launched in November, 2010 with the objective to facilitate scaling up of technology innovations in the country.

TIFAC created a revolving fund jointly with SIDBI to support industries, particularly MSMEs- both existing and start ups.

The cumulative status of revolving fund created by TIFAC and managed by SIDBI and status of projects in the financial year 2016-17 are given below:

Cumulative status of revolving fund (as on March 31, 2017)

	Amount
Fund released by TIFAC to SIDBI	Rs.11.00 crore
Loan sanctioned	Rs.15.78 crore
Loan disbursed	Rs.13.56 crore
Loan Recovered	Rs.4.60 crore
Interest Earned	Rs.1.19 crore
Balance in Revolving Fund	Rs.2.78 crore

Status of Projects (2016-17)

Number of projects successfully completed	04
Number of new projects sanctioned	03
Number of ongoing projects	02
Number of new proposals technically recommended	12

2.2.1 Projects successfully completed during 2016-17

S. No.	Title	Implementing Industry	Technology know-how partner	Total Project cost (*) & Support under SRIJAN(#) (Rs. In lakh)	Innovation
1.	Table top automatic multi-variant dosa making machine	M/s. Mukunda Foods Private Ltd., Bengaluru	In-house R&D	180.00* 50.00#	Making of standardized dosa @ speed of 1 dosa / minute in aesthetically designed table top automatic machine in hygienic condition for application by restaurateurs, catering services.
2.	Coil Edge Protector	M/s. Jyoti Cero Rubber, Jamshedpur	In-house R&D	121.79* 95.00#	The new rubber based product with unique design to minimize damages of steel rolls during transportation by rail or road resulting in reduced carbon footprint.
3.	Processing of e-waste using thermal decomposition method for precious metal recovery	M/s. Revive Electronic Waste Pvt. Ltd., Navi Mumbai	In-house R&D	200.00* 100.00#	Modular size organized e-waste processing plant of 500 kg/day capacity for recovering precious metals like gold, silver and copper from discarded PCBs
4.	Indigenous development and manufacturing of autopilot for Unmanned Aerial Vehicles (UAVs)	M/s. Sree Sai Aerotech Innovations Pvt. Ltd. Chennai	In-house R&D	133.50* 68.00#	Indigenously designed & developed app based low cost autopilot for easy operation of UAV and farm vehicles

2.2.2 Ongoing projects during 2016-17

S. No	Title	Implementing Industry	Technology know-how partner	Total Project cost(*) & Support under Srijan(#) (Rs. In lakh)	Innovation
1.	Production of Low Lactose milk	M/s. Madhumita Dairy Products, Bengaluru	In-house R&D	210.00* 100.00#	To reduce lactose content in cow or buffalo milk from 5% to <0.1% using lactase enzyme for consumption by lactose intolerant population particularly kids
2.	Standard rack mountable, SMPS based precision regulated high voltage power supplies	M/s. IONICS Power Solutions Pvt. Ltd., Hyderabad	In-house R&D	125.00* 100.00#	Indigenous production of Switch Mode Power Supply system for high voltage precision equipments used in lab. This will reduce dependence on imported products

2.2.3. New Projects technically recommended by TIFAC and sanctioned by SIDBI during 2016-17

S. No	Title	Industry	Technology know-how partner	Innovation
1.	Resource recovery from Lithium, Lithium ion and Nickel Metal Hydride batteries by environmentally sound recycling technology	M/s. E–Parisaraa Pvt. Ltd., Bengaluru	In-house R&D	Recovery of precious metals and resource materials from discarded batteries of mobile phone laptop

2.	Chiller Mate Desuperheater Unit for industrial and commercial operations in Indian market	M/s. Promethean Energy Pvt. Ltd., Mumbai	IIT Bombay	Waste heat recovery from industrial air conditioners and air compressors for converting it into useful energy resulting in energy efficiency.
3.	Powdered Oil Based Mud Products for application in oil drilling	M/s. Gumpro Drilling Fluids Pvt. Ltd. Mumbai	In-house R&D	Conventional emulsifier used in oil drilling operation is in liquid form which in sub-zero condition requires preheating. New process will make powdered form of emulsifier for energy saving and minimize logistic issues in remotely located oil fields

2.2.4. New Projects technically recommended by TIFAC and under financial appraisal by SIDBI

S. No	Title	Industry	Technology know-how partner	Innovation
1.	Commercial production of Coenzyme Q10, Rapamycin and Mycophenolic acid: Fine Chemicals of High therapeutics and Nutritional Value for human being	M/s. Agati Healthcare Pvt. Ltd., Navi Mumbai	IIT BHU	Indigenously developed novel process based on Artificial Neural Network (ANN) for production of three products at lower cost presently being imported in the country
2.	Smart Weigh Bridge	M/s. Tiino Techmations Pvt Ltd, Coimbatore	In-house R&D	New orthotropic mechanical structures for smart weigh bridge with energy efficient indicator system to make tamper proof weigh bridges. It reduces steel consumption and civil excavation work while constructing weigh bridge, leading to reduction of carbon footprint.

3.	Hollow fiber UF membranes for sewage and industrial waste water treatment	M/s. Technorbital Advanced Materials Pvt. Ltd., Kanpur	In-house R&D	Ultra Filtration membrane technology with low maintenance and higher self life for treatment of sewage and industrial waste water.
4.	Design and Development of hydraulic Directional Control valve	M/s. Shivam Hydraulics, Ahemdabad	In-house R&D	The new design of mono block directional control valve will make product low cost, better quality and higher performance to offer wide range of applications.
5.	Laterite based membrane technology for removal of Arsenic from drinking water	M/s Vas Bros Pvt. Ltd., Ranchi	IIT Kharagpur	Membrane in low cost water filters would be made up of naturally available Laterite soil for removal of Arsenic from drinking water
6.	Design, Development and Manufacture of Solar Grid-Interactive Inverters	M/s. ThingsCloud Technologies Pvt. Ltd., Bengaluru	In-house R&D	The equipment would work as off-grid UPS during power cuts and grid-feed inverter when excess power is available to earn money by customers generating roof top solar power.
7.	Tactical Visual Wireless Data Card (TVWDC)	M/s. Starbru Techsystems Pvt. Ltd., Bhopal	In-house R&D	A handy and portable integrated module for military radio-sets that enables transferring encrypted data, i.e. files, live snapshots, images and chat seamlessly over the existing secured radio network connected via Bluetooth.
8.	Portable Automatic Poori making machine	M/s. Mukunda Foods (P) Ltd., Bengaluru	CSIR-CFTRI, Mysore	The existing poori making machines are semi-automatic whereas the new poori making machine has innovative compact design featuring all operations together in single machine.

9.	Mercury-Free Plasma UV Tubes for applications in water disinfection	M/s. Arkin Techno Pvt. Ltd., Pune	CSIR-CEERI, Pilani	In the conventional technologies UV rays are produced by high voltage discharge in mercury plasma. Whereas in the new technology, the UV rays would be produced by gas plasma which is mercury free for water purification.
10.	Manufacturing and commercialization of "eRideLite"–The next generation electric bi-cycle for India	M/s R2H Motors, Ghaziabad	In-house R&D	The energy efficient indigenous BLDC motor as critical component for electric bicycle along with novel design.
11.	Battery Management System (BMS) for Lead Acid batteries for Electric Vehicle, E-rickshaws	M/s. Ampere Vehicles Pvt. Ltd. Coimbatore	In-house R&D	A low cost BMS for lead acid battery in E-rickshaws to monitor the parameters like individual battery voltage, battery pack voltage, load current, vehicle speed etc. and alert operator in mobile to control charging and discharging cycles thus improving the battery performance and shelf life.
12.	Advanced Supercritical Thermal Technology for production of Synthetic oil from waste plastics	M/s. Rays Enserv, Patiala	In-house R&D	Production of synthetic oil for use as furnace oil from waste plastics through catalytic cracking in continuous reactor based on super critical thermal technology.

2.2.5 Awards/ Recognitions for Srijan recommended innovations

- M/s. Aeron System Pvt. Ltd., Pune, who had successfully scaled up the indigenous technology on "Inertial Navigation Sensors"was identified as collaborative R&D partner by Bharat Electronics Ltd., Bengaluru. The Company has also got excellence award 2017 from Defence Equipment Manufacturer Association (DEMA), Pune.
- The indigenous Trash Boom technology for collecting surface trash by M/s. Agastya Buoyant Pvt. Ltd., Kolkata has been demonstrated in the Ganga at Varanasi (U.P.) and identified as potential technology under National Mission for Clean the river Ganga (NMCG).

3.0 Technology Support

TIFAC follows need-based approach in its interventions involving industry. The MSME sector, where the intervention design has to be comprehensive, requires much handholding and covers a broad-spectrum of activities to be carried out. TIFAC designs technology intervention plans for industries which are at times followed up with imparting requisite capacity building.

3.1 MSME Cluster Programme

With target on providing R&D and technical support to the MSMEs, the Programme strives at building a platform that facilitates interaction of MSMEs with proximate and competent academia/ R&D/ technical institutions to leverage their knowledge- and expert-base. TIFAC engagement starts with technology mapping and comprehensive assessment of technology needs with specific focus on technology status (product & process) in the cluster, identification of gaps (in terms of technology, competition and market requirements), and designing an appropriate and requisite technology interventions action plan for the cluster. Subsequently, TIFAC undertakes need based capacity building initiatives in the cluster. Progress under the Programme during the year is given in sections below:

3.1.1 Completed Studies

Technology gap analysis study for Rice Milling Cluster, Lakhisarai (Bihar)

The study identified that out of 79 industries/ units in the cluster, 77 produce raw rice and only 2 were engaged in producing parboiled rice; 55 units are registered while 24 are unregistered. The cluster provides employment to around 228 persons. The annual turnover of an independent unit in the cluster ranges from below Rs. 5 lakh to around Rs. 2-3 crores, majority having turnover in the range of Rs. 20 - 40 lakh. The cluster uses low capacity rice mills of about 0.5 MT capacities per hour. The main product is mansoori, byproducts husk and bran are rarely properly used. Parboiled rice is also produced but in very small quantities. Major technical gaps identified include low grade rice production due to conventional/ outdated technology, lack of processes like hulling and dehusking, low power factor of induction motors, poor design (machine and plant), lack of innovation and product diversification etc.

Major technological recommendations include use of energy efficient induction motors with improved power factor, use of appropriate capacity of individual motors for each process, energy audit of manufacturing processes, adoption of lean manufacturing practices, upgradation of rice polisher and destoner, installation of cyclone separator for dehusking and dust collection, design modification and dynamic analysis of dehusker, polishing and whitening unit,

introduction of rice grader etc. The study also recommends production of high value brown rice and proper use of husk (compressed fuel briquette) and bran (for production of bran oil). Soft interventions have also been identified for the cluster.

Technology gap analysis study for Rice Mill Machinery Manufacturing Cluster, Sitalpur, Raxual (Bihar)

The cluster houses a total of 30 rice mill machinery manufacturing units which provides milling machineries to adjoining areas of Bihar and to states like Assam, Punjab, Uttaranchal, Andhra Pradesh and also to Nepal. Products from the cluster include dehusker, elevators, polishers, destoners, paddy cleaner, separators etc. The productivity of machines manufactured ranges from 0.5 – 4 metric ton per hour. The annual turnover of the cluster is around Rs. 25 crore. Identified technological gaps include wastage of energy in processes like welding, machining, machine noise and vibration, high rejection rate, low power factor of electrical equipments, improper plant layout and poor process planning, lack of automation, low productivity, improper material handling, poor finishing of products, lack of quality control, rusting of parts, lack of standard machine design which is the main cause hurdle in the path of replacement, repair and leads to machine failure etc.

Major technological recommendations include standardization and upgradation of machinery designs, use of advanced compressors for painting, sort blasting to counter problem of rusting etc. Requisite soft interventions have also been identified.

Technology gap analysis study for Home Textile Manufacturing Cluster, Karur, (Tamil Nadu)

The cluster comprises of around 650 industries of which around 600 are micro units, 40 small and around 10 medium. The annual turnover of cluster is around Rs. 4292 crore. The domestic turnover is only Rs. 750 crore and the rest Rs. 3542 crore is exports. Major importing countries include U.S.A with share of 21% and EU 47%. The cluster manufactures about 9.5% of country's home furnishings which include-blankets, travelling tugs, bed linen (printed and others), bed sheets and bed covers, table, kitchen and toilet linen, curtains, cushion covers, napkins, sacks and bags, dress patterns, gloves, mittens, mattress supports etc. Around 70,000 people are directly or indirectly employed in cluster activities. Major gaps in technology are found in processes like weaving, dyeing, cutting, stitching and packing. The cluster also lacks technology innovation and related interventions.

The recommendations from the study include promoting culture of innovation, replacement of conventional handlooms and powerlooms by automatic rapier looms of projectile type and solar power looms, use of cheese dyeing in place of cabinet dyeing, indirect steam heating system for fabric dyeing, use of heat recovery system to recover waste heat, bucket and float trap to avoid steam loss thus saving about 3% of steam, boiler management system for effective monitoring of boiler for better performance, implementation of lean manufacturing etc. The study also suggests soft interventions for the cluster.

3.1.2 Ongoing studies from previous years

1. Saree Cluster, Varanasi (Uttar Pradesh)

The focus is on the three saree segments, namely, banarasi silk, cotton and synthetic covering aspects related to design, processing and manufacturing/production of sarees across the entire production chain from design, raw material, processing and the final product. Study is being conducted

at Varanasi, Mau and Azamgarh with Indian Institute of Technology – BHU, Varanasi as knowledge partner.

2. General Engineering Cluster, Coimbatore (Tamil Nadu)

The focus is on light engineering products and processes related to precision machining in sectors of auto components, textile machinery, cutting tools, electrical appliances garage equipments etc. Study is being conducted at Coimbatore and its surrounding areas, with PSG College of Technology, Coimbatore as knowledge partner.

3.1.3 New studies initiated in clusters

S. No	MSME Cluster	Knowledge Partner (Technical Institute)
1	Agricultural Implements Cluster, Noorsarai (Bihar)	Indian Institute of Technology Patna
2	a. Baktawng Wood Carpentry Cluster (Mizoram) b. Bairabi Bamboo Cluster (Mizoram) c. Seling Bamboo Cluster (Mizoram)	National Institute of Technology Mizoram
3	a. Copper & Bronze Utensils Cluster, Vaishali, (Bihar) b. Brass and German Silver Utensils Cluster, Bettiah (Bihar) c. Brass and Bell Metal Cluster – Mahisadel Purba, Medinipr (West Bengal) d. Brass Metal cluster, Pareb, Bihta (Bihar)	Indian Institute of Technology Patna
4	Refractory Cluster - Bangabhoomi, Asansol (West Bengal) Technology (GCECT), Kolkata	Government College of Engineering and Ceramic Technology (GCECT), Kolkata
5	Textile and Garment Manufacturing Cluster, Erode (Tamil Nadu)	National Institute of Fashion Technology (NIFT) and Tirupur Exporters Association (TEA), Tirupur
6	Kanaihaganj Jhula Cluster, Nalanda (Bihar)	Indian Institute of Technology Patna
7	Surgical Dressing Manufacturers Cluster, Chatrapatti (Tamil Nadu)	National Institute of Fashion Technology (NIFT) – Tirupur and Exporters Association (TEA), Tirupur

3.1.4 Awareness workshops conducted in the cluster

In all, 8 workshops were conducted - Copper & Bronze Utensils Cluster, Vaishali (Bihar); Refractory, Bangabhoomi (West Bengal), Textile and Garment Manufacturing, Erode (Tamil Nadu), Brass and German Silver

Utensils, Bettiah (Bihar), Surgical Dressing Manufacturers, Chatrapatti (Tamil Nadu), Kanaihaganj Jhula, Nalanda (Bihar) Brass and Bell Metal– Mahisadel Purba, Medinipur (West Bengal), Agricultural Implements, Noorsarai (Bihar)

3.1.5 Validation workshop organized

During the year, four workshops were conducted for Home Textile Manufacturing, Karur (Tamil Nadu), Refractory – Bangabhoomi (West Bengal), Rice Milling, Lakhisarai (Bihar) and Rice Mill Machinery, Sitalpur, Raxaul(Bihar).

3.2 MSME Internship Scheme

The scheme was launched in the year 2014 -15, with the objective to facilitate enhanced and continued involvement of students and faculty of technical institutions with industries and providing technical support to the technologically deficient MSMEs. The Programme started with five Institutions - Indian Institute of Technology, Banaras Hindu University, Varanasi (Uttar Pradesh), PSG College of Technology, Coimbatore (Tamil Nadu), MS Ramaiah University of Applied Sciences, Bangalore (Karnataka), Pimpri Chinchwad College of Engineering, Pune, (Maharashtra) and VIT, Vellore (Tamil Nadu). TIFAC supports one hundred and fifty students (thirty through each Institution) every year under the scheme.

3.2.1 Exposure Training

Around 200 internships from around the country have been facilitated in MSMEs industries.

3.2.2 Ongoing Technology Development Project:

9 projects under Phase – II of the scheme for development of low cost and easily implementable solutions for the MSME industries have been supported and ongoing as below:

- Design and static analysis of special purpose packaging machine
- Design, simulation and development of acquisition of MRI
- Four layered printed circuit board for RF synthesizer
- System engineering approach to design motion control system of multi axis bench-top robot
- Automation and control of special purpose packaging machine
- Design, simulation and development of reconstruction of MRI
- Automation in Braided wire cutting & MI Rod Straightening & cutting methodology for thermocouple production unit
- Analysis of flow of hot gases over clutch plate of 16MnCr5, and design and development of pallet for enhanced heat transfer rate
- Design and development of Hydraulic Rotational Jib Crane

3.2.3 Projects under consideration

Six (6) project proposals are under consideration.

3.2.4 Scheme Replication

Support and implementation of the scheme through Rajiv Gandhi Commission for Science and Technology, Govt. of Maharashtra, is continuing in two Technical Institutes of Maharashtra.

3.3 Exports from MSME Sectors

TIFAC had brought out a report titled "GUAR: Status, Potential, Prospects, Challenges and R&D Roadmap" which was handed over to Ministry of Commerce for further actions. TIFAC efforts in the Guar Gum sector have also culminated into support by Ministry of Commerce, of a project proposal by Shellac and Forest Products Export Promotion Council (SHEFEXIL) towards "Development of Marketing Information System for Guar and Dissemination of Best Agricultural Practices for Guar, Development of a R&D Plan and implementation of the same to strategically support Guar Gum exporters to boost exports".

3.4 Bioprocess and Bioproducts Programme

The Programme aims at carrying out systems studies in the field of bioprocess & bioproducts and supporting R&D in niche areas. Under the Programme, four specialized reports were published and twelve projects launched towards development and demonstration of new technologies in the areas of biotransformation & enzymatic processes for API, nutraceuticals, phyto-chemicals, value-added bioproducts, bio-energy & biofuels, etc

A unique national facility 'Centre for biofuels-pilot plant' was created at CSIR-NIIST, Thiruvananthapuram for investigating and assessing the technologies for LC ethanol from Indian biomass along with development of other chemicals for improved process economics.

Project / Technology Assessment Study Progress:

3.4.1. Pilot plant trials for 'Centre for Biofuels–Phase II' at CSIR-NIIST, Thiruvananthapuram for select Indian biomass (sugarcane tops & cotton stalks) including composition studies, pretreatment process & hydrolysis trials followed by fermentation trials completed. The project aimed to validate experiment in the laboratory scale processes to pilot plant under more realistic conditions.

3.5 Initiatives with states

3.5.1 Silt Utilization in Bihar

State of Bihar is facing heavy silt load during the rainy season through rivers: Kosi, Kamla, Gandak, Bagmati, Mahanada etc. The Government of Bihar had earlier requested TIFAC to take up this problem and find out technological measures to address this issue through disposal, utilization or produce value added products. The silt accumulated at river Kosi was taken up initially.

Towards this, earlier, samples were collected from first 50 km of Kosi river bed by CSIR - Central Road Research Institute - Delhi, CSIR - Central Glass and Ceramic Research Institute – Kolkata and Indian Council of Agriculture Research (ICAR) Patna branch for their evaluation, testing, characterization and evolving a strategy for their disposal, utilization or usage in value added products. Also, CSIR – CGCRI, Kolkata, had developed value added ceramic products

like wash basin, tiles, bricks etc. Further sample collection from other Kosi silt sites has been done and meetings were held to explore other possibilities of utilizing silt.

3.5.2 Utilization of plastics waste

Shri Mata Vaishno Devi Shrine Board, Katra (J&K), had sought help from the Office of Principal Scientific Advisor to GOI, to solve the problem of non biodegradable plastics waste at Katra. An estimated 8755 kgs of solid waste per day out of which ~ 7880 kgs is biodegradable waste and about 875 kg/ day of non biodegradable plastics waste is generated at the Shrine in Katra, each day.

TIFAC is working in close association with technology providers towards assessment and evaluation of available and implementable technology options for Plastics Waste Utilization at Katra. Various options like plasma arc technology, gasification, plasma incineration, waste to liquid technology etc are being assured.

3.5.3 Other Studies, Reports & Projects

Management of Municipal Solid Waste (MSW)

Under the 'Swachh Bharat Mission', Ministry of Urban Development (MOUD), TIFAC along with Indian National Academy of Engineers (INAE), on behalf of DST has come out with a Compendium for management of Municipal Solid Waste (MSW). Based on the response from over 100 companies working in this domain, this Compendium provides technology options based on the quantity and nature of waste generated and also brief information about the agencies providing commercially ready solutions for the same.

A large amount of information is currently available in public domain, on technology options addressing different aspects of MSW. However many technologies are either not mature enough for implementation or are not suitable for India. In view of this, at times it becomes difficult for urban local bodies (ULBs) to select technologies for their municipalities. This Compendium fills the knowledge gap and would enable the local bodies to take informed decision on technological solutions.

4.0 International Linkages

S&T is a global issue and no country can progress in this ffield in isolation given the rising interconnectedness. Continuous engagement with International experts and institutions fuels and sustains the pursuits in S&T domain. This holds true for TIFAC which has Technology Foresight and Innovation as its core mandate. During the year, TIFAC continued its engagements with organizations like IIASA and Government Foresight Network (GFN).

4.1 India-IIASA Programme

India-IIASA Programme focuses on undertaking collaborative research projects among scientists from Indian S&T organizations/academic institutions with IIASA researchers in the areas on mutual interests and organizing training workshops. It also offers opportunities for young Indian researchers to work at IIASA under the 'Young Summer Scientist Programme (YSSP)' and Postdoctoral Programme, which help strengthen their skills in advanced systems analysis and research techniques.

As part of capacity building, during 2016 three Indian researchers had participated in the Young Scientist Summer Programme (YSSP) at IIASA. Further, one researcher is currently working as 'postdoctoral fellow' in IIASA.

4.1.1 Collaborative Studies

Under the India-IIASA Programme, the following studies were taken up and are ongoing during 2016-17:

A cluster project on sustaining and improving rural livelihoods through adaptive approaches to land, soil nutrient and water management was launched with IIASA in partnership with Institute of Rural Management Anand (IRMA)-Anand, Centre For Water Resources Development and Management (CWRDM)-Kozhikode and National Institute of Hydrology (NIH)-Roorkee. The following three projects have been initiated by TIFAC:

1. Project on Climate Change Adaptation Approaches for Sustainable Livelihoods by IRMA, Anand. The study has completed spatial and temporal variability of climatic parameters by different RCPs such as historical and projected rainfall, temperature, and evapo-transpiration deficit. The AEZ methodology would provide data on current and future agricultural production. Once all this data along with data on migration are available, the spatial pattern of

future livelihoods would be analyzed. This would help spatial pattern of livelihoods and climate change adaption strategies. All this would devise guidance towards policies and governance of land and water, and mechanism for effective climate change adaptations.

2. Project on Integrating hydrology, climate change and IWRM with livelihood issues: Development of methodology and a DSS for water-scarce Bundelkhand region in India by NIH, Roorkee. The study would lead to a water management tool (e.g. Decision Support System) to assist the local stakeholders in selecting and adopting appropriate water management practices on a sustainable basis. DSS model would create awareness on land & water productivity, water balance (with climate change impacts), livelihood options, technology options, institutional support, operational schemes, etc. A conceptual model of the DSS has been prepared, and a user interface guidelines for the DSS is being developed by NIH.

3. Project on Evaluation of soil nutrient budgets at field, farm and regional level in humid tropics of Kerala and development of a model for management of soil health by CWRDM, Kozhikode. The study aims to quantify the nutrient inflows and outflows (viz., soil erosion and leaching) in different cropping systems at spatial scales in Kerala soils and validate the model at different spatial scales in Kerala soils with the help of DSS linked with Geographic Information System (GIS). The study was carried out in three phases. Strategies like pine apple strip cropping, contour trenches and drip fertigation were tested as management interventions. In second phase, regional level study was conducted for Kozhikode district. 20 farms were selected in four Agro ecological units covering marginal, small, medium and large farmers with crops like paddy, coconut, banana, arecanut, pepper, rubber and vegetables etc and the nutrient balance was worked out with the model. The Sustainable Livelihood Security Index (SLSI) has been calculated for targeting the nutrient recommendations for improving the productivity and sustaining the livelihood of farmers. The third phase on finalization of DSS structure and concepts has also been completed. CWRDM would have to look into providing any input/ cash to the farmers for adopting the recommendations for using the Soil Health Card. The three studies under cluster umbrella is developing shared climate change scenarios and DSS methodologies on climate, land and water and preparing guidelines in sustenance and improvement in rural livelihoods. The project findings would also work out a strategy for replication of solution and their scaling up in other parts of India. While this work is in progress, Ministry of Water Resources (GoI) has suggested extending this work to other regions of Bundelkhand. In the initial phase four regions have been identified for implementation of Integrated Water Resource Management and is

expected to be completed by the end of 2017.

4. Study on Development and Application of GAINS-City Model for Indian Cities by National Environmental Engineering and Research Institute (NEERI), Mumbai Centre aimed to develop a modified version of the GAINS-Asia model for major Indian urban areas such as Delhi and Kolkata. An analysis of Delhi's air pollution and future trends says that 60% of Delhi's particulate matter pollution comes from neighbouring Haryana and Uttar Pradesh. In fact, if Delhi were to adopt the cleanest-grade fuel available, pollution would still persist well above globally-recommended safe levels unless neighbouring states too adopted similarly stringent policies. The study finds that nearly a fourth of the 15,000 tonnes of PM2.5 emitted annually is due to road dust and about 40% due to power plants and residual and commercial combustion. The model was presented in the recent stakeholder workshop with Central Pollution Control Board (CPCB) in October 2016 wherein it was debated that Delhi urgently requires cooperation of neighbouring states to deal with the menace. The output of the study had wide media coverage. Based on the model, the National Green Tribunal (NGT) has taken initiative on managing deteriorating quality of air in Delhi. The model has also discussed the management options to improve Delhi's air quality and associated co-benefits in the recent conference COP 22 held at Marrakech, Morocco in November 2016. GAINS Delhi policy analysis model reveal current sources of pollution that threaten the health of Delhi's citizens also talked about as to how to make use of the model for potential policy interventions that could effectively reduce environmental pollution and health impacts in the coming years. The presentation demonstrated that

models could be effective tools for the regulators to consider proper controlled measures.

5. Study on Agro-biodiversity Conservation and Ecosystem Development– A Study in Indian agro-climatic sub-zones by Institute for Social and Economic Change (ISEC), Bangalore. The study would identify conceptual issues and gaps, develop biodiversity indicators relevant for agricultural landscapes, identify the ecosystem, estimate the economic value of agro-biodiversity, the social costs of their loss, as well as assess the policy options to promote agro-biodiversity conservation. The study would also highlight the pattern of climate change and its impact on forest, agriculture, livestock and humans and plan possible adaptation measures for vulnerability to climate change towards conservation of agro-biodiversity and sustainable socio-ecological development.

4.1.2 Other Activities/Workshops

The interaction with IIASA is helping build up national capability in applied systems analysis and development of integrated models, which can help in planning process and identification of technology priorities. In particular, IIASA's applied systems analysis has brought a global perspective, interdisciplinary research expertise, and policy relevance to issues ranging from the future of India's energy system to increasing the country's food production.

The India-IIASA collaboration has resulted in the publication of approximately 180 journal articles or reports on a diverse range of disciplines and issues, primarily on energy, biofuels, emissions (climate change), and forestry. IIASA's broader agenda also generates research of direct relevance to decision makers in India. IIASA's academic training Programmes have also been successfully building the next generation of systems analysts in India.

4.2 Government Foresight Organizations' Network (GFN)

The Government Foresight Organizations Network (GFN) provides an opportunity for government organizations to discuss global emerging issues requiring policy action and to share experiences in horizon scanning and foresight activities every year. TIFAC participated in the 7th meeting of GFN during November, 25-26, 2016 and the Global Innovation & Development Forum on November, 27, 2016 in Beijing (China). Methodology of preparation of Technology Roadmaps on Materials and Manufacturing was presented in the meeting and received appreciation from the experts.

5.0 Events

TIFAC occupies unique space in the S&T spectrum of the country, not only in terms of landscape of technologies it covers but also its focus on the future. A forward looking organization as it is, TIFAC strives to create opportunities for diverse players to come together. It routinely organizes or co organizes events that facilitate networking among stakeholders on one hand to exchange of ideas, knowledge and experience. This section reports the major events that TIFAC has organized during the year.

5.1 International Seminar on Methanol Economy

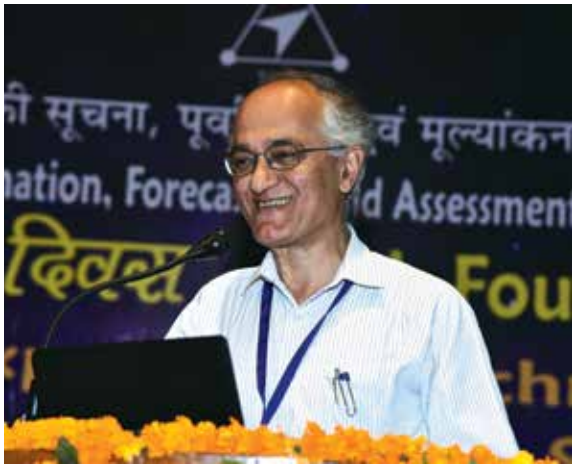
An International seminar on 'India's leap into Methanol Economy: Opportunities and Options for Energy Security' was jointly organized on September 6-7, 2016, by TIFAC jointly with NITI Aayog, Department of Science and Technology (DST), Ministry of New and Renewable Energy (MNRE), Methanol Institute (USA) & Catalytic Think Tank Forum, Bangalore. The two-day event had more than 60 global participants and 500 domestic delegates from Government of India, Academia and leaders of Indian Industry. Besides other dignitaries, the Seminar was graced by Hon'ble Ministers: Shri Nitin Gadkari, Minister of Shipping, Road Transport and Highways, Shri Dharmendra Pradhan, Minister of State for Petroleum and Natural gas, Shri Ananth Kumar – Minister for Parliamentary Affairs and Shri Suresh Prabhu (through tele conference) Minister for Railways. Several PSU's like BHEL, IOCL, Gujarat Narmada Valley Fertilisers & Chemicals Limited (GNFC), Assam Petrochemicals, etc. have expressed their interest to take up the activity of demonstration and research work in the field of Methanol & DME. During the seminar NITI Aayog signed a Statement of Intent with Methanol Institute of the U.S.A. to work further on the technology.

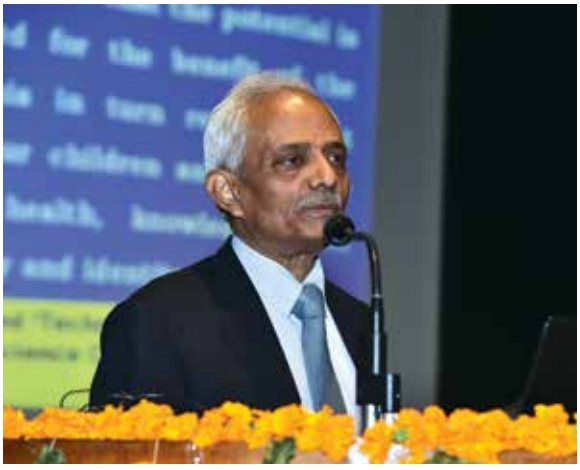
5.2 TIFAC Foundation Day

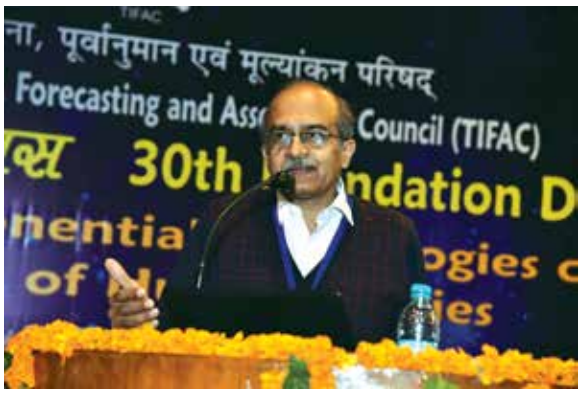
TIFAC celebrated its 30th Foundation Day on February, 10, 2017 in the Seminar Hall, IIT Delhi with focus on "Impact of Exponential Technologies on Future of Human Species". The day-long event featured expositions from TIFAC and select exhibitors provided a snapshot of state-of-the-art and emerging trends. Eminent experts shared their view points on what the Exponential Technologies hold for the future generations. The event focused on young students, who not only got enlightened about the prospective future, but also had an opportunity to share their perspectives. Prof. Ashutosh Sharma, Secretary, DST; Dr. Anil Kakodkar, Chairman, TIFAC and Prof. Ram Gopal Rao, Director, IIT-Delhi inaugurated the Foundation Day celebrations. On this occasion, a talk was also given by Mr. T. V. Mohandas Pai, Chairman, Manipal Global Education (via Video Conferencing).

Technologies such as Additive Manufacturing, 3D printing, Quantum Computing, artificial intelligence, advanced robotics, virtual and augmented reality, alternative energy systems, biotechnology and digital medicine are growing at an unprecedented rate. Such technologies seemingly following the Moore's law, are collectively referred to as Exponential Technologies by the futurists.

Prof. Prabhat Ranjan, ED, TIFAC who moderated the technical session opened the panel by speaking about the importance of a debate on Exponential Technologies which are likely to have a profound impact on the human species. Prof. Timothy A. Gonsalves, Director, IIT Mandi; Dr. W. Selvamurthy, Formerly CCR&D, DRDO; Ms. Deepti Navaratna, Director, Indira Gandhi National Centre for the Arts, Bengaluru and Mr. Madan Pandit, CEO-TAS Information Intelligence, Bengaluru spoke on the occasion. They addressed questions related to the theme: will these technological changes be accompanied by equally profound economic, social and cultural changes? Will Robots destroy our jobs? Will future governments be forced to fork out universal basic income for survival of human species? If Robots become self-aware, would it lead to decline our social life? Do we need to define 'Human Rights' for Robots? How education could be redefined with artificial intelligence, big data, augmented reality and personalized learning pathways? Are conventional manufacturing plants under threat with the advent of additive manufacturing? What will be the impact on skills required? And will, even after all these changes, people-to-people communication and socio-economic activities remain the same? During the event, Mr. Prashant Bhushan, Lawyer & Activist dwelt upon the issue whether human rights should be given to the Artificial Intelligence or not. The event also gave opportunity to students from schools and colleges of Delhi-NCR, to share their perspectives as well.







5.3 Other Events

- TIFAC observed Vigilance Awareness Week during October 26-31, 2016. The theme of the Vigilance week was “Public participation in promoting Integrity and eradicating Corruption”.
- The Hindi Fortnight (Pakhwada) was organized in September, 2016. TIFAC employees participated in various competitions and were given away certificates and cash prizes for their performances.

6.0 Human Resource Development

The success of any organization's endeavours lay in its human resource and its growth on how well it is developed. This is particularly true for S&T institution because of the pace of changes on one hand to the globalization on the other. TIFAC encourages and supports human resource development in the areas of its work– both internally and externally. It supports internships which allow young college students to work in TIFAC from two to six months under the guidance of TIFAC scientists. The scientists also routinely present or publish their ffindings, insights and experiences, besides serving as resource persons at diverse intellectual platforms.

6.1 TIFAC Internship Scheme

Towards strengthening technology foresight activities of TIFAC, enhancing linkages with academia and sensitizing the students about future technology priorities, TIFAC started the internship scheme in August 2013. During the current year, 17 students (including 10 students who joined earlier, and 7 who joined during the current year) went through internship under different TIFAC scientists. 14 students completed their internship project during the year.

Topics on which student internees worked during the year 2016-17

- Lightweight Design of Electric vehicles
- Fore-engineering: An Innovative method of systematic technology foresight
- Suitable technology innovation models for Indian SMEs particularly start-ups vis-a-vis successful models globally
- Technology Foresight for Assistive Technology (AT) for Persons with Disability (PwD)
- Technology Foresight on Process Intensification: Emerging tool to efficient manufacturing
- Smart Materials status, future prospects and pointers for R&D in India
- Integrated Electric Wheelchair
- Emerging Materials
- Technology Assessment Exercise on Disaster Risk Reduction

- Solar Integrated Electric Bus: A Cross Impact Analysis
- Evaluation of Artificial Intelligence Engines for Subject Learning
- Commercial scale food processing technologies pertinent to Malda Cluster: An attempt towards rainbow revolution
- Patent data based forecasting of future education systems and skills requirement for teachers

6.2 Papers published/ presented

6.2.1 Papers published in Journal/ Periodicals

- N Kaushik and Sanjay Singh, "Opportunities for bio fuels– Indian Scenario", Procedia Environmental Sciences, September, 2016.
- Suresh Babu Muttana, Rakesh Kumar Dey and Arghya Sardar,"Prospects of Electric Bus Integrated with Solar Photovoltaic Cells", SAE Technical Paper, January, 2017
- Raghu Krishna Moorthy, Sangeeta Baksi and Soumitra Biswas,"Process technology – An Insight" published in the Chemical Engineering World, Vol.51, Issue-2, February 2016
- Sangeeta Baksi and Akarsh Mishra, "Early Warning and Forecasting System for Earthquake: An Insight", Journal of AIDMI, Issue No 152, November 2016
- Sunil Nautiyal, Harald Kaechele, M.S. Umesh Babu, Pavan Tikhile and Sangeeta Baksi, "Land-use change in Indian tropical agro-ecosystems: eco-energy estimation for socio-ecological sustainability", Environ Monit Assess, March, 2017

6.2.2 Papers presented in Conferences/ Symposia/ Seminar

- Swati Sharma, G.U. Gurudutta and Upma Singh, "The burden and impact of occupational cancer: a meta-analysis of exposure to Ionizing Radiation (IR)", Third International Conference on Occupational & Environmental Health (ICOEH-2016) National Institute of Health & Family Welfare (NIHFW), New Delhi, September 23-25, 2016
- Swati Sharma, G.U. Gurudutta and Upma Singh, "Analyzing the role of proteomic biomarkers in cancer due to exposure of Ionizing radiation, Third International Conference on Occupational & Environmental Health (ICOEH-2016) National Institute of Health & Family Welfare (NIHFW), New Delhi, September 23-25, 2016
- Swati Sharma, G.U. Gurudutta and Upma Singh, "Analyzing the role of proteomic biomarkers in cancer due to exposure of Ionizing radiation, Third International Conference on Occupational & Environmental Health (ICOEH-2016) National Institute of Health & Family Welfare (NIHFW), New Delhi, September 23-25, 2016
- Nirmala Kaushik, "Biomass availability study- An Initiative by TIFAC" Workshop on 'Creating sustainable biomass supply chain for the proposed ligno-cellulosic (2g) ethanol projects undertaken by oil

PSUs, Hyderabad, November,15, 2016.

- Swati Sharma, "People's attitude towards healthcare technologies" Sixth All India Young Scientists Convention of XL Indian Social Science Congress, at University of Mysore, Mysuru, December 19-23, 2016
- Shantanu Chakrabarti and Jancy A, "Technology Vision 2035- An exercise in Metals and Materials", First International Conference on Engineering Materials and Metallurgical Engineering, Dhaka (Bangladesh), December 22-24, 2016
- P.R. Basak, "Scaling of technology innovations under Srijan Programme", Bangabhumi Cluster of Refractory Association, Asansol, February 02, 2017.
- Brajeshwar Chandelia,"University to Industry Technology Transfers in the Indian Context", BVRIT College of Engineering for Women, Hyderabad, February 17-18, 2017.
- Brajeshwar Chandelia, "Impact of government policies on improvement of status of women", Banasthali University, Banasthali, February 24-25, 2017.
- P.R. Basak, "Sscaling of innovations and ecosystem", Industry-Academia Conclave, Kolkata, March 27-29, 2017

6.3 Participation in National and International Conferences/ Seminars/ Symposia

- Manish Kumar participated in a workshop by WAITRO at Istanbul, Turkey during May 16-19, 2016
- Sangeeta Baksi participated in IIASA conference at Austria during June 5-10, 2016.
- Prabhat Ranjan attended World Future Conference in Washington DC during July 22-24, 2016
- T. Chakradhar attended SOIF Conference at Buckinghamshire, UK, during August 8-13, 2016.
- Suresh Babu participated in CII Conference on 'Future of Automotive Design' in Chennai on August19, 2016
- Swati Sharma attended a conference on ICOEH held at Safdarjung Hospital, New Delhi, during September 23-25, 2016
- Nirmala Kaushik attended a consultative workshop on 'Creating investment avenues on setting up of Second Generation (2G) Ethanol Projects by Oil PSUs' organised by Ministry of Petroleum & Natural Gas, on November 03, 2016
- Prabhat Ranjan participated in IIASA Conference in Austria,during November, 07 & 08, 2016
- Prabhat Ranjan, Sangeeta Baksi, Gautam Goswami and Manish Kumar attended COP 22 Conference in Marrakesh, Morocco during November 11-12 , 2016

- Jancy. A attended the Government Foresight Organization Network (GFN) Conference in Beijing China, during November25-27, 2016
- Brajeshwar Chandelia participated in the International seminar on "Technology Transfer as a Tool to Optimize IP and Innovation" organized by NRDC in New Delhi, on January 09, 2017
- PR Basak and Sujatha Ramasamy, participated in terminal workshop of UNIDO-MSME-FICCI Global Ceantech Innovation Programme (GCIP) and Investor's Connect with young innovators and entrepreneurs in New Delhi on March 09, 2017

6.4 Training Programmes attended

- Kavita Tyagi attended a workshop-cum- training Programme on "Software for Library & Information Centre" at BIGNFA, Dehradun, in August 12&13, 2016
- Arghya Sardar attended training Programme on "Transportation simulation softwares PTV VISSIM and PTV VISUM" organized by the PTV Group at IISC, Bangalore in September, 2016
- Vipin Shukla & Debabrata Majumdar attended a training Programme on "Knowledge management & Knowledge sharing in Organisation" at IIPA, Delhi, during August 29 to September 02, 2016
- Maan Bardhan Kanth attended a training Programme on Science Communication at NISCAIR, New Delhi during September 5-9, 2016
- Nirmala Kaushik & Sangeeta Nagar attended a training Programme on "Financial Management for Scientist & Technologies" at IIPA, New Delhi sponsored by DST during October 03-07, 2016
- Deep Prakash, attended training for Nodal Officers under DST with "RTI online web Portal" at CSOI, Delhi, on December 23, 2016

6.5 Invited lectures

- Prabhat Ranjan chaired a session on "Building Sustainable Habitats" in Kalina Campus of University, Mumbai on April 2, 2016
- Prabhat Ranjan delivered a lecture on 'Democratizing Technology for Disaster Risk Reduction' in Tata Institute of Social Sciences, Mumbai on April 4-5, 2016
- Gautam Goswami, delivered a lecture on "Making of Technology Vision 2035" in a workshop held in Mumbai organized by National Centre for Science Communications (NCSC), on April 18, 2016.
- Arghya Sardar made a presentation

on “Lithium Ion Battery for Electric Mobility – Indian Perspectives”, at the Workshop on “Lithium Ion Battery Technology and Mathematical Modelling” held at IIT Kharagpur in May 16-18 2016

- Gautam Goswami delivered a lecture on “Technology Vision 2035” Foreign Services Institute on May 31, 2016
- Yashawant Dev Panwar delivered a lecture on “National IPR Policy” during a meeting on National IPR Policy cum Workshop on IPR, at Patent Information Centre, Kerala State Council of Science Technology & Environment, Trivandrum during July 14-15, 2016
- Neeraj Saxena delivered a plenary lecture on “Quality Education, Livelihood And Creative Opportunities – A Prerogative To Every Indian” in the National Conference on Technology Vision 2035 organized in Chennai on July 5, 2016
- Gautam Goswami delivered a lecture on “Technology Vision 2035” in a Workshop organized at SBIOA Educational Trust, Chennai on July 5, 2016
- Yashawant Dev Panwar delivered a lecture on “Overview of Intellectual Property Rights” during a meeting on National IPR Policy cum Workshop on IPR, at Patent Information Centre, Kerala State Council of Science Technology & Environment, Trivandrum during July 14-15, 2016
- Yashawant Dev Panwar delivered a lecture on “Management of Intellectual Property Rights in Academic Institutions” during a One Day Workshop on IPR, MS Ramaiah University of Applied Science, Bangalore on July 27, 2016
- Neeraj Saxena delivered a lecture on “Synallagmatic Industry-Academia Linkages in the Conference” on “Sustainable Institute Industry Partnership” held at India International Centre, New Delhi on July 21, 2016
- Yashawant Dev Panwar delivered a lecture on “IPR and MSME” during a Workshop on IPR, World Association of Small and Medium Enterprises (WASME), Noida on September 23, 2016
- Prabhat Ranjan delivered a lecture on “‘Building a Knowledge Society and Enabling Make-in-India through Industry Academia Innovation Platform”’ in CII, Kolkata on August 22, 2016
- Neeraj Saxena delivered Extra-Mural lecture on “Technology Forecasting: Tools and Techniques”, organized by Institute of Technology Management, DRDO, Mussoorie on September 1, 2016
- Prabhat Ranjan delivered Keynote Address during Awareness Workshop on Intellectual Property Rights in Pondicherry University in September 3, 2016
- Yashawant Dev Panwar delivered a lecture on “Management of Intellectual Property Rights” during Workshop on Technology Vision: A Journey to Research at Shantilal Shah Engineering College, Bhavnagar, Gujarat, October 3, 2016
- Prabhat Ranjan delivered lecture as ‘Chief Guest’ during inauguration of the SGIC on September, 28, 2016

- T Chakradhar delivered a lecture on "India in 2035" at the Foreign Services Institute, New Delhi on September 29, 2016
- Prabhat Ranjan delivered a talk on "'Technology Vision 2035: Opportunities for Innovation"' at Mahatma Mandir, Gandhinagar, Gujarat on September 30, 2016
- Prabhat Ranjan delivered a talk on 'Technology Vision: A Journey to Research for Electrical and Allied branches of Engineering' at Bhavnagar (Gujarat) on October 3, 2016
- Sangeeta Nagar delivered a lecture on "New Developments in IPR" during Patent Drafting Workshop for KIRAN IPR at Chennai Centre, October 20, 2016
- Neeraj Saxena delivered a lecture on "Ïndia in 2035" at the Foreign Services Institute, New Delhi on October 4, 2016
- Prabhat Ranjan delivered a talk on Higher Education during Vibrant Gujarat International Conclave at Mahatma Mandir, Gandhinagar, Gujarat on October 18, 2016
- Prabhat Ranjan delivered a talk in Workshop on IPR at Shri Mata Vaishno Devi University, Katra (Jammu & Kashmir) on October 20, 2016
- Aruna delivered a lecture on "Patent information and its access" during One Day Workshop on IPR at Shri Mata Vaishno Devi University (SMVDU), Jammu on October 20, 2016
- Prabhat Ranjan inaugurated the Deysarkar Centre of Excellence in Petroleum, IIT-Kharagpur and delivered a lecture on October, 24, 2016
- Gautam Goswami delivered a lecture on "Technology Vision 2035" in a seminar organized by Vishwabharati University on November 18, 2016
- Arghya Sardar made a presentation on "Electric Mobility – Indian Perspectives" at the Technology Meet at the Marathawada Auto Cluster jointly organized by Marathawada Auto Cluster, CMIA, and Engineering Export Council of India, Ministry of Commerce, Govt of India during November 18 -19, 2016.
- Yashawant Dev Panwar delivered a lecture on "Overview of Intellectual Property Rights with context to IPRs in Research, Development and Academics" during One Day workshop on IPR, State Institute of Health & Family Welfare, Parimahal, Shimla on November 25, 2016
- Dipti Chitkara delivered a lecture on "Patent searches using various database" during One Day Workshop on IPR at Nehru Institute of Engineering & Technology, Coimbatore, Tamil Nadu on December 3, 2016
- Prabhat Ranjan delivered a Keynote Lecture in Workshop on 'Innovations and the Society' at IIITDM, Jabalpur during December 5-6, 2016
- Arghya Sardar participated in the panel discussion in the workshop on "High Impact Opportunities for Energy Efficiency in India" organized by EESL and IIM Ahmedabad on

December 19, 2016 at India Habitat Centre, New Delhi.

- Prabhat Ranjan delivered a Keynote Address on 'Technology Vision 2035' at Agrawal Institute of Computer Science, Navsari, Gujarat on December 26-31, 2016
- T Chakradhar delivered a lecture on "Qualitative methods of foresight" at Indian Agricultural Statistics Research Institute, New Delhi on January 11, 2017
- Yashawant Dev Panwar delivered a lecture on "Policy Push for IP Stimulated R&D" during One Day Workshop on IPR at NASC Complex, Pusa, New Delhi on January 12-15, 2017
- Prabhat Ranjan delivered Keynote Address on "Transportation Sector of Technology Vision 2035" during the Valedictory Function of SIAT 2017 at the Automotive Research Association of India (ARAI), Pune on January 21, 2017
- Prabhat Ranjan delivered a lecture as Distinguished Guest in the Inaugural Ceremony at ABV-Indian Institute of Information Technology & Management, Gwalior on January 19-20 2017
- Prabhat Ranjan delivered a lecture as 'Distinguished Speaker' of the Conference "Quantum Physics and Consciousness" in The Bhaktivedanta Institute Kolkata on February, 4-5, 2017
- Yashawant Dev Panwar delivered a lecture on "National IPR Policy & Accessing Patent Information" during One Day Workshop on on IPR at Law Centre-1, Faculty of Law, University of Delhi on February 16, 2017
- Prabhat Ranjan delivered a talk on "Technology Vision 2035 & Climate Change" at International Centre for Information Systems & Audit, Uttar Pradesh on February 17, 2017
- Yashawant Dev Panwar delivered a lecture on "Patent Information and patent search techniques with hand on training" during One Day Workshop on Patent Information at Tezpur University, Assam on February 25, 2017
- Maan Bardhan Kanth delivered a lecture on " 'Technology Foresight... - Vision, Mission and Action"' during a national workshop at Zakir Hussain Delhi College, University of Delhi on March 10, 2017
- Yashawant Dev Panwar delivered a lecture on "Patent information and its access and Hands on training" during TIFAC UNIDO Workshop on IPR for Cement Sector at National Council for Cement and Building Materials (NCCBM), Ballabgarh during March 22-23, 2017
- Aruna delivered a lecture on "Patent information and its access and Hands on training" during Two days Workshop on IPR for Cement Sector at National Council for Cement and Building Materials (NCCBM), Ballabgarh on March 22-23, 2017
- Prabhat Ranjan delivered a talk in a the workshop at Shree Mata Vaishno Devi University (SMVDU), Jammu on March 27, 2017

7.0 Infrastructure and Resources

No organization can operate without a robust infrastructure especially in the age of fast technological changes. TIFAC is electronically connected to rest of the world being embedded in the National Knowledge Network (NKN). It also makes its presence felt in the social media through its Facebook and Twitter accounts. By virtue of being a member of the National Knowledge Resource Consortia (NKRC), the scientists have access to large number of e-resources. Besides, TIFAC library has over 2400 books and is a unique repository of books on Foresight and Futures.

7.1 National Knowledge Network (NKN)

During the year, TIFAC continued to make use of the connectivity to the National Knowledge Network (NKN). It provides TIFAC a 100 mbps line for internet connectivity and other services offered by NKN. Interactions were continued with National Informatics Centre (NIC) for making use of other provisions in the NKN.

7.2 E-Resources

TIFAC continued subscribing to E-resources of various journals of Emerald, IEEE, J-Gate, Nature Publishing Group, Oxford University Press, Royal Society of Chemistry, Taylor and Francis, Thomson Innovation, Web of Science, Wiley and World eBook Library during the year and online desktop computer access was facilitated. The e-resources are subscribed through the National Knowledge Network Consortium (NKRC), a joint consortium of DST and CSIR.

7.3 Implementation of Official Language Policy

The implementation of Official Language policy is done under the guidance of Official Language Implementation Committee and was continued during this year as well. Six Hindi workshops were organized for the benefit of employees. The Hindi Fortnight (Pakhwada) was organized in September 2016. TIFAC employees participated in 13 different competitions and were given away certificates and cash prizes.

7.4 Library

TIFAC Library, a knowledge centre, facilitates and fosters the flow of the scientific/ technical information. The Library continued to strengthen its holdings by procuring scientific books/reports and journals/serials as per the requirement of TIFAC. A total 21 scientific/ technical books/ reports were procured during the year; the current holding of TIFAC Library is 2411. In addition, 24 of scientific/ technical journals, magazines and serials were subscribed.

7.5 TIFAC Information Interfaces

Resource Cell is maintaining the TIFAC website (http://tifac.org.in). The website served as interfaces for servicing queries received by the users. The TIFAC website was visited by more than 6.6 lakh users during the year.

TIFAC is also active on social media through Facebook and Twitter with the following URLs

- www.facebook.com/tifac.dst.india
- www.twitter.com/TIFAC_India

These are being used to reach out to public for sharing TIFAC events, activities, advertisements, schemes and opportunities. TIFAC is actively scouting latest technologies reported at various sources across the globe. Such technology information is shared on Facebook page of TIFAC and its twitter account and has been liked, commented and discussed by many. This activity in turn helps us and others in foreseeing future technologies.

Our Facebook page showcases futuristic technology and also insights from futurists.

8. Auditor's Report

S. K. JUNEJA & ASSOCIATES
CHARTERED ACCOUNTANTS

4704, Ashoka Enclave, Plot No. 8A
Sector-11, Dwarka, Delhi-110075.
Phone: 9810331588, 9810641785
E-mail: madhujun94@gmail.com

INDEPENDENT AUDITOR'S REPORT

The Trustees
TIFAC Contributory Provident Fund Trust
New Delhi

Report on the Financial Statements

1 We have audited the accompanying financial statements of M/s Technology Information, Forecasting and Assessment Council (TIFAC), New Delhi, (hereinafter referred to as `Society') which comprise the Balance Sheet as at March 31, 2017 and the Statement of Income and Expenditure Account for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

2 The management of the Society is responsible for the preparation of these financial statements that give a true and fair view of the financial position and financial performance of the Society in accordance with the accounting principles generally accepted in India including Accounting Standards issued by the Institute of Chartered Accountants of India. Their responsibility includes maintenance of adequate accounting records for safeguarding the assets of the Society and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; design, implementation and maintenance of adequate internal financial controls, that are operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

3 Our responsibility is to express an opinion on these financial statements based on our audit. We have conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

4 An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Society's preparation of the financial statements, that give a true and fair view, in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Society has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by the Society's management, as well as evaluating the overall presentation of the financial statements.

5 We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

6 In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required and give a true and fair view in conformity with the accounting principles generally accepted in India of the state of affairs of the Society as at 31stMarch 2016 and Excess of Expenditure over Income for the year ended on that date subject however to:

(a) Non recognition as Assets of Loans given to various parties under various projects from the year 1992 to 2005 which have not been recognized as `Loans' in Assets side of the Balance Sheet amounting to Rs. 47.68 Crores. (Note No. 12 of Notes on Accounts of the Balance Sheet)

(b) Non allocation of housekeeping expenditure, electricity, security services, water and horticulture spent as office space is also shared by NECTAR & TDB for which the amount is unascertained. (Note No. 8 of Notes on Accounts of the Balance Sheet) .

(c) As per DST letter Dt.18.11.2016 providing a grant of Rs.90,12,000/- only to the Society for financial support for Global Technology Watch Group, the society has not maintained separate audited accounts. The interest of grant amount has not been accounted for in the grant as per conditions of the sanction letter.

(d) As per DST letter Dt.25.10.2016 providing a grant of Rs.1,20,000/- only to the Society for organizing consultation meeting for Science and Heritage Research Initiative (SHRI) to be held on 03.11.2016, the society has not maintained separate audited accounts. The interest of grant amount has not been separately reported and accounted for in the grant as per conditions of the sanction letter.

(e) As per DST letter Dt.13.10.2016 providing a grant of Rs.1,20,000/- only to the Society for organizing selection meeting for STI Policy Fellowship on 18.10.2016 at Vishwakarma Bhavan, the society has not maintained separate audited accounts. The interest of grant amount has not been separately reported and accounted for in the grant as per conditions of the sanction letter.

(f) During the year a workshop was organized from 12-14th January 2017 in

which 69 delegates participated besides 6 organizers. As per sanctioned note TIFAC was required to collect Rs.5000/- from each participants as registration fees before the start of event. Whereas PFC a division of TIFAC has collected such fees only from 9 participations till the close of the year. The balance amount of Rs.3 lakhs to be recoverable from such participants have not even been shown as balance recoverable in the balance sheet.

(g) The society is not maintaining fixed assets register in proper format so as to show inventory of individual fixed assets items. Physical verification of fixed assets items has not been done by the society.

(h) During the year the society has imported one EEG equipment by making an online payment of US $ 1695.76 (equivalent to Rs. 1,12,768/-) for which bill is not available with the society.

(i) During the year WSSS & PFC divisions of the society has purchased computers amounting to Rs.96,109/- and printer of Rs.24,998/- respectively which has been charged to revenue account and has not been capitalized.

(j) The society is not maintaining inventories of publication of its reports.

(k) On 03.10.2016 Society has spent Rs.1,58,125/- for maintenance of web portal whereas the mandate of sanction from Ministry and Social Justice and Empowerment vide letter dated.03.10.2016 was for preparation of a Directory of Aides and Assistive Devices for Persons with Disabilities.

(l) An amount of Rs.22,224/- has been paid to a Chartered Accountant to check whether M/s Hindustan Zinc Ltd. is showing the credit balance of TIFAC in its Balance Sheet. Whereas, before entrusting this work to them we have advised the society that details of individual creditors are not available in the balance sheet which is in the public domain and can be verified by any person by paying a nominal fee of Rs.100/- and there is no need to visit the ROC office at Jaipur. Even taxi bill which has been claimed by the professional has not been obtained by the society.

(m) Travelling expenditure has been reimbursed to experts/delegates without obtaining both sides boarding pass of flights. These are the cases where Air flights are not booked through authorized PSU Agents.

(n) There is failure of internal control system in deposit of sale proceed of Published reports as the proceeds are not being deposited in timely manner in the funds of the society. Instances are given below:-

Date of Sale	Receipt No.	Date of Receipt by Account Section
06.01.2016	5429	01.04.2016
27.01.2016	5431	28.01.2016
28.01.2016	5432	01.04.2016
14.03.2016	5433	01.04.2016
21.03.2016	5434	01.04.2016

(o) During the year the society has reimbursed landline telephone expenditure to Ms.Sangeeta Bakshi amounting to Rs14239/- installed at Patel Nagar whereas her residential address as per record is Rajinder Nagar. Her mobile bills which are being reimbursed relate to her Rajinder Nagar address. Also for her tour to Austria for attending IIASA Programme she has been given one day extra DA amounting to US$ 100 (equivalent to Rs.6880/-)

(p) As per previous audited balance sheet as at 31.03.2016 an amount of Rs.4,28,510/- was recoverable from Executive Director, Prof. Prabhat Ranjan, but the same has not been recovered during the year.

(q) As per previous audited balance sheet as at 31.03.2016 an amount of Rs.2,56,16,929/- was payable to Department of Science and Technology which has not been paid during the year.

(r) As per the agreed schedule of fees payable to local attorneys for their affiliation with foreign attorneys, the local attorneys are allegeable to be paid 20% of professional fees only of foreign attorneys. Whereas society has paid 20% of professional fees of foreign attorneys plus their filing/government fees.

(s) During the year the society has provided for Liability for Gratuity amounting to Rs. 3,90,55,529/- on the basis of calculation made by a Chartered Accountant. The calculation of death cum retirement liability of employees has not been calculated by applying an actuarial valuation method and making actuarial assumptions as per accounting standard 15 relating to employee benefits. Similarly during the year a provision of Rs.3,06,35,553/- has been made for Leave Encashment on the basis of a Chartered Accountants certificate without applying an actuarial valuation method and actuarial assumptions.

(t) During the year the society has released vary old payments to the attorneys for patents filing that too on the duplicate bills and without proper receipts of Govt. dues deposited by them. Few instances are given below :

S. No.	Date of Payment	Name of Attorney	Amount (Rs)	Remarks
1.	18.11.2016	Subramanium & Associates	17000/-	Rs.10,000/- claimed as Fee Deposit for Form 18 on 08.09.2010. Claim was made on the basis of photocopy of deposit challan even though amount was physically deposited on the Fee Counter and not online. Payment was claimed by Attorney on 28.07.2016
2.	10.03.2017	Subramanium & Associates	22,000/-	No Receipt enclosed for Govt. Fee deposit of Rs.8,000/-
3.	10.03.2017	MKC & Associates	42,040/-	Bill is not in the name of TIFAC, but the payment is released
4.	16.03.2017	Corporate Law Group	71,076/-	No Receipt enclosed for Govt. Fee deposit of Rs.12,000/-
5.	31.03.2017	Lakshmi Narayan & Sridharan	6,618/-	Bill is dated 28.10.2010 and duplicate bill

7. We further report that

(a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit except;

ii Sanction letter of Ministry of Environment and forest for release of first instalment

for the study on Preparation of third national communication is not made available to us.

iii Copy of page no.3 of 8 of schedule charges of M/s Anand and Anand and page no.9 of 14 of scheduled charges of M/s Lakshmi Kumaran and Sridharan for filing of prosecuting IPR application for Patent Facilitating Centre as approved by PFC-TIFAC for a period from 01st April 2014 to 31st March 2019 can't be provided to your because they are our confidential documents.

(b) In our opinion proper books of account as required by law have been kept by the Society so far as appears from our examination of those books;

(c) The Balance Sheet and Statement of Income & Expenditure Account dealt with by this Report are in agreement with the books of account;

(d) In our opinion, the aforesaid financial statements comply with the applicable Accounting Standards issued by the Institute of Chartered Accountants of India except where disclosed otherwise.

(e) In our opinion and to the best of our information and according to the explanations given to us, we report as under with respect to other matters to be included in the Auditor's Report

Date: 25-09-2017
Place: Delhi

For S K Juneja & Associates
Chartered Accountants
Firm Registration No. 012484N
Sd/-

(CA Surinder Kumar)
Partner
M. No. 091449

TECHNOLOGY INFORMATION, FORECASTING & ASSESSMENT COUNCIL REPLIES TO AUDIT QUERY "ANNEXURE AR 1"

The replies to the observations of Auditors are as given below :

6(b) Action regarding recovery of dues from NECTAR and Technology Development Board (TDB) is ongoing.

6(f) The amount is being followed up for recovery.

6(h) The EEG equipment has been purchased by TIFAC through the website of the company as it did not have any dealer in India. As it is a proprietary item, TIFAC had to follow the company's systems & procedures. As per the company procedure, the quotations and invoices for the products are automatically generated online by the system. The system generated quotation and Invoice are available in file.

6(k) The activity has been taken up with due approvals.

6(l) The action was taken on the basis of legal advice and with due approval.

6(m) The boarding pass requirement has been waived off in view of DoPT Circular No.G-14019/2/13-Cash dt.7th October 2014. Further, all the experts/delegates invited for TIFAC Programmes have already been advised to book their air tickets through Airlines websites or authorised Travel agents of Govt. of India (i.e M/s Balmer Lawrie & Co. Ltd, M/s Ashok Travels & Tours (ITDC) and M/s IRCTC)

6(p) The issue raised is being looked into.

6(t) The old payments were pending due to non receipt of all relevant documents. Such payments have been released after verifying all the documents in file as mentioned in para.

Rest of the points are being examined for compliance.

Technology Information Forecasting And Assessment Council, (TIFAC)
Balance Sheet as at 31.03.2017

	Schedule	Current Year				Previous Year			
		TIFAC	PFC	WSS	Total	TIFAC	PFC	WSSS	TOTAL
CORPUS / CAPITAL FUND AND LIABILITIES									
Corpus / Capital Fund	1	314,039,832.51	8,416,054.73	(6,222,946.76)	316,232,940.48	366,698,250.63	372,326.70	24,322,008.00	391,392,585.33
Reserves and Surplus	2	-	-	-	-	-	-	-	-
Earmarked / Endowment Funds	3	-	-	-	-	-	-	-	-
Secured Loans and Borrowings	4	-	-	-	-	-	-	-	-
Unsecurred Loans and Borrowings	5	-	-	-	-	-	-	-	-
Deferred Credit Liabilites	6	-	-	-	-	-	-	-	-
Current Liabilites and Provisions	7	130,290,397.93	1,096,382.00	2,861,279.00	134,248,058.93	78,921,394.93	740,651.00	117,664.00	79,779,709.93
Total		444,330,230.44	9,512,436.73	(3,361,667.76)	450,480,999.41	445,619,645.56	1,112,977.70	24,439,672.00	471,172,295.26
									-
Assets									-
Fixed Assets (Net)	8	54,942,731.47	-	-	54,942,731.47	61,332,405.47	-	-	61,332,405.47
Investments-From Earmarked / Endowment Funds	9	117,453,000.00	-	-	117,453,000.00	106,049,000.00	-	-	106,049,000.00
Investments-Others	10	-	-	-	-	-	-	-	-
Current Assets, Loans, Advances etc.	11	271,934,498.97	9,512,436.73	(3,361,667.76)	278,085,267.94	278,238,240.09	1,112,977.70	24,439,672.00	303,790,889.79
Miscellaneous Expenditure									-
(to the extent not written off or adjusted)									-
Total		**444,330,230.44**	**9,512,436.73**	**(3,361,667.76)**	**450,480,999.41**	**445,619,645.56**	**1,112,977.70**	**24,439,672.00**	**471,172,295.26**
Significant Accounting Policies and Notes on Accounts									
Contingent Liabilities									

Subject to Schedule -1 to 24, forming part of the Balance Sheet
As per our report of even date Attached
For S K Juneja & Associates (FRN : 012484N).
Chartered Accountants

Sd/-
Accounts Officer
TIFAC

Sd/-
Registrar
TIFAC

Sd/-
Executive Director
TIFAC

Sd/-
Surinder Kumar (Membership No.091449)
Partner
Date : 25.09.2017
Place : New Delhi

Technology Information Forecasting And Assessment Council, (TIFAC)
Income & Expenditure Account for the Year Ended 31.03.2017

	Schedule	Current Year				Previous Year			
Income		**TIFAC**	**PFC**	**WSSS**	**Total**	**TIFAC**	**PFC**	**WSSS**	**Total**
Income from Sales / Services	12	-	-	-	-	-	-		-
Grants / Subsidies	13	151,000,000.00	18,832,650.00	-	169,832,650.00	154,050,000.00	13,528,479.00	20,000,000.00	187,578,479.00
Fees / Subscriptions	14	670.00	-	-	670.00	202,440.00	-	-	202,440.00
Income from Investments	15	-	-	-	-	-	-	-	-
Income from Royalty, Publication etc	16	129,159.00	-	-	129,159.00	95,140.00	-	-	95,140.00
Interest Earned	17	19,392,431.00	78,777.03	387,649.00	19,858,857.03	25,173,389.00	143,309.97	638,879.00	25,955,577.97
Other Income	18	3,501,776.00	5,396.00	-	3,507,172.00	2,666,273.69	5,000.00	3,000.00	2,674,273.69
Increased/(Decrease) in stock of Finished Goods and Works-in-Progress	19	-	-	-	-	-	-	-	-
Refund from Projects	20	2,610,315.00	-	-	2,610,315.00	15,287,072.00	-		15,287,072.00
Total (A)		**176,634,351.00**	**18,916,823.03**	**387,649.00**	**195,938,823.03**	**197,474,314.69**	**13,676,788.97**	**20,641,879.00**	**231,792,982.66**
Expenditure									
Establishment & Other Administrative Expenses	21	167,215,666.50	9,757,803.00	30,280,754.76	207,254,224.26	97,880,911.47	10,702,151.52	3,722,006.00	112,305,068.99
Expenditure on Grant, Subsidies etc	22	55,004,838.62	1,115,292.00	651,849.00	56,771,979.62	104,531,894.23	1,024,388.00	-	105,556,282.23
Interest	23	-	-	-	-	-	-	-	-
Depreciation (Net Total at the Year end)	8	7,072,264.00	-	-	7,072,264.00	8,382,565.07	-	-	8,382,565.07
Total (B)		**229,292,769.12**	**10,873,095.00**	**30,932,603.76**	**271,098,467.88**	**210,795,370.77**	**11,726,539.52**	**3,722,006.00**	**226,243,916.29**
Balance being excess of Income over Expenditure (Expenditure over Income)		(52,658,418.12)	8,043,728.03	(30,544,954.76)	(75,159,644.85)	(13,321,056.08)	1,950,249.45	16,919,873.00	5,549,066.37
Transfer to Special Reserve (Specify each)									
Contingent Liabilities									

Subject to Schedule -1 to 24, forming part of the Balance Sheet
As per our report of even date Attached

For S K Juneja & Associates (FRN : 012484N)
Chartered Accountants

Sd/-
Accounts Officer
TIFAC

Sd/-
Registrar
TIFAC

Sd/-
Executive Director
TIFAC

Sd/-
Surinder Kumar (Membership No.091449)
Partner
Date : 25.09.2017
Place : New Delhi

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 1 - Corpus / Capital Fund

	Current year				Previous Year			
	TIFAC	**PFC**	**WSSS**	**Total**	**TIFAC**	**PFC**	**WSSS**	**Total**
Opening Balance (General)	196,698,250.63	372,326.70	24,322,008.00	**221,392,585.33**	110,019,306.71	(1,577,922.75)	7,402,135.00	115,843,518.96
Opening Balance (SIDBI Revolving Fund)	170,000,000.00	-	-	**170,000,000.00**	70,000,000.00	**-**	-	170,000,000.00
Total Opening Balance (A)	**366,698,250.63**	**372,326.70**	**24,322,008.00**	**391,392,585.33**	**280,019,306.71**	**(1,577,922.75)**	**7,402,135.00**	285,843,518.96
Amount Given to SIDBI in 2010-2011 (B)	-	-	-	**-**	**100,000,000.00**	**-**	**-**	100,000,000.00
Excess of Income over Expenditure (Expenditure over Income)(C)	(52,658,418.12)	8,043,728.03	(30,544,954.76)	**(75,159,644.85)**	**(13,321,056.08)**	**1,950,249.45**	16,919,873.00	5,549,066.37
Total Closing Balance (A)+(B)+(C)	**314,039,832.51**	**8,416,054.73**	**(6,222,946.76)**	**316,232,940.48**	**366,698,250.63**	**372,326.70**	**24,322,008.00**	**391,392,585.33**

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 2 - Reserve and Surplus : NIL

Schedule 3 - Earmarked/Endowment Funds : NIL

Schedule 4 - Secured Loans and Borrowings : NIL

Schedule 5 - Unsecured Loans and Borrowings : NIL

Schedule 6 - Deferred Credit Liabilites : NIL

Schedule 7 - Current Liabilities And Provisions :

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
A) Current Liabilities				-				-
1. Sundry Creditors : a) For Goods				-				-
CGHS (Sh.Rajani Kanth Gupta) Ex. Registrar	2,550.00			2,550.00	2,550.00			2,550.00
Permali Wallae Pvt. Ltd.	3,000.00			3,000.00	3,000.00			3,000.00
URDIP Pune (WSSS)			11,164.00	11,164.00				-
Alaka Chakraborty	46,648.00			46,648.00	46,648.00			46,648.00
House Rent Recovered (Prof. Prabhat Ranjan)				-	4,000.00			4,000.00
2. Statutory Liabilities				-				-
a) Others : TDS Payable (Sub Total (B) of Annexure -8)	498,463.00	151,273.00	1,333.00	651,069.00	602,184.00	49,056.00	-	651,240.00
3. Other Current Liabilities				-				-
Stale Cheque (TIFAC)	585,444.00	-	17,756.00	603,200.00	119,110.00			119,110.00
IIT-TIFAC Maintenance (Provisions)	15,208,928.00			15,208,928.00	16,057,470.00			16,057,470.00
Grant STI Policy Fellowship DST	39,810.00			39,810.00				-
Grant For Science and Hertage Research Initiative (SHRI)	75,016.00			75,016.00				-
Grant : Global Technology Watch Growup (GTWG)	8,107,200.00			8,107,200.00				-
Nationalsteering Committee on Tech Need Assessment (TNA) for Habitat Sector (MOEF&CC)	2,311,548.00			2,311,548.00				
India-IIASA Membership Fee (Provision)	-			-	24,500,000.00			24,500,000.00
Expenses Payable (Sub Total (A) of Annexure - 8)	6,632,124.00	841,692.00	2,781,026.00	10,254,842.00	6,370,850.00	615,341.00	67,664.00	7,053,855.00
CPF (Under PFC New Account)		26,100.00		26,100.00				-
GSLIS (Under PFC New Account)		1,063.00		1,063.00				-
4 (a) Uspent Balance of Running Projects	817,872.00	76,254.00		894,126.00	1,844,870.00	76,254.00	-	1,921,124.00
4. (b) Due to DST (Uspenct Balance Amount In Respect of Old Projects) (List enclosed in Notes to Accounts at S.No7)	25,616,928.93			25,616,928.93	25,616,928.93		-	25,616,928.93
5.EMD/ Security Deposit (TIFAC) of (Annexure - 9)	653,784.00	-	50,000.00	703,784.00	3,753,784.00		50,000.00	3,803,784.00
6. Superannuation / Pension/Gratuity	39,055,529.00			39,055,529.00				-
7. Accumulated Leave Encashment	30,635,553.00			30,635,553.00				-
Total (A+B)	**130,290,397.93**	**1,096,382.00**	**2,861,279.00**	**34,248,058.93**	**78,921,394.93**	**740,651.00**	**117,664.00**	**79,779,709.93**

Technology Information Forecasting and Assessment Council (TIFAC) (Regular)
Schedules Forming Part of Balance Sheet As At 31.03.2017

(Amount – Rs)

		GROSS BLOCK				DEPRECIATION			NET BLOCK	
SCHEDULE 8-FIXED ASSETS	**Rate of Depreciation**	**Cost / valuation As at beginning of the year**	**Additions during the year**	**Deductions during the year**	**Cost / valuation at the year end**	**As at the beginning of the year**	**On during the year**	**Total upto the year end**	**As at the current year end**	**As at the previous year end**
A. FIXED ASSETS		-	-	-	-	-	-	-	-	-
1. LAND		-	-	-	-	-	-	-	-	-
a) Freehold		-	-	-	-	-	-	-	-	-
b) Leasehold		-	-	-	-	-	-	-	-	-
2. BUILDING		-	-	-	-	-	-	-	-	-
a) On Freehold Land		-	-	-	-	-	-	-	-	-
b) On Leasehold Land		-	-	-	-	-	-	-	-	-
c) Ownership Flats/Premises		-	-	-	-	-	-	-	-	-
d) Superstructures on Land not belonging to the entity	10.00	117,850,000.00	-	-	117,850,000.00	84,565,679.13	3,328,432.00	87,894,111.13	29,955,888.87	33,284,320.87
e) Interior work of TIFAC Building	10.00	52,476,907.00		-	52,476,907.00	29,488,958.58	2,298,795.00	31,787,753.58	20,689,153.42	22,987,948.42
3. PLANT MACHINERY & EQUIPMENT : Fire Alarm System at TIFAC Building & Fire Extinguishers	15.00	1,076,728.00	87,975.00	-	1,164,703.00	703,271.54	62,617.00	765,888.54	398,814.46	373,456.46
4. VEHICLES				-	-			-	-	-
5. FURNITURE & FIXTURES	10.00	1,938,169.60	84,924.00	-	2,023,093.60	1,524,126.92	45,650.00	1,569,776.92	453,316.68	414,042.68
6. OFFICE EQUIPMENT	15.00	23,773,330.58	338,712.00	-	24,112,042.58	20,755,356.25	490,008.00	21,245,364.25	2,866,678.33	3,017,974.33
7. COMPUTER/PERIPHERALS	60.00	10,916,620.28	134,724.00		11,051,344.28	9,674,164.57	805,600.00	10,479,764.57	571,579.71	1,242,455.71
8. ELECTRIC INSTALLATIONS		-		-	-			-	-	-
9. LIBRARY BOOKS	100.00	5,634,063.55	37,243.00	988.00	5,670,318.55	5,621,856.55	41,162.00	5,663,018.55	7,300.00	12,207.00
10. TUBEWELL & W.SUPPLY		-	-	-	-	-	-	-	-	-
11. OTHER FIXED ASSETS		-	-	-	-	-	-	-	-	-
TOTAL OF CURRENT YEAR		**213,665,819.01**	**683,578.00**	**988.00**	**214,348,409.01**	**152,333,413.54**	**7,072,264.00**	**159,405,677.54**	**54,942,731.47**	**61,332,405.47**
PREVIOUS YEAR		212,185,899.01	1,479,920.00	-	213,665,819.01	143,950,848.47	8,382,565.07	52,333,413.54	61,332,405.47	68,235,050.54
B. CAPITAL WORK IN PROGRESS										

Note : For the assets which have been put to use ofter 30st September 50% of the prescribed depreciation has been charged.

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 9 - Investments from Ear-marked/Endowment Funds

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1. In Government Securities				-				-
2. Other approved Securities				-				-
3. Shares				-				-
4. Debentures and Bonds				-				-
5. Subsidiaries and Joint Ventures				-				-
6. Others (TIFAC-SIDBI Revolving Fund)	117,453,000.00	-	-	117,453,000.00	106,049,000.00	-	-	106,049,000.00
Total	**117,453,000.00**	**-**	**-**	**117,453,000.00**	**106,049,000.00**	**-**	**-**	**106,049,000.00**

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 10 - Investments - Others : NIL

Schedule 11 - Current Assets, Loans, Advances Etc

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1. Sundry Debtors :				-				-
a) Debts outstanding for a period exceeding six months	720,439.00	187,775.00		908,214.00	477,368.00			477,368.00
2. Cash Balances in Hand (including Cheques / Drafts and Imprest) (Under TIFAC Account)	6,822.00	4,789.00	4,764.00	16,375.00	8,773.00	16,225.00	253.00	25,251.00
3. Bank Balances :				-				-
Union Bank of India : Deposit Accounts (Short Term deposits) (Annex-7)	244,594,865.00			244,594,865.00	244,398,660.00			244,398,660.00
Accrued Interest (Accrued Interest) (Annexure 7)	1,915,646.00			1,915,646.00	3,273,743.00			3,273,743.00
On Savings Accounts	21,895,984.97	5,130,412.73	317,744.24	27,344,141.94	27,516,562.09	894,178.73	24,274,364.00	52,685,104.82
B) Loans, Advances and Other Assets :-				-				-
1. Loans:				-				-
a) Staff Loan (Under TIFAC Account) (Annex-1)	1,392,264.00	161,025.00	-	1,553,289.00	1,523,301.00	192,550.00		1,715,851.00
b) Others : Inter Department	200,000.00	4,000,000.00	(4,200,000.00)	-				-
Advance : Franking Machine	10,359.00			10,359.00	5,355.00			5,355.00
Advance : DAVP	436,143.00		506,303.00	942,446.00	420,108.00			420,108.00
Security Deposit	96,911.00			96,911.00	185,860.00			185,860.00
Prof. Prabath Ranjan	428,510.00			428,510.00	428,510.00			428,510.00
House Rent Recoverable from (Prof.Prabat Ranjan)	17,500.00			17,500.00				-
Interest Accrued from Union Bank of India (on Savings Bank Account)	219,055.00	28,435.00	9,521.00	257,011.00		10,023.97	165,055.00	175,078.97
Total (A) + (B)	**271,934,498.97**	**9,512,436.73**	**(3,361,667.76)**	**278,085,267.94**	**278,238,240.09**	**1,112,977.70**	**24,439,672.00**	**303,790,889.79**

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 12 - Income From Sales / Services : NIL

Schedule 13 - Grants / Subsidies (TIFAC Regular)

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1. From Central Government				-				-
TIFAC Grant				-				-
a) Grants in Aid (Plan)	52,950,000.00	18,832,650.00	-	71,782,650.00	22,762,000.00	13,528,479.00	20,000,000.00	56,290,479.00
b) Grant in Aid (Non-Plan)	1,000,000.00			1,000,000.00	188,000.00			188,000.00
c) Grant in Aid (Plan) Capital Assets	4,950,000.00			4,950,000.00	4,950,000.00			4,950,000.00
d) Grant in Aid (Salary)	76,400,000.00			76,400,000.00	76,400,000.00			76,400,000.00
e) Grant in Aid (Salary) Scheduled Castes	5,700,000.00			5,700,000.00	5,700,000.00			5,700,000.00
f) Grant in Aid INSPIRE Award Scheme 5th National Level Exhibition And Project Competition	-			-	14,050,000.00			14,050,000.00
g) Grant in Aid : Dept. of Biotechnology (India International Science Festival (IISF) 2015)	10,000,000.00			10,000,000.00	30,000,000.00			30,000,000.00
Total	**151,000,000.00**	**18,832,650.00**	**-**	**169,832,650.00**	**154,050,000.00**	**13,528,479.00**	**20,000,000.00**	**187,578,479.00**

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 14 - Fees / Subscriptions

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Award for Nari Shakti				-	200,000.00			200,000.00
RTIA Questions	170.00			170.00	440.00			440.00
Tender for Car Hiring				-	500.00			500.00
Tender for Housekeeping at TIFAC	500.00			500.00	-			-
Tender for Payroll and Financial Software				-	1,500.00			1,500.00
Total	**670.00**	**-**	**-**	**670.00**	**202,440.00**	**-**	**-**	**202,440.00**

Schedule 15 - Income From Investments (Income on Invest. From Earmarked/Endowment Funds transferred to Funds) : NIL

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 16 - Income from Royalty, Publication Etc.

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1) Income from Royalty	57,083.00			57,083.00	67,010.00			67,010.00
2) Sale of Publications	72,076.00			72,076.00	28,130.00			28,130.00
3) Other (Specify)				-				-
Total	**129,159.00**	**-**	**-**	**129,159.00**	**95,140.00**	**-**	**-**	**95,140.00**

Schedule 17 - Interest Earned (Regular)

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1. On Term Deposits				-				-
a) Union Bank of India, (Scheduled Banks)	16,501,447.00			16,501,447.00	877,423.00			877,423.00
2. On Savings Accounts				-				-
Interest from Savings Bank (General)	901,255.00	68,529.03	387,649.00	1,357,433.03	18,206,832.00	131,665.97	638,879.00	18,977,376.97
Interest from Savings Bank Salary Account	24,008.00			24,008.00				-
Interest from Savings Bank Flexi Account	14,027.00			14,027.00				-
3. On Loans :								
a) Employees (LTA, Scooter ,Car, tour and LTC)	72,080.00	10,248.00		82,328.00	36,150.00	11,644.00		47,794.00
b) Others (Interest from Income Tax and Projects)	475,614.00			475,614.00	3,984.00			3,984.00
4. Interest on Debtors and Other Receivables (TIFAC-SIDBI Revolving Fund)	1,404,000.00			1,404,000.00	6,049,000.00			6,049,000.00
Total	**19,392,431.00**	**78,777.03**	**387,649.00**	**19,858,857.03**	**25,173,389.00**	**143,309.97**	**638,879.00**	**25,955,577.97**

Note : Tax deducted at source to be indicated

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 18 - Other Income

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
1.Miscellaneous Income				-				-
Other Receipts	3,151,315.00	5,396.00		3,156,711.00	26,419.00	5,000.00	3,000.00	34,419.00
Leave Salary & Pension Contribution	-			-	23,184.00			23,184.00
Rent Recoverable				-	376,000.00			376,000.00
2. Income Accrued and Received on Running Projects	-				-			
Contingency : Prepratoin of Directory of Assistive Devices for Persons with Disabilities under SIPDA Scheme	-			-	26,428.00			26,428.00
Overhead : Prepration of Detailed Project Report and R&D Scheme Under the NMEA Project	274,920.00			274,920.00	468,080.00			468,080.00
Overhead : Prepratoin of Directory of Assistive Devices for Persons with Disabilities under SIPDA Scheme	-			-	178,467.00			178,467.00
Overhead : Database of Technologies for Management of Municipal Solid Waste	35,455.00			35,455.00	-			-
International Conference on Disaster Management	40,086.00			40,086.00	1,567,695.69			1,567,695.69
Total	**3,501,776.00**	**5,396.00**	**-**	**3,507,172.00**	**2,666,273.69**	**5,000.00**	**3,000.00**	**2,674,273.69**

Schedule 19 - Increase / (Decrease) in stock of Finished Goods & Work in Progress : NIL

Schedule 20 - Refund from Projects, (TIFAC Regular Account)

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Home Grown Technology (Annex-2)	50,000.00			50,000.00	10,440,000.00			10,440,000.00
Advanced Composites Programme (Annex-2)	1,636,315.00			1,636,315.00	1,649,072.00			1,649,072.00
Fly Ash Utilisation Programme (Annex-2)	-			-	1,350,000.00			1,350,000.00
Refund from Projects (Vision 2020) (Annex 2)	924,000.00			924,000.00	1,848,000.00			1,848,000.00
Total	**2,610,315.00**	**-**	**-**	**2,610,315.00**	**15,287,072.00**	**-**	**-**	**15,287,072.00**

Technology Information Forecasting And Assessment Council, (TIFAC)
Schedules Forming Part of Balance Sheet as at 31.03.2017

Schedule 21 - Establisment & Other Administrative Expenses

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Establishment Expenditure(Annex 3)	133,110,600.00	5,611,677.00	986,458.00	139,708,735.00	53,365,225.00	6,951,316.00	857,796.00	61,174,337.00
Administrative Expenses (Annex 4)	18,077,870.50	4,146,126.00	29,294,296.76	51,518,293.26	25,613,588.47	3,750,835.52	2,864,210.00	32,228,633.99
Establishment & Administrative Expenditure (Vision 2020)(Annex-6)	16,027,196.00			16,027,196.00	18,902,098.00	-	-	18,902,098.00
Total	**167,215,666.50**	**9,757,803.00**	**30,280,754.76**	**207,254,224.26**	**97,880,911.47**	**10,702,151.52**	**3,722,006.00**	**112,305,068.99**

Schedule 22 - Expenditure on Grants, Subsidies Etc.

Particulars	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Grants given to Institutions/Organisations				-				-
Project Expenditure (Annex - 5)	30,178,860.62	1,115,292.00	651,849.00	31,946,001.62	91,823,863.23	1,024,388.00		92,848,251.23
Project Expenditure (Vision 2020)(Annex-6A)	15,550,933.00			15,550,933.00	11,192,650.00			11,192,650.00
Project Expenditure (Vision 2035) (Annex-6&6A)	9,275,045.00			9,275,045.00	1,515,381.00			1,515,381.00
Total	**55,004,838.62**	**1,115,292.00**	**651,849.00**	**56,771,979.62**	**104,531,894.23**	**1,024,388.00**	**-**	**105,556,282.23**

Schedule 23 - Interest : NIL

SCHEDULE FORMING PART OF THE ACCOUNTS FOR THE YEAR ENDED 31.03.2017

SCHEDULE 24

SIGNIFICANT ACCOUNTING POLICIES

1. The financial statements are prepared under the historical cost convention on going concern basis. The Society follows the mercantile system of accounting except receipt of Government grants, Royalty and sale of publications.
2. On the Grants on which Overhead @ 20% is granted to the society, they are taken as income in the year of receipt of grant irrespective of the fact whether the sanctioned grant is actually spent or not.
3. Fixed assets are stated at cost less accumulated depreciation. Cost comprises the purchase price and any attributable cost of bringing the asset to its working condition for its intended use.
4. Depreciation on fixed assets is computed on the written down value (WDV) method at the rates and in the manner prescribed under the provisions of Income Tax Act.
5. Amounts released as grants under various projects are accounted for as expenditure for the year in which the same are released, irrespective of the fact that the amounts so released may not have been fully utilized towards the projects during the year.
6. The repayment of Loans/assistance by the beneficiaries to the society as per the conditions stated in the agreement is accounted for on receipt basis.
7. All disbursements (irrespective of its utilization) for projects are treated as expenditure during the Financial Year and assets if any created/purchased by the beneficiaries, out of the said disbursements to the project, are not accounted for as assets in the books of accounts of society.
8. Total expenditure is not bifurcated into plan and non-plan expenditure in the financial statements.

As per our report of even date annexed herewith

For S K Juneja & Associates
Chartered Accountants
FRN: 012484N

Sd/-	**Sd/-**	**Sd/-**	**Sd/-**
CA. Surinder Kumar	**Accounts Officer**	**Registrar**	**Executive Director**
(Partner)	**TIFAC**	**TIFAC**	**TIFAC**
MRN: 091449			

Date: 25.09.2017
Place: New Delhi

SCHEDULE FORMING PART OF THE ACCOUNTS FOR THE YEAR ENDED 31.03.2017

SHCEDULE- 24 CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS

A. **Contingent Liabilities** **NIL**

B. **Notes on Accounts**

1. Though society runs various projects under the instructions and guidance of Department of Science and Technology, separate accounts for these projects have not been maintained.

2. Other current liabilities include amount refundable to Department of Science and Technology on account of unutilized balance under various projects which have since been closed the details of which is given as under :-

S. No.	Particulars - Current Liabilities (Schedule 7)	Amount (Rs.)
1.	Project (ICOSER)	1,32,02,152.00
2.	Indian-Myanmar S & T Friendship Library in Yangoon	9,59,659.00
3.	MSEB-Ash Utilisation/ Management	6,00,094.00
4.	FAM Large Scale Stowing of HWP Pond Ash into the Underground Mines of SCCL (M) Manugure	82,94,830.00
5.	Earth Quake Serving Nature's Fury	1,65,157.00
6.	MPSEB use of Fly Ash in Agriculture Development Thermal Power Plants, Sarni	3,56,825.00
7.	TIFAC-World Bank Project	13,39,747.93
8.	DRDO-PFC	3,95,745.00
	Training Progamme on IPR and WTO Issues for scientists/ technologists working in Government sector	2,02,549.00
9.	G.M.W Workshop (SRF)	1,00,170.00
10.	STI Policy Fellowship	39,810.00
11.	Science and Heritage Research Initiative (SHRI)	75,016.00
	Total	**257,31,754.93**

3. Advances and other amounts recoverable in cash or in kind include Rs.2,70,000/- as amount recoverable from Shree Chitra Tribunal Institute for Medical Science and Technology an another Autonomous Institute under Ministry of Science and Technology which is outstanding since March 2011.

4. An amount of Rs.74,520/- was due from Department of Science and Technology for Security given to them for purpose of India ISC Expo 2011 in year 2010-11 which has now been written off.

5. Stock of Publications and Studies, which are published and printed by the Council and distributed at a cost are not accounted for as Stock in hand at the end of the year.

6. Liability towards gratuity and accumulated leave encashment payable to regular employees on their death/retirement is provided for on the basis of a Chartered Accountants Certificate.

7. Stale cheques amounting to Rs.5,00,090/- under current liabilities denote cheques issued to various payees which have not been presented for payment and have become obsolete being outstanding for more than three months the details of which is given below :-

Voucher No	Date	Name of the Person/ Parties	Cheque No	Date	Amount
TIFAC					
2822	28.01.2016	Sh Sunil Luthra	32106619	28.01.2016	1670.00
2851	29.01.2016	Ms. Kavita Thakur	32106626	29.01.2016	3546.00
2852	29.01.2016	Ms.Kanchan Ray	32106628	01.02.2016	2900.00
2986	15.02.2016	Dr.A Mohan Kumar	32106642	15.01.2016	3000.00
3000	15.02.2016	Sh.Abhishek Srivastava	32106674	16.02.2016	9929.00
3069	19.02.2016	Sh.Nibin Kumar Roy	32106703	23.02.2016	4920.00
174	21.04.2016	The Vintage	32106903	21.04.2016	905.00
931	08.07.2016	Dr. D Yogeswara Rao	02023139	19.07.2016	2500.00
931	08.07.2016	Ms.Swati Saha	32106814	19.07.2016	2500.00
1238	10.08.2016	Airtel Mobile No.9910074428	02023179	11.08.2016	464.00
2437	09.01.2017	Registrar IIT Patna	02023469	10.01.2017	225000.00
2545	09.01.2017	Registrar IIT Patna	02023482	1701.2017	225000.00
Sub Total (A)					**482334.00**
Women Scientist Scholorship Scheme					
116	11.02.2016	S N Parigarhi	33002993	01.03.2016	2500.00
116	11.02.2016	C Venkatarao	33003024	04.03.2016	2500.00
116	11.02.2016	Sarita Bhayal	33003027	15.03.2016	2500.00
116	11.02.2016	Joy Kottaram	33003030	15.03.2016	2500.00
58	13.06.2016	Rajeshwari	33002884	01.07.2016	256.00
85	15.07.2016	S Nagendran	33002890	18.07.2016	1500.00
85	15.07.2016	P Vigneswara	33002929	18.07.2016	3000.00
85	15.07.2016	H K Malik	33002930	18.07.2016	3000.00
Sub Total (B)					**17756.00**
Total (A+B)					**500090.00**

8. NECTOR & TDB have been using approximately 10,000 Sq Ft. & 3,000 Sq Ft. respectively out of total useable area of 50,000 Sq Ft. available with TIFAC but no share of maintenance from NECTOR and TDB is being charged since the matter has not yet been decided by DST.

9. **CURRENT ASSETS, LOANS AND ADVANCES**

- In the opinion of the Management, the current assets, loans and advances have a value on realization in the ordinary course of business, at least equal to the amount at which they are stated in the Balance Sheet.

10. **TAXATION**

- In view of there being no taxable income under Income tax Act, 1961 no provision for Income Tax has been considered necessary.

11. **FOREIGN CURRENCY TRANSACTIONS**

(Amount Rs.)

11.1 Value of Imports Calculated on C.I.F. Basis:	**Current Year**	**Previous Year**
Purchase of finished Goods	Nil	Nil
Raw Materials & Components (Including in transit)	Nil	Nil
Capital Goods	Nil	Nil
Stores, Spares & Consumables	Nil	Nil

11.2 Expenditure in foreign currency:		
a) Travel	Rs. 15,87,787/-	Rs.19,57,807/-
b) Remittances and Interest Payment to Financial Institutions/ Banks in Foreign Currency	Rs.247,20,508/-	Nil
c) Patents Filing abroad	14,03,089/-	Not available
d) Other expenditure:		
- Commission on Sale	Nil	Nil
- Legal and Professional Expenses	Nil	Nil
- Miscellaneous Expenses	Nil	Nil

11.3 Earning:		
Value of Exports on FOB basis	Nil	Nil

11.4 Remuneration to Auditors:		
(inclusive of applicable taxes)		
- Audit Fees	Rs.90,000/-	Rs. 90,000/-
- Taxation matters	RS. 5,000/-	Rs. 5,000/-
- Consultancy Charges	Nil	Nil
- Certification - GST Payable	Rs. 31,750/- Rs.21,780/-	Rs. 26,065/- Nil

12 TIFAC has given loans to various parties under various projects from the year 1992 to 2005 which were written off in the Financial Years in which they were given as per the then prevailing accounting policies of TIFAC. These loans have not been recognized as loans and hence not been reflected in the assets side of the balance sheet. The details are given on the next page...

Name of the Project	Overdue upto six months	Overdue from six months upto 3 years	Overdue more than 3 years	Total
Home Grown Technology	0.00	0.00	174489920.00	174489920.00
Advanced Composite Programme	0.00	0.00	141130517.00	141130517.00
Sugar Technology Unit	0.00	0.00	45938588.00	45938588.00
Fly Ash Utilization	0.00	0.00	11834000.00	11834000.00
Agriculture and Agro Food Sector	0.00	0.00	10625000.00	10625000.00
Targeted Programme in other Important Areas	0.00	38951000.00	53814000.00	92765000.00
Total	**0.00**	**38951000.00**	**437832025.00**	**476783025.00**

13. During the year TIFAC has received different Grants totaling Rs.1,13,14,845/- from Department of Science and Technology and Ministry of Environment and Forest which has not been booked as income in Income and Expenditure Account and has been directly shown in their respective heads. During the year TIFAC has made expenditure of Rs.7,81,271/- out of these grants accounts and balance of Rs.1,05,33,574/- has been shown under Current Liabilities and Provisions (Schedule 7). The details of such grants is given as below :-

Such Grants received during the F.Y 2016-2017

Project Name	Funding Ministry	Grants Received during the year	Expenditure incurred during the year	Balance	Remark
STI Policy Fellowship	Department of Science and Technology	120000	80190	39810	Project Closed
Science and Heritage Research Initiative (SHRI)	Department of Science and Technology	120000	44984	75016	Project Closed
Global Technology Watch Group (GTWG)	Department of Science and Technology	8107200	0	8107200	Project Running
National Steering Committee on Tech Need Assessment (TNA) for Habitat Sector	Ministry of Environment & Forest and Climate Change	2967645	656097	2311548	Project Running
		11314845	781271	10533574	

Such Grants received during the F.Y 2015-2016

Project Name	Funding Ministry	Opening Balance of Grants	Expenditure incurred during the year	Balance	Remarks
Preparation of detailed Project Report and R&D Scheme Under the NMEM Project	Department of Heavy Industry	1506524	919662	586862	Project Running
Preparation of Directory of Assistive Device for Personal with Disabilities under SIPDA Scheme	Ministry of Social Justice & Empowerment	338346	338346	0	Project Closed.
		1844870	1258008	586862	

14. Previous year's figures have been regrouped/rearranged wherever found necessary, to make them comparable with current year figures.
15. TIFAC has incurred an expenditure of Rs.180.85 crores under Vision 2020 Programme and Rs.2.75 crores under Vision 2035 till date.
16. Schedules 1 to 24 are annexed to and form an integral part of the Balance Sheet as at 31.03.2017 and the Income and Expenditure Account for the year ended on that date.

As per our report of even date annexed herewith

For S K Juneja & Associates
Chartered Accountants
FRN: 012484N

Sd/-	**Sd/-**	**Sd/-**	**Sd/-**
CA. Surinder Kumar	**Accounts Officer**	**Registrar**	**Executive Director**
(Partner)	**TIFAC**	**TIFAC**	**TIFAC**
MRN: 091449			

Date: 25.09.2017
Place: New Delhi

Staff Advances

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Staff Advances under TIFAC Account								
A) Staff Advances				-				-
Sh. Sanjay Sundriyal	-			-	500.00			500.00
B) HBA Advance				-				-
Ms. Sangeeta Baksi	393,000.00			393,000.00	443,400.00			443,400.00
Dr.Debabrata Majumdar	350,000.00			350,000.00	410,000.00			410,000.00
Sh. P. R. Basak	-			-	69,000.00			69,000.00
C) Car Advance				-				-
Sh.T.Chandrasekhar	93,600.00			93,600.00	104,400.00			104,400.00
Ms. Achla Khanna	72,000.00			72,000.00	108,000.00			108,000.00
Sh. N C Chauhan	10,000.00			10,000.00	-			-
Ms.Sangeeta Baksi	-			-	16,000.00			16,000.00
Sh.Yashwant Dev Panwar		140,400.00		140,400.00		163,800.00		163,800.00
Staff Advances under TIFAC Account				-				-
D) Leave Travel Concessation				-				-
Sh.Deepak Kumar	57,000.00			57,000.00				-
Sh.Sushil Kumar Jha	9,700.00			9,700.00				-
Sh.Bishram Bhakta	-			-	5,400.00			5,400.00
Sh.Vipin Shukla	-			-	66,037.00			66,037.00
E) Tour Advance				-				-
Ms. Jancy A	-			-	15,000.00			15,000.00
Sh.Sajid Mubashir	81,042.00			81,042.00	81,042.00			81,042.00
Dr. Gautam Goswami	822.00			822.00	15,822.00			15,822.00
F) Scooter Advance				-				-
Ms. Anita Nair	24,000.00			24,000.00				-
Ms.Ujjwal Kumar	26,000.00			26,000.00				-
Sh.Mahipal Singh Rawat	28,000.00			28,000.00				-
Ms. Geeta Nair	-			-	1,000.00			1,000.00
Sh.Sushil Kumar Jha	4,400.00			4,400.00	9,200.00			9,200.00
Sh.Sanjay Sundriyal				-	4,500.00			4,500.00
Dr.S.K.Goel	-			-	30,000.00			30,000.00
Sh. Rajan Sharam	6,250.00			6,250.00	21,250.00			21,250.00
G)Computer Advance				-				-
Sh.Mahipal Singh Rawat	4,000.00			4,000.00	10,000.00			10,000.00
Sh.Sanjay Sundriyal	-			-	7,000.00			7,000.00
Sh.Anil Kumar Rai	30,000.00			30,000.00				-
Sh.Sushil Kumar Jha	9,500.00			9,500.00	15,500.00			15,500.00
Sh. Ravi Dutt	-			-	6,000.00			6,000.00
Sh. Surinder Kumar	-			-	9,000.00			9,000.00
Sh.Yashwant Dev Panwar		20,625.00		20,625.00		28,750.00		28,750.00
G)Computer Advance								
Ms.Promila Khilnani	-			-	9,000.00			9,000.00
Sh.Rajan Sharma	3,750.00			3,750.00	18,750.00			18,750.00
Ms.Mercy James	21,000.00			21,000.00				-
Sh T Adarsh Mayya	19,000.00			19,000.00	30,000.00			30,000.00
Sh Ujjwal Kumar	22,000.00			22,000.00				-
Ms.Deepak Kumar	57,200.00			57,200.00				-
Sh.Bishram Bhakta	26,000.00			26,000.00				-
Sh.Dalip Kumar	28,000.00			28,000.00				-
Sh Deep Prakash	-			-	17,500.00			17,500.00
h) Advance				-				-
Sh. Arghya Sardar	16,000.00			16,000.00				-
Total	**1,392,264.00**	**161,025.00**	**-**	**1,553,289.00**	**1,523,301.00**	**192,550.00**	**-**	**1,715,851.00**

Annexure –2
REFUND FROM PROJECTS FINANCED (TIFAC REGULAR ACCOUNT) - INCOME

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
(A) Home Grown Technology :								-
Development of Robots for Manufacturing	50,000.00			50,000.00	10,000,000.00			10,000,000.00
Manufacture of Nutan Himveer Bakhari	-			-	440,000.00			440,000.00
Sub Total (A)	**50,000.00**	**-**	**-**	**50,000.00**	**10,440,000.00**	**-**	**-**	**10,440,000.00**
(B) Advanced Composites Programme				**-**				
Development of Composite Modular Acoustic Enclosure	150,000.00			150,000.00				-
Development of Composite Sky Bus Coaches	1,486,315.00			1,486,315.00	300,000.00			300,000.00
FRP Bracket Assembly for Railways Electric Traction	-			-	659,072.00			659,072.00
Development of Filament Wound Venturi Scrubber along with the Accessories	-			-	690,000.00			690,000.00
Sub Total (B)	**1,636,315.00**	**-**	**-**	**1,636,315.00**	**1,649,072.00**	**-**	**-**	**1,649,072.00**
(C) Fly Ash Utilization Programme				**-**				**-**
Setting up of Fly Ash Bricks making Plant				-	1,350,000.00			1,350,000.00
Sub Total (C)	**-**	**-**	**-**	**-**	**1,350,000.00**	**-**	**-**	**1,350,000.00**
(D)REFUND FROM PROJECT TECHNOLOGY VISION 2020				-				-
Bio Transformation of Meso Cyclopents 14 Diacetate to 4-Rhydrozycyclopent -ENE-1-(S) Acetate	924,000.00			924,000.00	1,848,000.00			1,848,000.00
Sub Total (D)	**924,000.00**	**-**	**-**	**924,000.00**	**1,848,000.00**	**-**	**-**	**1,848,000.00**
Total (A) + (B) + (C) + (D)	**2,610,315.00**	**-**	**-**	**2,610,315.00**	**15,287,072.00**	**-**	**-**	**15,287,072.00**

Annexure 3
Establishment Expenditure (TIFAC Regular)

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
a) Salaries	50,548,083.00	3,911,798.00		54,459,881.00	43,024,568.00	5,101,842.00		48,126,410.00
Salary - Consolidated	2,930,192.00	1,316,106.00		4,246,298.00	2,023,729.00	1,403,383.00		3,427,112.00
Ad-hoc Bonus	-			-	116,555.00		4,736.00	121,291.00
Internship Scheme	628,117.00			628,117.00	929,605.00			929,605.00
Project Associates	358,966.00			358,966.00	313,547.00			313,547.00
b) TIFAC Contribution to New Pension Scheme	348,543.00			348,543.00	319,776.00			319,776.00
c) Contribution to Provident Fund	2,060,353.00	140,287.00		2,200,640.00	1,632,833.00	216,659.00		1,849,492.00
d) Others (Specify)				-				-
Consultancy Fee (Others)	999,870.00			999,870.00	1,008,445.00			1,008,445.00
Consultancy Fee (Legal)	581,700.00			581,700.00				-
Contengency	-			-	1,614,374.00			1,614,374.00
Hospitalsation Expenses	990,914.00			990,914.00				-
Honorarium	88,100.00			88,100.00	13,000.00			13,000.00
Medical Expenses	1,521,743.00	26,834.00		1,548,577.00	83,407.00	56,301.00		139,708.00
Leave Travel Concession	762,250.00	127,008.00		889,258.00	1,047,544.00	65,354.00		1,112,898.00
Gratuity	39,402,249.00			39,402,249.00				-
Encashment of Leave	30,793,315.00			30,793,315.00				-
Leave Encashment	218,532.00	40,144.00		258,676.00	298,052.00	35,777.00		333,829.00
Tution Fee	877,673.00	49,500.00		927,173.00	939,790.00	72,000.00		1,011,790.00
Salary of Accounts Assistant			143,499.00				75,060.00	
Salary of Data Entery Operator			213,698.00				74,000.00	
Salary of Training Assistant			214,286.00				74,000.00	
Salary of Training Coordinator			414,975.00				30,000.00	
Total	**133,110,600.00**	**5,611,677.00**	**986,458.00**	**138,722,277.00**	**53,365,225.00**	**6,951,316.00**	**857,796.00**	**60,321,277.00**

Annexure 4
Administrative Expenses (TIFAC Regular)

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Repair and Maintenance	1,296,808.00	17,749.00		1,314,557.00	964,929.00	9,536.00		974,465.00
Rent, Rates and Taxes	304,800.00			304,800.00	304,800.00			304,800.00
Car hire Charges	1,797,331.00	64,405.00		1,861,736.00	2,092,840.00	3,956.00		2,096,796.00
Postage, Telephone and Communication Charges	1,304,336.00	67,630.00		1,371,966.00	1,704,437.00	69,823.00		1,774,260.00
Printing,Stationary & Printing of Publications	1,797,241.00			1,797,241.00	1,471,401.00	450.00		1,471,851.00
Travelling and Conveyance Expenses	138,278.00	5,503.00		143,781.00	259,325.00	14,453.00		273,778.00
Subscription Expenses	47,207.00	2,776.00		49,983.00	101,331.00	1,730.00		103,061.00
PM Relief Fund (M/s Modern Engineering Plastic Pvt. Ltd.)	500.00			500.00				-
Amount Written Off	-			-	43,436.55			43,436.55
Professional Charges	186,404.00			186,404.00	137,162.00			137,162.00
Auditors Remuneration				-				-
Audit Fee	90,000.00			90,000.00	90,000.00			90,000.00
GST on Audit Fee	21,780.00			21,780.00				-
TIFAC Software Development	25,500.00			25,500.00				-
TIFAC Staff Welfare	1,161,779.00			1,161,779.00				-
India-Japan STS Forum Membership	-			-	1,111,247.43			1,111,247.43
Manpower Assessment Study of TIFAC	-			-	100,000.00			100,000.00
Advertisement and Publicity	-		429,884.00	429,884.00	36,067.00	6,487.00	2,733,273.00	2,775,827.00
Others (Specify)				-				-
Bank Charges	5,079.50	1,395.00		6,474.50	13,493.49	340.52		13,834.01
Misc. Office Expenses	286,507.00	155,219.00		441,726.00	2,165,770.00	50,481.00		2,216,251.00
Membership Fee	87,317.00			87,317.00	81,204.00			81,204.00
Maintenance of Vishwakarma Bhavan	7,208,928.00			7,208,928.00	11,721,175.00			1,721,175.00
Legal Charges	1,113,757.00			1,113,757.00	1,972,215.00			1,972,215.00
WAITRO Membership	30,010.00			30,010.00	30,293.00			30,293.00
PM Relief Fund (Simbhaoli Sugar)	-			-	35,000.00			35,000.00
Rajabhasha Committee Meeting	121,190.00			121,190.00	157,872.00			157,872.00
Web Portal Service	6,678.00			6,678.00				-
Court Fee	14,400.00			14,400.00	38,400.00			38,400.00
Filing of Patent	-	3,776,451.00			981,190.00	3,523,579.00		4,504,769.00
Honorarium to Experts		30,000.00	335,830.00			70,000.00		70,000.00
Computer & Peripherals	-	24,998.00	96,109.00				7,130.00	7,130.00
Housekeeping of TIFAC Building	1,032,040.00		-	1,032,040.00				-
Scholorship for Women Scientist			27,134,865.85	27,134,865.85			14,489.00	14,489.00
TA/DA for attending Orientation Programme			266,187.00	266,187.00			-	-
Orientation Programme			888,126.00	888,126.00			78,650.00	78,650.00
Contingency			7,975.91	7,975.91			10,008.00	10,008.00
Overhead			80,919.00	80,919.00			12,512.00	12,512.00
Web Baseed ICT Modules			54,400.00	54,400.00			8,148.00	8,148.00
Total	**18,077,870.50**	**4,146,126.00**	**29,294,296.76**	**47,254,905.26**	**25,613,588.47**	**3,750,835.52**	**2,864,210.00**	**32,228,633.99**

Annexure-5
PROJECT EXPENSES (TIFAC Regular Account)

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
(a) Follow-Up Action/Special Initiatives				-				-
Government Foresight Organization Network (GFN)	-			-	725,897.00			725,897.00
Production Issue of Methanol & DME	339,000.00			339,000.00				-
Survey on Utilization Issues of Methanol And Dimethyl Ether (DHE)	573,750.00			573,750.00				-
Study on Learning Disability	1,706.21			1,706.21				-
Study : Relationship Between GDP Growth and Technology Causes in Different Districts of Select Indian	-			-	1,400,000.00			1,400,000.00
Information & Communication Security and Financial Sector Security	1,946,500.00			1,946,500.00	5,366,500.00			5,366,500.00
Study on Technology Foresight on Solar PV				-	853,307.00			853,307.00
Sub-Total (a)	2,860,956.21	-	-	2,860,956.21	8,345,704.00	-	-	8,345,704.00
(b) IIASA - TIFAC Projects/Study/Membership Fee				-				-
IIASA - TIFAC joint Workshop (TIFAC)	328,813.00			328,813.00	1,460,311.23			1,460,311.23
India - IIASA MemberShip Fee	76,023.93			76,023.93	24,500,000.00			24,500,000.00
IIASA-TIFAC : Conservation of Agro-Biodiversity and Ecosystem Management : A Study in Indian Agriclimatic Condition	827,738.00			827,738.00	170,771.00			170,771.00
IIASA-TIFAC workshop on Demographic Computations Series - II Titled Multistate Population Mode	-			-				-
TIFAC-IIASA Study on Integrated Hydrology Climate Change and Integrated Water Resources Management	718,453.00			718,453.00				-
TIFAC-IIASA Study on Development & Application of Gains-City Model for Indian Cities with Neeri Mumbai	-			-	510,921.00			510,921.00
TIFAC - IIASA Study : Analyzing Forest Carbon Accounts for Sustainable Policy Opt. Special Ref. Livelihood	-			-	205,550.00			205,550.00
Sub-Total (b)	1,951,027.93	-	-	1,951,027.93	26,847,553.23	-	-	26,847,553.23
(c) HOME GROWN TECHNOLOGIES								
Project related expenses	31,760.00							-
Sub-Total (c)	31,760.00	-	-	-	-	-	-	-
(d) Technology Refinment Marketing Programme (TREMAP)								
TREMAP Expenditure	-				19,832.00			19,832.00
TREMAP : FAUCETS (With Independent Control for Flow and Temperature)	8,000.00							-
TREMAP : Supraglottic Airway Device for Airway Management	-				50,000.00			50,000.00
Sub-Total (d)	8,000.00	-	-	-	69,832.00	-	-	69,832.00
(e) Technology Foresight for Automative Research								-
Technology Foresight for Automative Research (TFAR)	243,486.00				155,105.00			155,105.00
Sub-Total (e)	**243,486.00**	**-**	**-**	**-**	**155,105.00**	**-**	**-**	**155,105.00**

Annexure-5
PROJECT EXPENSES (TIFAC Regular Account)

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
(f) Technology Foresight Study in Security Technology			-					
Technology Foresight study on Security Technologies	535,987.00			535,987.00	17,031.00			17,031.00
Technology Study on Individual & societal Security and infrastructure and Physical Security	2,800,000.00			2,800,000.00	2,800,000.00			2,800,000.00
Security Technologies : Natural Resources / Enviornment Security	1,000,000.00			1,000,000.00	1,200,000.00			1,200,000.00
Sub-Total (f)	4,335,987.00	-	-	4,335,987.00	4,017,031.00	-	-	4,017,031.00
(g) India International Science Festival								
India International Science Festival	10,432,451.00			10,432,451.00	33,637,742.00			33,637,742.00
Sub-Total (g)	10,432,451.00	-	-	10,432,451.00	33,637,742.00	-	-	33,637,742.00
(h) INSPIRE								
INSPIRE	2,338,632.00			2,338,632.00	10,381,716.00			10,381,716.00
Sub-Total (h)	2,338,632.00	-	-	2,338,632.00	10,381,716.00	-	-	10,381,716.00
(i) Project Related Expenditure								-
Meeting Expenditure, Meeting (Project Related), Meeting (NITI AAYOG) TIFAC, DST Review Committee Meeting	2,071,140.00	24,285.00		2,095,425.00	1,592,642.00	13,328.00		1,605,970.00
Travelling Expendiure, Travel Abroad, Travel Expenditure (Project Expenditure)	4,597,704.48	290,246.00		4,887,950.48	5,649,970.00	228,199.00		5,878,169.00
Workshop Expenditure, Workshop :TIFAC/DST ITS Canada), Workshop on CIPC 2016	1,307,716.00	800,761.00	651,849.00	2,760,326.00	1,126,568.00	782,861.00		1,909,429.00
Sub-Total (i)	**7,976,560.48**	**1,115,292.00**	**651,849.00**	**9,743,701.48**	**8,369,180.00**	**1,024,388.00**	**-**	**9,393,568.00**
Total (a) to (i)	**30,178,860.62**	**1,115,292.00**	**651,849.00**	**31,662,755.62**	**91,823,863.23**	**1,024,388.00**	**-**	**92,848,251.23**

Annexure -6
EXPENDITURE OF VISION 2020 and Vision 2035

PARTICULARS	Current Year			Previous Year		
	V2020	Vision 2035	TOTAL	V2020	Vision 2035	TOTAL
Establihment & Administrative Expenditure						
Advertisement Expenses	-		-	140,648.00		140,648.00
Postage, Telephone and Communication	32,165.00	49,528.00	81,693.00	46,070.00		46,070.00
Misc Office Expenses	-		-	39,490.00	99,900.00	139,390.00
Periodical & Magazine Charges	5,598.00		5,598.00	10,058.00		10,058.00
Printing,Stationary & Printing of Publications	-	2,426,629.00	2,426,629.00		173,190.00	173,190.00
Project Associates	-	-	-		312,000.00	312,000.00
Car Hire Charges	-	18,168.00	18,168.00			-
Repair and Maintenance	-		-	5,293.00		5,293.00
Honorarium paid to Expertes	-	182,500.00	182,500.00		87,500.00	87,500.00
Conveyance	5,456.00		5,456.00	-		-
Legal Charges	21,000.00		21,000.00			-
Sub Total (A)	64,219.00	2,676,825.00	2,741,044.00	241,559.00	672,590.00	914,149.00
Ad-hoc Bonus	-	-	-	33,120.00		33,120.00
Gratuity	-	-	-	170,477.00		170,477.00
Employers Contribution CPF	-	-	-	552,255.00		552,255.00
Encashment of Leave	-	-	-	348,686.00		348,686.00
Medical Reimbursement	603,956.00	-	603,956.00	513,265.00		513,265.00
Salary	14,540,135.00	-	14,540,135.00	15,902,443.00		15,902,443.00
Leave Travel Concession	64,381.00	-	64,381.00	310,161.00		310,161.00
Hospitalisation Expenses	411,032.00	-	411,032.00	548,432.00		548,432.00
Tution Fee	314,613.00	-	314,613.00	260,495.00		260,495.00
Leave Encashment	28,860.00	-	28,860.00	21,205.00		21,205.00
Sub Total (B)	15,962,977.00	-	21,445,065.00	18,660,539.00	-	20,488,837.00
Total (A+B)	16,027,196.00	2,676,825.00	18,704,021.00	18,902,098.00	672,590.00	21,402,986.00

Annexure – 6A
PROJECT EXPENDITURE OF VISION 2020

PARTICULARS	Current Year			Previous Year		
	V2020	Vision 2035	TOTAL	V2020	Vision 2035	TOTAL
(a) Targeted Programme in Other Important Area		-			-	
Centre for Biofuels (Phase II)	2,947,780.00	-	2,947,780.00	4,400,000.00		4,400,000.00
Estimation Generation and Surgical	1,264,442.00	-	1,264,442.00			-
Spatial Information System on	1,874,500.00	-	1,874,500.00			-
Technology Gap Analysis study in production/Manufacturing Processes as well as Environment Aspects of Readymade Garments	138,843.00	-	138,843.00			-
Information & Communication Security and Financia Sector Security	1,150,000.00	-	1,150,000.00			-
MSME : Analysis of Flow of Hot Gases over clutch plate of 16MNCR5, and Design and Development of Palet	205,100.00	-	205,100.00			-
MSME : Design and Development of Hydralulic Rotational Jib Crane	204,050.00	-	204,050.00			-
MSME : Jhula Cluser	511,500.00	-	511,500.00			-
MSME : Refrectory Cluster, Bangabhoomi, West Bangal	445,500.00	-	445,500.00			-
MSME : Surgical Dressing Manufacturing Cluster, Chatrapatti, Rajapalayam	613,000.00	-	613,000.00			-
MSME : Textile & Garmetn Manufacturing Cluster, ERODE, Tamil Nadu	593,250.00	-	593,250.00			-
MSME : Automation in Wire Cutting Methodology for Themocouple Manufacturing Unit and Automation	205,100.00	-	205,100.00			-
MSME : Agriculture Implements Cluster	511,500.00	-	511,500.00			-
MSME : Baktawng Wood Carpentry Cluster, Mizroram & Bairabi Bamboo Cluster Mizoram and Selling Bamboo Cluster	522,500.00	-	522,500.00			-
MSME : Copper And Bronze Utensils Cluster, Brass and German Selver Utensils Cluster and Bress Metal Cluster	1,188,000.00	-	1,188,000.00			-
Rice Mill Cluster in Lakhis	225,000.00	-	225,000.00			-
Rice Milling Machinery	225,000.00	-	225,000.00			-
	12,825,065.00	**-**	**12,825,065.00**	**4,400,000.00**	**-**	**4,400,000.00**

Annexure – 6A
PROJECT EXPENDITURE OF VISION 2020

PARTICULARS	Current Year			Previous Year		
	V2020	Vision 2035	TOTAL	V2020	Vision 2035	TOTAL
(a) Targeted Programme in Other Important Area		-				
Technology Gap Analysis Study	500,000.00	-	500,000.00			-
Home Textile Manufacturing Cluster	300,000.00	-	300,000.00			-
MSME Expenditure	-	-	-	262,452.00		262,452.00
MSME : Study for the Banarasi Silk Saree, Cotton Saree and Synthetic Saree Cluster	-	-	-	600,000.00		600,000.00
MSME General Engineering Cluster	-	-	-	490,000.00		490,000.00
MSME Design, Simulation and Development of Acquisition of MRI	-	-	-	163,134.00		163,134.00
MSME Automation and Control of Special Purpose Packaging Machine	-	-	-	164,500.00		164,500.00
MSME Four Layered Printing Circuit Board for RF synthesizer	-	-	-	159,775.00		159,775.00
MSME Design and Static Analysis of Special Purpose Packaging Machine	-	-	-	163,777.00		163,777.00
MSME System Engineering Approach to Design Motion Control System of Multi Axis Bench Top Robot	-	-	-	141,575.00		141,575.00
MSME Design Simulaton and Development of Reconstruction of MRI	-	-	-	164,382.00		164,382.00
V2020 Rice Milling Machinery Cluster in Sitalpur , Raxual, Bihar	-	-	-	375,000.00		375,000.00
V2020 Rice Milling Cluster in Lakhisarai, Bhiar	-	-	-	375,000.00		375,000.00
V2020 Readymade Garmetn Cluster in Patna City, Bihar	-	-	-	450,000.00		450,000.00
V2020 Home Textile Manufacturing Cluster	-	-	-	500,000.00		500,000.00
TIFAC -MSME Internship Scheme with IIT BHU, Varanasi	345600.00	-	345,600.00	345600.00		345,600.00
TIFAC-MSME Internship Scheme with M.S.Ramaiah University of Applied Science	-	-	-	491,400.00		491,400.00
TIFAC-MSME Internship Scheme with Pimpri Chinchwad College of Engineering, Pune	-	-	-	86,400.00		86,400.00
Vision 2035 Brainstroming Meetings			-			-
Brainstroming Meeting 2035		3,804,277.00	3,804,277.00		470,338.00	470,338.00
Sub-Total (a)	1,145,600.00	3,804,277.00	4,949,877.00	4,932,995.00	470,338.00	5,403,333.00
(b) Project Related Expenditure			-			-
Meeting Expenditure, Meeting (Project Related), Meeting (NITI AAYOG) TIFAC, DST Review Committee Meeting	71,931.00	65,802.00	137,733.00	98,826.00	42,972.00	141,798.00
Travelling Expendiure, Travel Abroad, Travel Expenditure (Project Expenditure)	1,231,203.00	2,596,141.00	3,827,344.00	1,149,650.00	251,881.00	1,401,531.00
Workshop Expenditure, Workshop :TIFAC/DST ITS Canada), Workshop on CIPC 2016	277,134.00	132,000.00	409,134.00	611,179.00	77,600.00	688,779.00
Sub-Total (b)	1,580,268.00	2,793,943.00	4,374,211.00	1,859,655.00	372,453.00	2,232,108.00
TOTAL (a) to (b)	15,550,933.00	6,598,220.00	22,149,153.00	11,192,650.00	842,791.00	12,035,441.00

Annexure 7
SHORT TERM DEPOSITS WITH BANKS

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Short Term Deposits	-				-			
TIFAC	244,594,865.00			244,594,865.00	244,398,660.00			244,398,660.00
Accrued Interest	1,915,646.00			1,915,646.00	3,273,743.00			3,273,743.00
Total	246,510,511.00	-	-	246,510,511.00	247,672,403.00	-	-	247,672,403.00

Annexure – 8
EXPENSES PAYABLE

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Expenses Payables Under TIFAC								
Salary Payable	5,187,173.00	322,834.00	83,345.00	5,593,352.00	4,738,440.00	400,704.00	56,500.00	5,195,644.00
Consultancy Fee	80,550.00			80,550.00	40,500.00			40,500.00
Contengency	75,184.00			75,184.00	49,500.00			49,500.00
Internship Scheme	24,000.00			24,000.00	135,161.00			135,161.00
Project Associates	-			-	146,710.00			146,710.00
Legal Fee	51,300.00			51,300.00	51,300.00			51,300.00
A K Anand	-			-	2,750.00			2,750.00
Abhijit Lahiri	-			-	10,800.00			10,800.00
Manju Bagai	-			-	19,800.00			19,800.00
Mahmood Ali Khan	-			-	19,800.00			19,800.00
Mr.Sinha	4,950.00			4,950.00				-
M/s The Printways	26,199.00			26,199.00				-
M/s Blue Star Limited	207,537.00			207,537.00				-
M/s India Offset Press, New Delhi	535,080.00			535,080.00				-
M/s UNEECOPS Technology Limited	-			-				-
M/s National Information Centre Services Inc.	-			-				-
M/s PSG College of Technology	292,196.00			292,196.00				-
M/s Sansanwal Travels	-			-	158,804.00			158,804.00
M/s GMC Beverages Pvt. Ltd.	-			-	56,421.00			56,421.00
M/s IRIS Park Leisures Pvt. Ltd.	-			-	14,051.00			14,051.00
M/s Noble Aqua	-			-	50,407.00			50,407.00
M/s S.K.Juneja & Associates	126,175.00			126,175.00	121,065.00			121,065.00
GST on Audit Fee	21,780.00			21,780.00	-			-
M/s Neopost India Pvt. Ltd.	-			-	13,500.00			13,500.00
M/s Universal Solutions	-			-	16,961.00			16,961.00
M/s Asha Enterprises Pvt. Ltd.	-			-	74,568.00			74,568.00
M/s Director, New Delhi HPO, Delhi	-			-	15,137.00			15,137.00
M/s Airtel Relationship No.10954184	-			-	45,215.00			45,215.00
M/s Airtel Mobile No.9910074428	-			-	608.00			608.00
M/s Vodefone No.7838560652	-			-	467.00			467.00
M/s. MTNL	-			-	47,195.00	1,065.00		48,260.00
M/s Balmer Lawrie & Co. Ltd, New Delhi	-	15,068.00	14,888.00	29,956.00	510,041.00			510,041.00
M/s Kendriya Bhandar, New Delhi	-			-	31,649.00			31,649.00
M/s L.S.Davar & Co.	-			-		24,400.00		24,400.00
M/s Anand & Anand	-	18,000.00		18,000.00		9,000.00		9,000.00
M/s K&S Partners	-	274,680.00		274,680.00		4,450.00		4,450.00
M/s Subramanium Natraj & Associates	-	7,335.00		7,335.00				-
M/s Lakshmi Kumaran & Sridharan	-	62,856.00		62,856.00				-
M/s Obhan & Associaets	-	63,950.00		63,950.00				-
M/s Anjan Sen & Associates	-	36,859.00		36,859.00	-	98,504.00		98,504.00
M/s Vutts & Associates	-			-	-	77,218.00		77,218.00
Scholarship for Women Scientists	-	-	2,670,053.00	2,670,053.00				-
M/s Mukesh Studios			12,740.00					-
M/s Lall Lahiri & Salhotra	-	39,050.00		39,050.00				-
Over Head Payable				-			11,164.00	11,164.00
M/s Gurusons Communications Pvt Ltd		1,060.00		1,060.00				-
Sub Total (A)	**6,632,124.00**	**841,692.00**	**2,781,026.00**	**10,242,102.00**	**6,370,850.00**	**615,341.00**	**67,664.00**	**7,053,855.00**
TDS Payable	498,463.00	151,273.00	1,333.00	651,069.00	602,184.00	49,056.00		651,240.00
Sub Total (B)	**498,463.00**	**151,273.00**	**1,333.00**	**651,069.00**	**602,184.00**	**49,056.00**	**-**	**651,240.00**
Total A+B	**7,130,587.00**	**992,965.00**	**2,782,359.00**	**10,893,171.00**	**6,973,034.00**	**664,397.00**	**67,664.00**	**7,705,095.00**

Annexure - 9
Earnest Money from Sugar Factories

PARTICULARS	Current Year				Previous Year			
	TIFAC	PFC	WSSS	TOTAL	TIFAC	PFC	WSSS	TOTAL
Earnest Money held from Sugar Factories								
Earnest Money: Sakthi Sugars Ltd	100,000.00			100,000.00	100,000.00			100,000.00
Earnest Money : Pratappur Sugar Industry Ltd	-			-	100,000.00			100,000.00
Earnest Money : RBN Sugar Mills	-			-	100,000.00			100,000.00
Earnest Money : L.H.Sugar	-			-	100,000.00			100,000.00
Earnest Money : Jind Coop-Sugar	-			-	100,000.00			100,000.00
Earnest Money : Vishnu Sugar	-			-	100,000.00			100,000.00
Earnest Money : DSM Sugar	-			-	100,000.00			100,000.00
Earnest Money : Valsad Sugar	-			-	100,000.00			100,000.00
Earnest Money : Budhewal Co	-			-	100,000.00			100,000.00
Earnest Money : Palwal Sugar Ltd	-			-	100,000.00			100,000.00
Earnest Money : Godawari Sugar Mill	-			-	100,000.00			100,000.00
Earnest Money : Padamashri Dr.Vithalrao Vikho Patil SSK Ltd	-			-	100,000.00			100,000.00
Earnest Money : Mawana Sugar	-			-	100,000.00			100,000.00
Earnest Money:EID Parry, Pugalur	-			-	100,000.00			100,000.00
Earnest Money : Vishwas Rau Naik SSK Ltd	-			-	100,000.00			100,000.00
Earnest Money : M/s Tema SSK Ltd	-			-	100,000.00			100,000.00
Earnest Money : Shakumbani Sugar Ltd	-			-	100,000.00			100,000.00
Earnest Money : Shri Talabu Taluka SKM	-			-	100,000.00			100,000.00
Earnest Money : Bileshwar Khurd Udyog Khedut Sahakari Mandal Ltd	-			-	100,000.00			100,000.00
Earnest Money : Rahuri S.S.K Ltd	-			-	100,000.00			100,000.00
Earnest Money : Ashok SSK Ltd	-			-	100,000.00			100,000.00
Earnest Money : Simbhaoli Sugar	300,000.00			300,000.00	300,000.00			300,000.00
Earnes Money : Jagadamba SSK	-			-	100,000.00			100,000.00
Earnest Money : Rana Sugar Ltd	-			-	100,000.00			100,000.00
Earnest Money : Dharani Sugar & Chemical Ltd	-			-	100,000.00			100,000.00
Earnest Money : Triveni Engg. Industries Ltd	-			-	200,000.00			200,000.00
Earnest Money : Uttam Sugar Ltd	-			-	100,000.00			100,000.00
Earnest Money : Chamundeswari Sugar Mills	-			-	200,000.00			200,000.00
Earnest Money : Mansurpur Sugar Mills	-			-	100,000.00			100,000.00
Sub Total (A)	400,000.00	-	-	400,000.00	3,300,000.00	-	-	3,300,000.00
Earnest Money from Parties								
M/s Nimbus Harbour Pvt Ltd.	20,000.00			20,000.00	20,000.00			20,000.00
M/s Bhagwati International	50,000.00			50,000.00				-
M/s Sansanwal Travels				-	50,000.00			50,000.00
M/s Deepak Tours & Travels	50,000.00			50,000.00				-
M/s Bagga Tours and Travels	50,000.00			50,000.00				-
M/s Dip Tecnologies Pvt. Ltd.	5,000.00			5,000.00	5,000.00			5,000.00
M/s Asha Enterprises Pvt. Ltd.	50,000.00			50,000.00	50,000.00			50,000.00
M/s Pavillions Interiors India Pvt Ltd.				-	300,000.00			300,000.00
M/s GMC Baverages Pvt Ltd.	5,000.00			5,000.00	5,000.00			5,000.00
M/s Beltek Canadian Water Ltd. (Aqaufina)	5,000.00			5,000.00	5,000.00			5,000.00
Security Deposite : M/s Pink House Keeping	18,784.00			18,784.00	18,784.00			18,784.00
M/s NSE IT			50,000.00	50,000.00			50,000.00	50,000.00
Sum Total (B)	253,784.00	-	50,000.00	303,784.00	453,784.00	-	50,000.00	503,784.00
TOTAL A + B	653,784.00	-	50,000.00	703,784.00	3,753,784.00	-	50,000.00	3,803,784.00

Technology Information Forecasting & Assessment Council
Receipts & Payments for the Period the Year Ended 31.03.2017

	Receipts	Current Year	Previous Year
1	**Opening Balances**		
	Cash in hand	8,773.00	6,574.00
	Cash in Hand (Under PFC New Account)	16,225.00	5,623.00
	Cash in Hand (Under WSSS New Account)	253.00	911.00
	Bank balances		
	In Current Accounts	-	-
	In Depost Accounts	247,672,403.00	229,465,571.00
	Savings Accounts	27,516,562.09	18,687,269.55
	Savings Accounts (Under PFC New Account)	894,178.73	5,364,554.25
	Savings Accounts (Under WSSS New Account)	24,274,364.00	7,530,883.00
	Advance for Franking Machine	5,355.00	14,473.00
2	**Grants Received**		
	From Government of India - Plan (TIFAC)	150,000,000.00	153,862,000.00
	From Government of India - Non Plan (TIFAC)	1,000,000.00	188,000.00
3	**Interest Received**		
	On Bank Deposits (TIFAC)	939,290.00	877,423.00
	On Bank Savings (TIFAC)	16,501,447.00	18,206,832.00
	Loans Advances etc. (Staff advances)	72,080.00	36,150.00
	Interest from Income Tax/ Projects	475,614.00	3,984.00
	Interest on Debtors & other Receivable (TIFAC-SIDBI Revolving Fund)	1,404,000.00	6,049,000.00
4	**Other Income (Specify)**		
	Refund from HGT Project	50,000.00	11,130,000.00
	Refund from Advance Composite Programme	1,636,315.00	959,072.00
	Refund from Vision 2020	924,000.00	1,848,000.00
	Other Income (Annexure 18)	3,501,776.00	2,290,273.69
	Refund from Fly Ash Utilization Programme		1,350,000.00
5	**Receipts fro Patent Facilitating Centre**		
	Grant in Aid (Under PFC New Account)	18,832,650.00	13,528,479.00
	Ekaswa A&B CD RoM (Under PFC New Account)	5,396.00	5,000.00
	Interest from Bank (Savings) (Under PFC New Account)	78,777.03	143,309.97
6	**Receipts for Women Scientist Scholourship Scheme**		
	Grant in Aid (Under WSSS New Account)		20,000,000.00
	Interest from Bank (Savings) (Under WSSS New Account)	387,649.00	638,879.00
	Interest from Advances etc. (Staff Advane) (Under WSSS New Account)		3,000.00
7	**Other Receits (Give Details)**		
	Nominal Charges for Dissemination of TIFAC Reports	72,076.00	28,130.00
	Income from Royalty	57,083.00	67,010.00
	Tender for Housekeeping at TIFAC	500.00	-
	Award for Nari Shakti		200,000.00
	RTIA Questions	170.00	440.00
	Tender for Car Hiring		500.00
	Tender for Payroll and Financial Software		1,500.00
	Stale Cheque Received	484,090.00	119,110.00
	Grant STI Policy Fellowship DST	39,810.00	-
	Grant for Science and Hertage Research Initiative (SHRI)	75,016.00	-
	Grant : Global Technology Watch Growup	8,107,200.00	-
	National Steerign Committee on Tech Need Assessment (TNA) for Habitat Sector (MOEF&CC)	2,311,548.00	-
	CPF (Under PFC New Account)	26,100.00	-
	GSLIS (Under PFC New Account)	1,063.00	-
	Advance : Acharya Vinaba Bhave Rural Hospital, Sawangi	-	20,000.00
	SAIL NMPP	-	19,736.55
	Security Deposit : Lease Accommodation	-	9,500.00
	Security Deposit : Tata Teleservices Ltd	-	16,000.00
	Security Deposit : Sh.Kapil Aggrawal	-	47,490.00
		507,371,763.85	**492,724,678.01**

Technology Information Forecasting & Assessment Council
Receipts & Payments for the Period the Year Ended 31.03.2017

Receipts	Current Year	Previous Year
International Conference on Disaster Management	-	44,493.00
Prepration of Detailed Project Report & Desing of R&D Schedul for Launch of National Mission Electric Mobility	-	1,008,322.00
Sh.Kapil Aggarwal (Rent)	-	25,650.00
Earnest Money : M/s Sansanwal Travels	-	50,000.00
Earnest Money : M/s GMC Beverages Pvt. Ltd	-	5,000.00
Earnest Money : M/s Beltek Canadian Water Ltd. (Aquafina)	-	5,000.00
Earnest Money : M/s Pavilions Interiors India (P) Ltd.	-	300,000.00
Earnest Money : M/s NSE IT (PFC New Account)	-	50,000.00
Staff Loan (Under TIFAC Account)	131,037.00	745,351.00
Staff Loan (Under PFC Account)	31,525.00	-
URDIP Pune (SSWS)	11,164.00	-
Payable by SSWS to PFC (Contra)	4,000,000.00	-
Payable by SSWS to TIFAC (Contra)	200,000.00	-
Security Deposite	88,949.00	-
Interest Accrued (Under WSSS New Account)	155,534.00	-
TDS (Indian Oil Corporation Limited)	-	61,346.00
Payable by PFC to TIFAC (Contra)	-	5,000,000.00
Sundry Creditor : Alaka Chakraborty	-	46,648.00
House Rent Recovery (Prof. Prabhat Ranjan)	-	4,000.00
Unspent Balance from Running Projects	-	849,318.00
TIFAC/DST ITS Canada Workshop	-	167,640.00
IIT-TIFAC Maintenance (Provisions)	-	8,000,000.00
India-IIASA Menbership Fee (Provision)	-	24,500,000.00
Superannuation / Pension/ Gratuity (Provision)	39,055,529.00	
Accumlated Leave Encashment	30,635,553.00	
Amount Given to SIDBI now Written Back	-	100,000,000.00
Recovery from Library Books	988.00	-
Total (ii)	**74,310,279.00**	**140,862,768.00**
Total (i) + (ii)=(A)	**581,682,042.85**	**633,587,446.01**

Technology Information Forecasting & Assessment Council
Receipts & Payments for the Period the Year Ended 31.03.2017

	Particulars	Current Year		Previous Year	
1	Expenses				
a	Establishment Expenses (Schedule 21)	133,110,600.00		53,365,225.00	
	Add : Opening Expenses Payable	4,738,440.00		4,145,441.00	
	Less : Expenses Payable	5,187,173.00	132,661,867.00	4,738,440.00	52,772,226.00
b	Administrative Expenses (Schedule 21)	18,077,870.50		25,613,588.47	
	Add : Opening Expenses Payable	2,234,594.00		776,104.00	
	Add : Loss of sale of Fixed Assets	-		-	
	Less : Payables	1,943,414.00	18,369,050.50	2,234,594.00	24,155,098.47
	Less : Loss on Sale of Fixed Assets				
	(Previous year figure does not include obsolescence Expenses in it.)				
c	Expensditure on Grants, Subsidies etc. (As per Schedule 22)		30,178,860.62		91,823,863.23
2	Payments made against funds for various projects				
	Establishment Expenses (Under PFC New Account)	5,611,677.00		8,044,856.00	
	Add : Opening Expenses Payable	400,704.00		520,155.00	
	Less : Expenses Payable	322,834.00	5,689,547.00	400,704.00	8,164,307.00
	Administravtive Expenses (Under PFC New Account)	5,261,418.00		3,681,683.52	
	Add : Opening Expenses Payable	263,693.00		1,397,967.00	
	Less : Expenses Payable	670,131.00	4,854,980.00	263,693.00	4,815,957.52
	Payments made against funds for various projects				
	Establishment Expenses (Under WSSS New Account)	986,458.00		853,060.00	
	Add : Opening Expenses Payable	56,500.00		74,570.00	
	Less : Expenses Payable	83,345.00	959,613.00	56,500.00	871,130.00
	Administravtive Expenses (Under WSSS New Account)	29,946,145.76		2,868,946.00	
	Add : Opening Expenses Payable	11,164.00		104,064.00	
	Less : Expenses Payable	2,699,014.00	27,258,295.76	11,164.00	2,961,846.00
	Grant Utilisation - Vision 2020	31,578,129.00		30,094,748.00	
	Add : Opening Expenses Payable	-		952,663.00	
	Less : Expenses Payable	-	31,578,129.00		31,047,411.00
	Grant Utilisation - Technology Vision 2035		9,275,045.00		1,515,381.00
	Addition in Fixed Assets				
	Office Equipment		338,712.00		426,750.00
	Library Book		37,243.00		30,897.00
	Furniture & Fixtures		84,924.00		63,980.00
	Computer & Peripherals		134,724.00		958,293.00
	Fire Alarm System at TIFAC Building & Fire Extinguishers		87,975.00		
3	Other Payments (Specify)				
	CPF (Under PFC Account)				26,000.00
	GSLIS (Under PFC Account)				1,488.00
	Staff Advance (Under PFC New Account)				150,925.00
	Interest Accrued (Under PFC New Account)		18,411.03		2,861.97
	Interest Accrued (Under WSSS New Account)				116,080.00
	CPF Turst (TIFAC)				207,368.00
	Earnest Money /Security Deposit		3,100,000.00		110,000.00
	Medical Scheme (Under TIFAC Account)				1,654,617.00
	Medical Scheme (Under PFC Account)				51,277.00
	Advance DAVP		522,338.00		220,775.00
	Payable by PFC to TIFAC (Contra)				5,000,000.00
	Salary Payable (Prof Ganapathy)				1,800.00
	TIFAC-SIDBI Revolving Funds)		11,404,000.00		106,049,000.00
	House Rent Recovery (Prof. Prabhat Ranjan)		4,000.00		
	IIT-TIFAC Maintenance (Provisions)		848,542.00		
	Unspent Balance of Running Projects		1,026,998.00		
	Payable by SSWS to PFC (Contra)		4,000,000.00		
	Payable by SSWS to TIFAC (Contra)		200,000.00		
	India IIASA Membership Fee (Provision)		24,500,000.00		
	House Rent Recovery (Prof. Prabhat Ranjan)		17,500.00		
	Debts Outstanding for a period exceeding six months		430,846.00		
	Interest Accrued from Union Bank of India(Under TIFAC SB A/c)		219,055.00		
			307,800,655.91		**333,199,332.19**

Technology Information Forecasting & Assessment Council
Receipts & Payments for the Period the Year Ended 31.03.2017

Particulars	Current Year		Previous Year	
Closing Balance				
Cash in Hand		6,822.00		8,773.00
Cash in Hand(Under PFC New Account)		4,789.00		16,225.00
Cash in Hand(Under WSSS New Account)		4,764.00		253.00
Cash at Bank		21,895,984.97		27,516,562.09
Cash in Hand (Under PFC New Account)		5,130,412.73		894,178.73
Cash in Hand (Under WSSS New Account)		317,744.24		24,274,364.00
Short Term Deposit		246,510,511.00		247,672,403.00
Franking Machine		10,359.00		5,355.00
Total (ii)		**273,881,386.94**		**300,388,113.82**
Total (i) + (ii) = (B)		**581,682,042.85**		**633,587,446.01**

S. K. JUNEJA & ASSOCIATES
CHARTERED ACCOUNTANTS

4704, Ashoka Enclave, Plot No. 8A
Sector-11, Dwarka, Delhi-110075.
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E-mail: madhujun94@gmail.com

INDEPENDENT AUDITOR'S REPORT

The Trustees
TIFAC Contributory Provident Fund Trust
New Delhi

Report on the Financial Statements

1. We have audited the accompanying financial statements of TIFAC Contributory Provident Fund Trust, New Delhi, (hereinafter referred to as `Trust') which comprise the Statement of Affairs as at March 31, 2017.

Management's Responsibility for the Financial Statements

2. These financial statements are the responsibility of the management of TIFAC Contributory Provident Fund Trust with respect to the preparation of these financial statements that give a true and fair view of the financial position and financial performance of the Trustin accordance with the accounting principles generally accepted in India including Accounting Standards issued by the Institute of Chartered Accountants of India. This responsibility includes maintenance of adequate accounting records in accordance with the for safeguarding the assets of the Trust and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; design, implementation and maintenance of adequate internal financial controls, that are operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

3. Our responsibility is to express an opinion on these financial statements based on our audit. We have taken into account the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made thereunder. We conducted our audit in accordance with the Standards on Auditing. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Trust's preparation of the financial statements, that give a true and fair view, in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Society has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by the Society's management and

Governing Council, as well as evaluating the overall presentation of the financial statements.

5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

1. In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India of the state of affairs of the Trust as at 31st March 2017 however subject to the following:

   The Funds of the Trust should be invested as per the Investment Pattern laid in Government of India, Ministry of Finance (Department of Economic Affairs) Notification No. F.12(1)-DD/86 dated 17th March, 1986. But the above mentioned notification is not available with the Trust and the Funds are being invested into Fixed Deposits with the Nationalised Banks.

6. **We Further state that**

a) we have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;

b) in our opinion proper books of account as required by law have been kept by the Trust so far as appears from our examination of those books;

c) the Statement of Affairs dealt with by this Report are in agreement with the books of account;

Date: 25-09-2017
Place: Delhi

For S K Juneja & Associates
Chartered Accountants
Firm Registration No. 012484N

Sd/-
(CA. Surinder Kumar)
Partner
M. No. 091449

Contributory Provident Fund of TIFAC
Statement of Affairs as on 31st March, 2017

Previous Year as on 31.03.2016	Particulars		Current Year as on 31.03.2017	Previous Year as on 31.03.2016	Particulars	Current Year as on 31.03.2017
	Interest Accrued			2,264,888.13	Union Bank of India S/b A/C	6,494,735.13
34,951,686.70	Last Balance	41,066,821.20		520,330.00	Special deposit with RBI	520,330.00
6,438,236.00	Add: Received/ Accrued during the year	6,518,118.00		79,318,784.00	Short Term deposit with UBI including	-
-	Add : Interest received prior period	1,822,165.00			interest accrued thereon	87,451,479.00
41,389,922.70		49,407,104.20		573,076.00	Flexi Deposit- UBI	603,503.00
323,101.50	Less: Intrest paid during year	-				
41,066,821.20			49,407,104.20		Loan/ Advances to staff members	
				71,444.00	Shri Anil Kumar Rai	36,700.00
	Employees Contribution			42,200.00	Shri Arghya Sardar	-
14,653,405.93	Last Balance	19,853,548.93		85,000.00	Ms. Sangeeta Nagar	31,000.00
7,299,530.00	Add: Received during the year	7,603,063.00		56,000.00	Sh. Sundender Prasad	-
21,952,935.93		27,456,611.93			Sh. M Suresh Babu	147,000.00
2,099,387.00	Less: Paid during the year	5,188,471.00		233,500.00	Dr. D. Majumdar	83,500.00
19,853,548.93			22,268,140.93	4,800.00	Sh. Surinder Kumar	-
				5,300.00	Sh. Sanjay Sundriyal	-
	TIFAC Contribution			14,000.00	Sh. Sumit kumar	-
19,768,055.00	Last Balance	22,061,584.00			Mr. T. Adarsh	10,000.00
2,686,451.00	Add: Received during the year	2,447,719.00			Ms. Mala Sarpal	57,989.00
22,454,506.00		24,509,303.00				
185,554.00	Less: Paid during the year	808,750.00				
	Less: Prior period adjustment due to					
	Employess left before the entilement					
207,368.00	of receipt of employer contribution		23,700,553.00			-
22,061,584.00						
207,368.00	Payable To TIFAC		60,438.00			
83,189,322.13	Total		95,436,236.13	83,189,322.13	Total	95,436,236.13

Subject to Schedule-I, forming part of the Balance Sheet.
As per our report of even date attached herewith.

For S K Juneja & Associates
Chartered Accountants
FRN : 012484N

Sd/-
CA. Surinder Kumar
Partner
Membership No.091449
Date : 25.09.2017
Place : New Delhi

Sd/-
Mukesh Mathur
Chairman

Sd/-
Deep Prakash
Trustee

COUTRIBUTORY PROVIDENT FUND OF TIFAC

SCHEDULE FORMING PART OF ACCOUNTS FOR THE YEAR ENDED 31.03.2017

SCHEDULE – I

SIGNIFICANT ACCOUNTING POLICIES AND NOTES ON ACCOUNTS

1. The financial statements are prepared under the historical cost convention on going concern basis. The Trust follows the mercantile system of accounting except interest received on special deposit with Reserve Bank of India (RBI) thru Union Bank of India (UBI) on calendar year basis & hence accounted for on receipt basis.

2. The Trust follows the Rule as notified by Government of India, Ministry of Finance, Department of Expenditure under sub section (2) of section 8 of the Provident Funds Act, 1925 (19 or 1925), vide their notification no. 4(1)-EV/92 (II) dated 10th August, 1993 and have also added to the schedule to the said Act the name of Technology information, Forecasting and Assessment Council (TIFAC) under sub section (3) of Section 8 of the said Act, Vide Act, vide notification no. 4(1)-EV/92(I) dated 10th August, 1993

3. Interest amounting to Rs. 18,22,165/- accrued & received on Fixed Deposits with Nationalized Banks is less accounted for in books of accounts of the trust in earlier years , now rectified.

As per our report of even date attached herewith

For S K Juneja & Associates
Chartered Accountants
FRN: 012484N

Sd/-	**Sd/-**	**Sd/-**	**Sd/-**
CA. Surinder Kumar	**Accounts Officer**	**Registrar**	**Executive Director**
(Partner)	**TIFAC**	**TIFAC**	**TIFAC**
MRN: 091449			

Date: 25.09.2017
Place: New Delhi

TECHNOLOGY INFORMATION, FORECASTING AND ASSESSMENT COUNCIL (TIFAC)
(An autonomous body of Department of Science & Technology, Govt. of India)
A-Wing, Vishwakarma Bhavan, Shaheed Jeet Singh Marg, New Delhi-110016
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