

# PUNJAB BIOTECHNOLOGY INCUBATOR



## ANNUAL REPORT 2015-16

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## **PREFACE**

Punjab, took the lead in Country in the year 2005 by setting up first Public Sector Incubation facilities under Punjab Biotechnology Incubator (PBTI) with a mandate to provide Incubation Services to translate Research Ideas into Commercially viable Technologies through quality testing and contract research services in agri, food, environment and allied sectors. PBTI a component of Agri-Food Biotechnology Cluster being setup in Knowledge City, Sector-81, Mohali, started its operations from a transit rented premises on 3300 sq. ft. carpet area in Phase-V at Mohali which has now been expanded to about 4 times. Looking at the progress made and visualizing the expansion of PBTI's activities, the State Govt. has transferred 01 acre of land to PBTI in the Knowledge City, Sector-81, Mohali. The building plans are ready and the construction is likely to start during the next Financial Year.

The continuation of PBTI's recognition / accreditation / approval by various National and State Level Statutory / Regulatory bodies helped it to enhance its customer base and add more activities to its profile. Looking at the strengths of PBTI, Ministry of Environment Forest and Climate Change (MOEF&CC), Govt. of India strengthened PBTI through financial support and capacity building programmes under Phase-II of UNEP/GEF project. The notification of PBTI as National Referral Laboratory for LMO's/GMO's detection by MOEF&CC is under process. During the period under report, PBTI has expanded its activities into the new area of Proficiency Testing Services as per the need of the hour. PBTI's success is attributed to the efficient and dedicated team which has been its strength through-out its journey.

**Dr Babu Ram**  
Chief Executive Officer  
Punjab Biotechnology Incubator

## 1. MISSION

To provide Incubation Services to translate Research Ideas into Commercially viable Technologies through quality testing and contract research services in agri, food, environment and allied sectors.

## 2. ORGANIZATION

Punjab Biotechnology Incubator (PBTI) is a registered Society under Societies Registration Act (XXI of 1860). The Society is being managed and controlled by the Governing Council in accordance with the rules framed / modified from time to time by the Society. Chief Secretary, Punjab is the President of the Society and Chairman of the Governing Council of PBTI. Chief Executive Officer (CEO) – Member Secretary of the Governing Council / Society is the Administrative Head of PBTI to exercise supervision, have administrative control, receive grants and contributions on behalf of the Society and conduct the financial transactions in the name of the Society. CEO is accountable to the Governing Council.

### 2.1 SOCIETY FOR PUNJAB BIOTECHNOLOGY INCUBATOR

1.	<b>President</b> (Ex-officio) Chief Secretary to Govt. of Punjab <b>(Sh. Sarvesh Kaushal, IAS)</b>
2.	<b>Vice President</b> (Ex-officio) Principal Secretary/Secretary Science, Technology & Environment, Govt. of Punjab <b>(Sh. K.A.P.Sinha, IAS from 31.10.2014 to 29.07.2015, Sh. G. Vajralingam, IAS from 29.07.2015 to 25.01.2016 and S. Jaspal Singh, IAS from 27.01.2016)</b>
3.	<b>Member</b> (Ex-officio) Principal Secretary, Finance, Govt. of Punjab <b>Sh. D.P. Reddy, IAS</b>
4.	<b>Member Secretary</b> (Ex-officio) Chief Executive Officer, Punjab Biotechnology Incubator, SAS Nagar (Mohali) <b>(Dr. S.S. Marwaha)</b>
5.	<b>Member</b> (Ex-officio) Adviser (Food & Nutrition), Department of Biotechnology, Govt. of India, New Delhi <b>(Dr. Rajesh Kapur)</b>

6.	<p><b>Member</b> (Ex-officio) Executive Director, Punjab State Council for Science &amp; Technology, Chandigarh <b>(Dr. Neelima Jerath)</b></p>
7.	<p><b>Treasurer Member</b> (Ex-officio) Administrative-cum-Finance &amp; Accounts Officer, Punjab Biotechnology Incubator, SAS Nagar (Mohali) <b>Mr. Arwinder Singh, AF&amp;AO</b></p>
8.	<p><b>Member</b> <b>Dr. Naresh Kumar</b> Former, Head R&amp;D and Planning, CSIR Presently, Dean Academic DAV University, Jalandhar</p>
9.	<p><b>Member</b> <b>Prof. R.K. Kohli</b> Vice Chancellor, DAV, University, Jalandhar</p>
10.	<p><b>Member</b> <b>Dr. B.L. Sarawat</b> Dy. Director (C/C) Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India New Delhi</p>
11.	<p><b>Member</b> <b>Sh. J.S. Kamyotra</b> Member Secretary Central Pollution Control Board <b>New Delhi</b></p>
12.	<p><b>Member</b> <b>Dr. Purnima Sharma</b> Executive Director Biotech Consortium India Limited <b>New Delhi</b></p>

## 2.2 GOVERNING COUNCIL

1.	<p><b>Chairman</b> (Ex-officio) Chief Secretary to Govt. of Punjab <b>(Sh. Sarvesh Kaushal, IAS)</b></p>
2.	<p><b>Vice Chairman</b> (Ex-officio) Principal Secretary/Secretary Science, Technology &amp; Environment, Govt. of Punjab <b>(Sh. K.A.P. Sinha, IAS from 31.10.2014 to 29.07.2015, Sh. G. Vajralingam, IAS from 29.07.2015 to 25.01.2016 and S. Jaspal Singh, IAS from 27.01.2016)</b></p>
3.	<p><b>Member</b> (Ex-officio) Principal Secretary, Finance, Govt. of Punjab <b>Sh. D.P. Reddy, IAS</b></p>
4.	<p><b>Member Secretary</b> (Ex-officio) Chief Executive Officer Punjab Biotechnology Incubator, SAS Nagar (Mohali) <b>(Dr. S.S. Marwaha)</b></p>
5.	<p><b>Member</b> (Ex-officio) Adviser (Food &amp; Nutrition), Department of Biotechnology, Govt. of India, New Delhi <b>(Dr. Rajesh Kapur)</b></p>
6.	<p><b>Member Nominated</b> <b>Sh. Sanjay Trehan</b> Senior Vice President Panacea Biotec, Industrial Area, SAS Nagar (Mohali)</p>
7.	<p><b>Member Nominated</b> <b>Dr. Naresh Kumar</b> Former, Head R&amp;D and Planning, CSIR Presently, Dean Academic DAV University, Jalandhar</p>

8.	<b>Member Nominated</b> <b>Dr. N. Sathyamurthy</b> Director Indian Institute of Science Education and Research (IISER), SAS Nagar (Mohali)
9.	<b>Member Nominated</b> <b>Dr. P.K. Khanna</b> Registrar, Punjab Agricultural University (PAU), Ludhiana
10.	<b>Member Nominated</b> <b>Dr. S.K. Saxena</b> Director Export Inspection Council (EIC), Department of Commerce, Ministry of Commerce and Industry, Govt. of India, New Delhi
11.	<b>Member Nominated</b> <b>Dr. K.C. Bansal</b> Director, National Bureau of Plant Genetic Resources (NBPGR), Pusa, New Delhi

### 2.3 TECHNICAL ADVISORY COMMITTEE (TAC)

1.	<b>Dr. S.S. Marwaha,</b> Chief Executive Officer Punjab Biotechnology Incubator <b>SAS Nagar, (Mohali)</b>	Chairman
2.	<b>Dr. Girish Sahni,</b> Director, Institute of Microbial Technology (IMTECH), <b>Chandigarh</b>	Member
3.	<b>Dr. Sanjay Trehan,</b> Senior Vice President Panacea Biotech Limited, <b>SAS Nagar (Mohali)</b>	Member
4.	<b>Dr. Rajesh Kapur,</b> Advisor, Department of Biotechnology, Govt. of India <b>New Delhi</b>	Member
5.	<b>Dr. N. Sathyamurthy,</b> Director, Indian Institute of Science Education and Research (IISER) <b>SAS Nagar (Mohali)</b>	Member
6.	<b>Dr. K.S. Sandhu,</b> Sr. Vegetable Technologist (QM) Punjab Agricultural University Campus, <b>Ludhiana</b>	Member
7.	<b>Dr. Dinesh Benbi,</b> Professor Dept. of Soil Sciences, Punjab Agricultural University, <b>Ludhiana</b>	Member
8.	<b>Mr. J.S. Sandhu,</b> Scientist-F (Retd.), CFTRI, Progressive Society, <b>Chandigarh</b>	Member
9.	<b>Dr. (Mrs.) Ajit Dua,</b> Senior Scientist, Head Technical Operations and Quality Manager, Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Convener Member

## 2.4 CORE COMMITTEE

1.	<b>Dr. S.S. Marwaha</b> Chief Executive Officer Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Chairman
2.	<b>Representative</b> (not below the rank of Joint Secretary) Department of Finance Punjab Civil Secretariat, <b>Chandigarh.</b>	Member
3.	<b>Special/Additional/Joint Secretary)</b> Secretary, Science, Technology & Environment, Govt. of Punjab, Chandigarh Punjab Civil Secretariat, <b>Chandigarh.</b>	Member
4.	<b>Director,</b> Indian Institute of Science Education and Research (IISER) <b>SAS Nagar (Mohali)</b>	Member
5.	<b>Dr. Naresh Kumar</b> Dean Academic DAV University Jalandhar	Member
6.	<b>Dr. Arvind Kumar Bansal,</b> Prof. & Head, Department of Pharmaceuticals NIPER, <b>SAS Nagar (Mohali)</b>	Member
7.	<b>Er. P.S. Saini,</b> Superintending Hospital Engineer, <b>PGIME&amp;R, Chandigarh</b>	Member
8.	<b>Dr. Manish Kumar,</b> Vice President (Analytical) Panacea Biotech Ltd., <b>SAS Nagar (Mohali)</b>	Member
9.	<b>Sh. Ravinder Kumar,</b> Dy. Registrar IIT, Ropar	Member
10.	<b>Dr. (Mrs) Ajit Dua,</b> Senior Scientist Head Technical Operations and Quality Manager Punjab Biotechnology Incubator, <b>SAS Nagar (Mohali)</b>	Convener Member

## 2.5 BUSINESS DEVELOPMENT COMMITTEE (BDC)

1.	<b>Dr. S.S. Marwaha</b> Chief Executive Officer Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Chairman
2.	<b>Dr. Ajit Dua</b> Senior Scientist, Head Technical Operations and Quality Manager Punjab Biotechnology Incubator, <b>SAS Nagar (Mohali)</b>	Member
3.	<b>Dr. Sanjay Trehan,</b> Senior Vice President Panacea Biotech Ltd., <b>SAS Nagar (Mohali)</b>	Member
4.	<b>Dr. A.K. Bachawat,</b> Dean Research & Development Professor & Chairman, Biology Indian Institute of Science, Education and Research (IISER) <b>SAS Nagar (Mohali)</b>	Member
5.	<b>Dr. Anil Angrish,</b> Associate Professor Business Management School, National Institute of Pharmaceutical Education & Research (NIPER) <b>SAS Nagar (Mohali)</b>	Member
6.	<b>Mr. Arwinder Singh,</b> Administrative-cum-Finance & Accounts Officer Punjab Biotechnology Incubator, <b>SAS Nagar (Mohali)</b>	Convener Member

## 2.6 MANAGEMENT REVIEW COMMITTEE

1.	<b>Dr. S.S. Marwaha</b> Chief Executive Officer Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Chairman
2.	<b>Dr. Ajit Dua,</b> Senior Scientist Head Technical Operations and Quality Manager, Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Convener Member
3.	<b>Dr. Vandana Awasthi,</b> Scientist (Biology), Incharge Biological Section and Dy. Quality Manager, Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Member
4.	<b>Mr. Santosh Kumar,</b> Scientist (Chemical), Incharge Chemical Section Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Member
5.	<b>Sh. Arwinder Singh,</b> Administrative Cum Finance & Accounts Officer Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Member
6.	<b>Mr. Rajiv Mahajan,</b> Store & Purchase Officer Punjab Biotechnology Incubator <b>SAS Nagar (Mohali)</b>	Member

**2.7 ADMINISTRATION**

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>
1.	Dr. S.S. Marwaha	Chief Executive Officer
2.	Sh. Arwinder Singh	Administrative-cum-Finance & Accounts Officer
3.	Sh. Rajiv Mahajan	Store and Purchase Officer
4.	Mr. Ravi Madan	Private Secretary
5.	Mr. K.L. Thakur	Assistant (Store & Purchase)
6.	Mr. Surya Kant	Accounts Assistant

**2.8 SCIENTIFIC / TECHNICAL STAFF**

Sr. No.	Designation	Name
1.	Dr. S.S. Marwaha	Chief Executive Officer
2.	Dr. Ajit Dua	Senior Scientist Head Technical Operations and Quality Manager
3.	Dr. Vandana Awasthi	Scientist (Biology) Deputy Quality Manager
4.	Mr. Santosh Kumar	Scientist (Chemical)
5.	Dr. Sanjivan Alkesh	Assistant Scientific Officer
6.	Ms. Nidhi Yadav	Assistant Scientific Officer
7.	Mr. Amit Aggarwal	Assistant Scientific Officer
8.	Ms. Ravneet Kaur	Assistant Scientific Officer
9.	Ms. Shaindandani Dogra	Junior Scientific Officer
10.	Ms. Anju Thakur	Junior Scientific Officer
11.	Ms. Aarti Bhardwaj	Junior Scientific Officer
12.	Ms Dimple Trikha	Junior Scientific Officer
13.	Mr. Vikas Chandra Roy	Scientific Assistant
14.	Mr. Rajesh Panwar	Scientific Assistant
15.	Mr. Naresh	Project Assistant
16.	Mr. Jitender Sharma	Project Assistant
17.	Mr. Daljit Singh	Maintenance Engineer

### 3. ACCREDITATION / RECOGNITIONS / EMPANELMENT / APPROVALS

PBTI is Accredited / recognized / empanelled by the following National / State level bodies / authorities:

- 3.1 **NATIONAL ACCREDITATION BOARD FOR TESTING & CALIBRATION LABORATORIES (NABL)** – PBTI is NABL Accredited in Chemical and Biological fields since 2009 which is being renewed periodically. The assessment of PBTI's facilities for renewal of accreditation and expansion of the scope was carried out on 4<sup>th</sup> & 5<sup>th</sup>, April 2015, based on which the renewal was granted for 2 years upto July, 2017.
- 3.2 **BUREAU OF INDIAN STANDARDS (BIS)** – PBTI is recognized by Bureau of Indian Standards (BIS) since February 2010 which is being renewed periodically. The Assessment of PBTI's laboratory for renewal of approval by BIS was successfully completed on 10<sup>th</sup> & 11<sup>th</sup> March 2016, based on which renewal was granted for three (03) years upto February, 2019
- 3.3 **FOOD SAFETY & STANDARD AUTHORITY (FSSAI)** – Empanelment under Food Safety and Standards Act 2006 for the testing of regulatory and imported food samples, continued since November 2011. PBTI is notified by FSSAI in official gazette of India since July, 2016 for the purpose of carrying out of analysis of food samples taken under Food Safety and Standard's Act 2006 and Rules & Regulations made there under.
- 3.4 **STATE WATER LABORATORY** – Notification under Sub-section-I of section 52 of the water (Prevention & Control of Pollution) Act 1974 by Govt. of Punjab for the testing of water and waste water continued since January, 2009.
- 3.5 **PUNJAB POLLUTION CONTROL BOARD (PPCB)** – Recognition as Class 'A' Laboratory for consent purposes continued since August, 2010.
- 3.6 **CENTRAL POLLUTION CONTROL BOARD (CPCB)** – PBTI is recognized under Environment Protection Act (EPA) 1986 since December, 2010 with a validity of five years. Based on desktop audit, the validity of recognition was extended further for five (05) years upto March, 2021.
- 3.7 **DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH (DSIR)** – PBTI is recognized as Scientific & Industrial Research Organization (SIRO) since July, 2006 which is being renewed periodically. The recognition is valid till March 2017.

- 3.8 AGRICULTURAL & PROCESSED FOOD PRODUCTS EXPORT DEVELOPMENT AUTHORITY (APEDA)** – PBTI is recognized by APEDA, since April 2014. Recognition is valid till April 2018.
- 3.9 EXPORT INSPECTION COUNCIL (EIC)** – PBTI was approved under EIC Lab approval scheme in February 2015 for Chemical & Biological fields for a period of two (02) years upto February, 2017. The application for expansion of scope was submitted to EIC. The audit for the same is being planned along with the surveillance audit scheduled in April 2016.
- 3.10 INDIRA GANDHI NATIONAL OPEN UNIVERSITY (IGNOU)** – PBTI was approved as Programme Study Centre for PG Diploma Programme in Food Quality & Safety Management System by IGNOU in June, 2014. PBTI has successfully run two batches. The number of learners under this diploma for the period under report increased by 33%.
- 3.11 National Referral Laboratory for LMO/GMO detection** – PBTI has been approved by Ministry of Environment and Forests and Climate Change (MOEF&CC), Govt. of India for notification as **National Referral Laboratory for LMO/ GMO detection** in June, 2015.
- 3.12 Occupational Health and Safety Management System (OHSAS)** – PBTI was certified for OHSAS as per ISO 18001 : 2007 by KVQA Certification Services Pvt. Ltd., accredited by Joint Accreditation System of Australia and Newzealand (JAS-ANZ) on 29.06.2015 with validity upto 28.06.2018, based on the audit conducted in May, 2015.

## 4. ANALYTICAL STRENGTHS AND SERVICES

### 4.1 TARGET SECTORS

- 4.1.1 Food :** Fresh / Processed Food including Dairy Products, Honey & Honey Products, Oils and Fats, Fruits & Vegetable Products, Cereal & Cereal products, Rice & Basmati Rice, Sweets and Confectionary, Spices and Condiments, Beverages, Natural Products, Drinking Water etc.
- 4.1.2 Agriculture and Agri Inputs:** Fertilizers, Micro & Macro Nutrients, Pesticide Formulations, Soil, Irrigation Water etc.
- 4.1.3 Animal Feeds and Feed Ingredients:** Cattle Feed, Poultry Feed, Fish Feed, Feed Ingredients, etc.
- 4.1.4 Environment:** Ambient Air, Stack Emissions, Noise, Soil & Sludge, Hazardous Waste, Water & Waste Water, etc.
- 4.1.5 Drugs & Pharmaceuticals:** Drug Intermediates & Raw Material, Natural Drugs (Medicinal Plant Preparation), Ayurvedic Drugs.

### 4.2 ANALYTICAL SERVICES

- 4.2.1 Food And Agriculture:** Pesticide Residues, Drug Residues, Heavy Metals, Polychlorinated Biphenyls (PCBs), Poly Aromatic Hydrocarbons (PAH), Adulterants, Process Contaminants, Naturally Occurring Toxic Substances (NOTS) Food Additives, Physico-Chemical Parameters, Nutritional Profiling including Vitamin Profiling, Mineral Profiling, Amino Acid Profiling & Fatty Acid Profiling, Micro & Macronutrient Profiling of Soil and Water, Textural & Rheological Properties, Sensory Evaluation, Shelf Life Studies, GMO Testing, Sequencing, Microbial Identification, Potato Seed Viruses, Pathogens, Mycotoxins, Sterility Testing, Physical analysis of rice & paddy etc.
- 4.2.2 Environment:** Gaseous Pollutants, Particulate Matter, Physico – Chemical Parameters, Hazardous Pollutants, Noise Monitoring, Weather Monitoring, Bioburden Monitoring, Plant & Personal Hygiene Monitoring etc.
- 4.2.3 Miscellaneous:** Method Validation, Antibiotic Susceptibility, Impurity Profiling, Chromatographic / Spectroscopic etc.
- 4.2.4 Expansion of scope of Analytical Services:**

During the period under report, PBTI developed / standardized / validated the methods for analysis of some new parameters based on market

demand and started providing services for the same as listed below under Chemical and Biological Fields:

#### **4.2.4.1 Chemical Parameters**

Oxidisability test in water, Antioxidant activity, Ester Value, Bromate, Lactate Content, Antibiotic Residue - Amplicillin, Ciprofloxacin and Enrofloxacin, Inorganic Arsenic (As+3, and As+5) Commercial analysis of Honey samples for adulteration with C4 sugars (Corn and Cane Sugars) was started after validation of the method on Elemental Analyzer – Isotopic Ratio Mass Spectrometer. The R&D for method standardization and validation for testing of honey for adulteration with C3 sugars using Liquid Chromatography – Isotopic Ratio Mass Spectrometer was initiated.

#### **4.2.4.2 Biological Parameters**

Contamination and % phosphate solublizing capacity in Bacterial Inoculants, Determination of Nitrogen Fixation by Azotabacter Inoculants. The R&D for method standardization for sequencing of plasmids using DNA Sequencer was initiated.

### **4.3 ANALYTICAL STRENGTHS**

#### **4.3.1 Chemical Section – Major Equipment**

- i. EA-LC-IRMS
- ii. LCMS-MS (02 Nos)
- iii. HPLC – RID, FLD & DAD
- iv. GCMS-MS, GCMS, GC-ECD, NPD/TSD & FID
- v. ICP-MS, AAS
- vi. Ion Chromatography System and Amino Acid Analyser
- vii. Alveo Consistograph, Failling number apparatus, Glutomatic System, Starch Damage Analyser, Texture Analyser
- viii. Solid Phase Extraction System (SPE) and Accelerated Solvent Extraction System (ASE)
- ix. Crude Fiber Extraction System, Automated Protein Estimation System, Soxhlet Extraction System (Standards, Warm, Hot and Continuous modes)
- x. FT-IR, UV-Vis Spectrophotometer

- xi. Respirable Dust Sampler, Gaseous Sampler, Fine particulate sampler, Stack Sampler
- xii. NDIR based CO Analyzer, Sound Level Meter, Weather Monitoring System, Flue Gas Analyzer

#### 4.3.2 Biology Section– Major Equipment

- i. DNA Sequencer
- ii. Real Time – PCR, PCR
- iii. ELISA Reader and Washer
- iv. Gel Electrophoresis & Documentation system
- v. Microbiology setup

#### 4.3.3 NEW ANALYTICAL & ANCILLARY EQUIPMENT ADDED/ COMMISSIONED

Ministry of Environment, Forests and Climate Change (MOEF&CC), Govt. of India after identifying Punjab Biotechnology Incubator (PBTI) as one of the National Referral Laboratory (NRL) strengthened the GMO/LMO detection Lab of PBTI under UNEP-GEF phase-II capacity building project on Biosafety by funding capital grant for purchase of equipment. The equipment to be purchased under the project were identified and the process for the procurement was started by Biotech Consortium India Limited (BCIL), Project Coordination Unit (PCU) of Ministry of Environment, Forest and Climate Change, Govt. of India :

- i. Real Time PCR
- ii. Gradient Thermocycler
- iii. UV Spectrophotometer
- iv. Gel Documentation and Electrophoresis System
- v. Grindomix
- vi. Deep Freezers
- vii. DNA Vacuum Concentrator
- viii. Ancillary/ Support Equipment - Dry bath incubator with heating and cooling, Shaking Water Bath, Vertical Autoclave, Autopipettes

During the period under report new analytical and ancillary equipment including Universal Incubator, Large volume sample homogenizer, Multisampler homogenizer, Ultrasonic bath, Universal / Drying Oven, Mini Centrifuge Refrigerated Centrifuge, Nitrogen

concentrator, pH Meter, PCR Hood and DG set of 250 KVA, were purchased / commissioned with the grant received from Punjab Small Industries and Export Corporation (PSIEC) under Assistance to State for Development of Export Infrastructure and Allied Activities (ASIDE) scheme

## **5. QUALITY ASSURANCE ACTIVITIES**

Quality assurance is an integral part of Management activities involving planning, implementation, assessment, reporting and quality improvement to ensure that the test results are accurate and fit for the purpose. PBTI follows different approaches including participation in Proficiency Testing (PT) / Inter laboratory Comparison programmes (ILC), In-house Quality Checks (IQC) like replicate analysis, recovery studies & retained samples re-testing, Periodic Internal Audits, Intermediate Checks, Instrument Calibrations, etc., to ensure the quality of the analytical services provided by PBTI.

### **5.1 PARTICIPATION IN PROFICIENCY TESTING (PT) PROGRAMMES**

During the period under report, PBTI successfully participated in eight (08) Proficiency Testing (PT) Programmes. The six (06) International PT programmes were organized by LGC standards UK, FAPAS, UK and Grain Inspection, Packers & Stockyards Administration United States Department of Agriculture (GIPSA, US-DA). The other two (02) National level PT programmes were organized by Aashvi Proficiency Testing & Analytical Services, Hyderabad. In all, PBTI participated in PT programmes for 34 different parameters including 23 chemical and 11 biological.

The details of parameters and matrices for which PBTI participated in PT programmes is as per Table on the proceeding page.

### Details of Participation in Proficiency Testing (PT) Programmes

Sr. No.	Product / Material	Details of Test(s)	Month / Year	Number of Participating Laboratory	Nodal Laboratory (Accreditation body / Country)
1.	Ground Nut Oil	Refractive Index at 40°C	January 2016	12	Aashvi Proficiency Testing & Analytical Services, Hyderabad
		Iodine Value			
2.	Milk Powder	Fat	January 2016	12	--do--
		Total Ash			
3.	Powdered Soya (02 samples)	Qualitative GM Testing For P35S Qualitative GM Testing For TNOS	Dec 2015	44	GIPSA (US- FDA)
4.	Powdered Corn (04 samples)	Qualitative GM Testing For P35S Qualitative GM Testing For TNOS			
5.	Water	Aldrin	Sep 2015	35	LGC Standards, UK
		Dieldrin			
		o,p-DDT			
		p,p- DDT			
		o,p-DDE			
		p,p- DDE			
		o,p-DDD			
		p,p- DDD			
		Alpha – HCH			
		Beta HCH			
		Gamma HCH			
		Heptachlor epoxide			
		Alpha Endosulphan			
		Beta Endosulphan			
		Delta HCH			
		Cis chlordane			
Cis chlordane					
Methoxy					
6.	Potable Water	<b>Microbial Pathogens -</b> <ul style="list-style-type: none"> <li>• Total aerobic count @ 22oC</li> <li>• Total aerobic count @ 37oC</li> <li>• Enumeration of Escherichia coli</li> <li>• Enumeration of Coliform</li> <li>• Enumeration of Enterococci (Faecal Streptococci)</li> </ul>	September 2015	93	LGC Standards, UK
7.	Skimmed Milk Powder	Listeria sp. (Presence / Absence per 25 g)	July 2015	89	LGC Standards, UK
		Listeria monocytogenes (Presence / Absence per 25 g)			
8.	Milk Powder	Aflatoxin M1	April 2015	68	FAPAS, UK

## 5.2 PARTICIPATION IN INTER LABORATORY COMPARISON (ILC) PROGRAMMES

PBTI successfully participated in twenty seven (27) Inter Laboratory Comparison (ILC) Programmes during the period under report. Out of 27 ILCs, 01 was initiated by PBTI, wherein various laboratories from all over India participated. In addition, PBTI participated in 26 ILCs organized by different NABL accredited Laboratories in India. A total of 92 parameters including 66 Chemical & 26 Biology parameters were analyzed in different matrices under ILC programme.

The details of parameters and matrices for which PBTI participated in ILC programmes is as below :

### Details of Participation in Inter Laboratory Testing Programmes (2015-16)

Sr. No.	Product / Material	Details of Test(s)	Month / Year	Number of Participating Laboratory	Nodal Laboratory (Accreditation body / Country)
1.	Powdered Rice (05 samples)	Qualitative GM Testing For P35S Qualitative GM Testing For TNOS	April 2016	04	TILDA Hain India Pvt. Ltd. Gurgaon
2.	Packaged Drinking Water-I	Bromate	Jan 2016	05	Chennai Mettlex lab Pvt. Ltd., Chennai
3.	Packaged Drinking Water-II	Bromate			
4.	Organic Fertilizer (Compost)	pH	Jan 2016	04	National Agro Foundation, Chennai
		Conductivity			
		Organic Carbon			
		Total Nitrogen			
5.	French Lentil Soup	pH	Dec 2015		Precision Quality Services, Jaipur
		Salt			
6.	Rice Powder	Acephate	Dec 2015	05	Ebro India Food Research & Analysis Centre, Taraori
		Buproferin			
		Chlorpyriphos			
		Permethron - I			
7.	Cotton Seed	Qualitative GM Testing For P35S Qualitative GM Testing For TNOS	Dec 2015	04	MicroChem Silliker Pvt. Ltd. Mumbai
8.	Maize Powder				
9.	Soya Powder				
10.	Disinfectant Fluid	RW Coeff.	November 2015	03	SGS India Pvt. Ltd, Kolkata
		Staph Coeff.			
11.	Powdered Corn	Qualitative GM Testing For P35S Qualitative GM Testing For TNOS	Nov 2015	05	Bioserve Biotechnologies (India) Pvt. Ltd. Bangalore
12.	Powdered Rice				
13.	Copper Sulphate	Copper	Nov 2015	08	UPASI Tea Research Foundation, Regional Centre - Coonoor
		pH			
14.	Water	Lead	Oct 2015	08	Self initiated Inter Laboratory

					Comparison (ILC) by PBTI's Agri & Food Testing Laboratory
		Cadmium			

Sr. No.	Product / Material	Details of Test(s)	Month / Year	Number of Participating Laboratory	Nodal Laboratory (Accreditation body / Country)
15.	Rice Flour	Aflatoxin B1	Sep 2015	06	Ebro India, Food Research & Analysis Centre Taraori, Karnal
		Aflatoxin B2			
		Aflatoxin G1			
		Aflatoxin G2			
		Ochratoxin A			
16.	Package Drinking Water	Lead	Sep-2015	10	Chennai Mettlex lab Pvt. Ltd., Chennai
		Chromium			
		Cadmium			
		Silver			
		Nickel			
		Mercury			
		Arsenic			
		Selenium			
		Barium			
		Copper			
		Manganese			
		Zinc			
		17.			
Hardness					
Residual chlorine					
18.	Apple Walnut Chutney	pH	July 2015	---	Precision Quality Services, Jaipur
		Titration Acidity			
		TSS			
		Salt Content			
19.	Rice (Blank & Spiked)	HCH Isomers	July 2015	06	National Collateral Management Service Ltd. Hyderabad
		DDT Isomers			
		Cyfluthrin			
		Bifenthrin			
		Chlorpyrifos			
		Atrazine			
		Quinolphos			
		Malathion			
		Imidacloprid			
		Trizophos			
		Tricyclazone			
		Buprofezin			
20.	Packaged Drinking Water	Isoproturon	June 2015	08	Chennai Mettlex lab Pvt. Ltd., Chennai
21.	Manganese Sulphate	Manganese (Mn)	June 2015	06	UPASI Tea Research Foundation Coonor
22.	Beverages	Total Aerobic Mesophilic Count	June 2015	11	First Source Lab Solution Hyderabad
		Yeast & Mould			
		Lactic Acid Bacteria			
		E.coli			

23.	Packaged Natural Mineral Water	<i>Escherichia coli</i> (or thermotolerant bacteria)	June 2015	08	RCA Laboratory, Mumbai
		Coliform			
		Faecal streptococci & <i>Staphylococcus aureus</i>			
		Sulphite reducing anaerobes			
		<i>Pseudomonas aeruginosa</i>			
		Yeast and Mould			
		<i>Salmonella</i> and <i>Shigella</i>			
		<i>Vibrio cholera</i> and <i>V. parahaemolyticus</i>			

Sr. No.	Product / Material	Details of Test(s)	Month / Year	Number of Participating Laboratory	Nodal Laboratory (Accreditation body / Country)
24.	NPK Complex Fertilizer	Moisture	April 2015	NM	Analytical Chemist Fertilizer Control Lab, Kolhapur
		Total Nitrogen			
		Ammonical Nitrogen			
		Water Soluble Phosphate (P <sub>2</sub> O <sub>5</sub> )			
		Water Soluble Potash (K <sub>2</sub> O)			
25.	Milk Powder	Moisture	April 2015	07	TUV-SUD Gurgaon
		Fat			
		Titatable acidity			
26.	Water	Cadmium	April 2015	07	TUV-SUD Gurgaon
		Arsenic			
		Copper			
		Mercury			
27.	Condensed Milk	Total Bacterial Count	April 2015	09	Mitra S.K. Private Ltd. Mumbai
		Shigella/ 25 g			
		Faecal Streptococci/ g			
		Listeria / 25 g			

### 5.3 INTERNAL QUALITY AUDITS:

To ensure the continued compliance against documented Quality Management System (QMS) internal audits of different sections of PBTI including Quality Management & Support Functions and Technical Operations of all the laboratories were conducted.

## 6. CONSULTANCY SERVICES

PBTI is providing Advisory, Technical and Contractual Research Consultancy Services. The Contract Research Projects and Project Management Consultancy Services executed for Govt. Departments, State Cooperative and Multi National Food Industry, during the period under report are as follows :

### 6.1 COMPLETED PROJECTS:

- 6.1.1 **“Analysis of 7646 samples of Tubewell and Hand Pump based water supply for heavy metals & basic parameters”** funded by Department of Water Supply and Sanitation, Punjab. The project was completed on 02.09.2015
- 6.1.2 **Preparation of DPR for setting up of Comprehensive testing of facilities for Honey & Processed Food Products at Village Chuharwali; Jalandhar**  
The project was awarded by Punjab State Cooperative Supply and Marketing Federation (Markfed), Punjab in Oct. 2015 and DPR was submitted in Nov. 2015
- 6.1.3 **India Method Harmonization for Nutrient analysis in Infant Formula & Adult Nutritional product** – The project was awarded to PBTI in July 2014 by M/s Abbott Nutrition India. The project was completed in April, 2015.

### 6.2 ONGOING PROJECTS:

- 6.2.1 **Providing O & M Services for Running of Regional Advanced Water Testing Lab (RAWTL)** - The project was awarded by Department of Water Supply and Sanitation, Punjab.
- 6.2.2 **Canal based water supply schemes for the presence of pesticides** - The project was awarded by Department of Water Supply and Sanitation, Punjab.
- 6.2.3 **“Providing Consultancy Services for getting NABL Accreditation for the Regional Advance Water Testing Laboratory (RAWTL), Mohali and Trade Waste and Effluent Research Unit cum State Laboratory, (TWERU),**

**Patiala under DWSS**” funded by Department of Water Supply and Sanitation (DWSS), Punjab

6.2.4 **Advisory Services for Setting Up Operationalization & getting NABL Accreditation for Food and Drug Testing Laboratories of FDA Punjab -**

The project was awarded by Food and Drugs Administration (FDA), Department of Health and Family, Welfare, Punjab.

6.2.5 **Provide back-end lab support for Providing Proficiency Testing Services in food and environment sectors–**

The project has been started in collaboration with M/s Green Economy Initiatives Pvt. Ltd.

6.2.6 **“Milk Metablomics based characterization of indigennos, exotic and corsbred Cow”** funded by National Bureau of Animal Genetic Resources (NBAGR) Karnal.

## 7. CLIENTELE PROFILE

PBTI's facilities are being used by Farmers, Farmer Groups, State Cooperatives, Industrial Houses, Entrepreneurs, R&D Institutes/Organizations, Germ Plasm / Seed Producers, National & Multi National Companies (MNCs) from food and environmental sectors. Presently more than 1000 groups including Markfed, Milkfed, Department of Water Supply & Sanitation (DWSS), Punjab Pollution Control Board (PPCB), Punjab Dairy Development Department (PDDD), Food Corporation of India (FCI), Pepsico, Dabur, Nestle, Godrej, Glaxo SmithKline Consumer Health (GSKCH), Wockhardt, Abbott, Pagro Food Ltd., Vista Food Ltd., United Biscuits, Bharti Walmart, Sunstar Overseas Ltd., Mrs. Bector Foods, Ranbaxy, DSM, Mahindra & Mahindra and many more giants from food sector are regularly using the quality testing as well as environmental monitoring services of PBTI.

PBTI's major clients for Consultancy Projects include Nestle India Ltd., Glaxo Smith Kline Consumer Health (GSKCH) Ltd., National Dairy Research Institute (NDRI), Punjab State Council for Science & Technology (PSCST), Department of Water Supply & Sanitation (DWSS) Punjab, Food Safety and Standards Authority of India (FSSAI) etc. During the period under report new groups including Food and Drugs Administration (FDA), Department of Health and Family, Welfare, Punjab and M/s Green Economy Initiatives Pvt. Ltd. started using PBTI's contractual research services.

### Approvals as Contract Test Laboratory

- **ITC, Bangalore** – A team from ITC Bangalore audited PBTI's facilities on 24.08.15 for approving it as their Contract Test Laboratory
- **Vista OSI, an MNC in Frozen Foods** approved PBTI as their **Contract Test Laboratory** and signed an agreement with PBTI in this regard
- **United Biscuits, UK** having manufacturing facilities at Kala Amb, Himachal Pardesh has been continuing with the services of PBTI as Contract Test Laboratory since 2011.

## **8. ORGANIZATION OF WORKSHOPS, TRAININGS, AWARENESS PROGRAMMES & INTERACTIVE MEETS**

During the period under report PBTI organized the following workshops, trainings, awareness programmes and interactive meets for technical persons of Industry / Labs / Institutes / Organizations

- 8.1** Organized “5-Days Training on LMO/GMO detection” for the participants from GMO Detection Consortia laboratories from all over India, in collaboration with BCIL under UNEP GEF Project implemented by MoEF&CC, from 26<sup>th</sup> -31<sup>st</sup> October 2015. The training was imparted by experts from Intertek ScanBi Diagnostics Sweden.
- 8.2** Organized Training for the staff of Department of Water Supply and Sanitation on “Laboratory Quality Management System” on 23.12.15. The training was imparted by the staff of PBTI.
- 8.3** Awareness regarding the services being provided by PBTI was created during Punjab Investor’s Summit held on 28-29 October 2015.
- 8.4** Organized visit of International delegates (32 Nos) from Bureau of Indian Standards (BIS) on 13.02.2016 to give an Overview of Laboratory Quality Management System being followed at PBTI as per ISO/IEC 17025:2005.

## 9. COLLABORATION FOR HUMAN RESOURCE DEVELOPMENT (HRD) AND RESEARCH & DEVELOPMENT (R&D) ACTIVITIES

The collaboration of PBTI with the following universities was continued to promote Human Resource Development (HRD) and Research & Development (R&D) in the areas relevant to the needs of the State.

- 9.1 **PUNJAB AGRICULTURE UNIVERSITY (PAU), Ludhiana** : During the period under report, Assistant Professors from different departments of PAU undergone training for one month at PBTI as a part of their induction training. The scientists of different departments of PAU visited PBTI to explore the possibilities of collaborative research work in light of the facilities available with PBTI.
- 9.2 **CENTRAL UNIVERSITY OF PUNJAB, Bathinda (CUPB)** – During the period under report PBTI and CUPB exchanged scientists for imparting trainings in the area of Molecular Biology and used each other's infrastructure facilities for various administrative activities under the MoU signed between both the organizations.
- 9.3 **INDIRA GANDHI NATIONAL OPEN UNIVERSITY (IGNOU)** – PBTI successfully run the 2<sup>nd</sup> session of Post Graduate Diploma in Food Safety and Quality Management System during the period under report.

## 10. e-GOVERNANCE

As a step towards e-governance, PBTI initiated to develop / operationalize the following softwares:

- 10.1 **SCIENTIFIC DATA MANAGEMENT SOFTWARE** – For effective and safe management of scientific data. M/s Agilent Technologies has successfully installed, tested and commissioned, the Open LAB Enterprise Content Manager (ECM) program, an electronic library that safely catalogs, warehouses, indexes, stores, archives, and shares any electronic file. This software helps to organize Standard Operating Procedures (SOPs), training records, data from laboratory experiments, or any function that generates electronic files. Initially this software is being used for warehousing, indexing, storing, archiving of data generated from laboratory experiments for some equipment.
- 10.2 **SAMPLE HANDLING SOFTWARE (Analysis Expert):** As per the regular need of new parameters of testing, new data base was created in the sample handling software. The process for generating Management Information System (MIS) Reports was started.
- 10.3 **SOFTWARE FOR MANAGEMENT OF STORE & PURCHASE (Central Store Purchase Management Software - CSPMS)** – The Software for Management of Store & Purchase is in operation since October 2010. The same is being used for handling store and purchase activities.
- 10.4 **e-MULAZIM:** Centre for Development of Advanced Computing (C-DAC), Mohali under the project sponsored by Department of Electronics and Information Technology (DEITY), Govt. of India developed various generic software using Free and Open Source Software (FOSS) for implementation across various government academic & research

departments. One of the software developed by C-DAC under this project was e- Mulazim, for bringing efficiency and transparency in Human Resource Management System. The same was installed at PBTI by C-DAC on complimentary basis. The software is being standardized.

## 11. CAPACITY BUILDING OF STAFF

As an endeavour to provide quality services, PBTI keeps on updating the skills of its staff through their participation in Seminars, Conferences, Workshops, Trainings etc. During the period under report, the details of participation of PBTI's staff in such programmes is as follows:

### **Dr. S.S. Marwaha, Chief Executive Officer**

1. Golden Jubilee celebration of Export Inspection Council of India (EIC) on 22.4.2015 at India Habitat Centre, New Delhi.
2. Brainstorming on regulatory aspects of GM crops – Food and Nutrition at NABI, Mohali on 27.04.2015.
3. 3<sup>rd</sup> Foundation Day of Center of Innovative and Applied Bioprocessing (CIAB), Mohali on 01.05.2015.
4. Seminar on “Chromatography Solutions with Winning Qualities” - TRACE 1110:GC, Hotel Park Plaza, Chandigarh on 6.08.2015.
5. “International Conference on food processing and analysis organized by Select Biosciences India on 20<sup>th</sup> to 21<sup>st</sup> August, 2015 at Chandigarh and Chaired the technical session III “Trends and Innovations in Food Processing and Packaging”.
6. Chaired Valedictory Ceremony of National Conference on “Emerging challenges in Biotechnology” organized by Association of Microbiologist of India jointly with Chandigarh Group of Colleges at CGC Landran on 22.08.2016.
7. National Summit on “Higher Education for Skill Development and Employability” organized by Chandigarh University, Gharuan at Hotel Shivalik View on 08.10.2016.
8. Workshop organized by Department of Water Supply and Sanitation (DWSS) to discuss the issues and their solution in the ground water quality in the State on 12.10.2015 at Chandigarh
9. 8<sup>th</sup> HR Summit organized in Gian Jyoti Institute of Management & Technology at Mohali on 17.10.2015

10. Attended as Chief Guest for Prize Distribution for Poster Making competition on “Biotechnology Today and Expectation for common Man” organized by Center of Innovative and Applied Bioprocessing (CIAB), Mohali during the celebration of 30th Foundation day of DBT, GOI
11. “2<sup>nd</sup> Annual Food Quality and Safety Congress” organized by INVENTICON at New Delhi on 17.12.2015.
12. Attended as panelist for discussion for “Setting the agenda for Food Processing Industry in Punjab and Integration of Centre for Learning Resources Development (CLRD)” organized by LM Thapar School of Management, Thapar University, Dera Bassi on 19.12.2016.
13. Chaired the Technical Session and delivered a lecture on “Course curricula development and employability in biotechnology” during the conference on Biotechnology at Chandigarh University, Gharuan on 23.12.2016.
14. “Dr. Hargobind Khurana’s Memorial lecture” organized by Panjab University, Punjab State Council for Science and Technology and Institute of Nano Science and Technology at PU, Chandigarh on 05.01.2016.
15. Public lecture organized on the occasion on 30<sup>th</sup> foundation of DBT, GOI organized by Centre of Innovative and Applied Bioprocessing (CIAB), Mohali on 11.01.2016
16. Workshop on “Water Quality Issues” in Punjab organized by Dept. of Water Supply and Sanitation (DWSS), Punjab on 18<sup>th</sup> & 19<sup>th</sup> January, 2016
17. “Biomass to Biovalue” summit organized by Centre of Innovative and Applied Bioprocessing (CIAB), Mohali on 10.02.2016 at Mohali
18. FICCI India Innovation Growth Programme organized by FICCI at Hotel Park View, Chandigarh on 18.02.2016
19. Workshop and demonstration of Water Purification Systems by Klorofil Scientific at Panchkula on 22.02.2016
20. “MCM Science Fest” organized by MCM-DAV College Sector, 3C, Chandigarh on 24.02.2016 to Commemorate 30 years of establishment of Department of Biotechnology (DBT).
21. Punjab Investor’s Summit and ISB

**Dr. Ajit Dua, Senior Scientist**

1. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at Intertek-Scan Bi Diagnostics, Sweden from 07.12.15 to 11.12.15
2. Training on Triple Quadrupole GCMS Techniques & Operation (R1718A) at Agilent Technologies, Singapore from 20.10.15 to 23.10.15
3. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at EIA Kochi from 29.02.2016 to 04.03.2016.
4. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at PBTI Mohali from 26.10.15 to 31.10.15
5. Training on Labeling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
6. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
7. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
8. Training on Basics of EA IRMS & its application in Honey Authenticity Testing imparted by expert from SVI India Pvt. Ltd. (10.07.2015, On-site)
9. Technical Training on RT-PCR based GM detection- Strategies and Methodology imparted by expert from CFTRI, Mysore (04.05.2015 to 07.05.2015, on-site)

**Dr. Vandana Awasthi, Scientist (Biology)**

1. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at Intertek-Scan Bi Diagnostics, Sweden from 07.12.15 to 11.12.15
2. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at EIA Kochi from 29.02.2016 to 04.03.2016.
3. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at PBTI Mohali from 26.10.15 to 31.10.15
4. Training on Labeling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
5. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
6. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
7. Workshop on Lab Information Management Systems (LIMS) at NROL Mohali on 17.09.2015
8. Training on Basmati Authentication Testing Using DNA Sequencer imparted by expert from BEDF Meerut (12.09.2015, on-site)
9. 4th National Conclave For Laboratories 2015 Jointly Organized by NABL & CII at IHC New Delhi (14.09.2015 & 15.09.2015)
10. Technical Training on RT-PCR based GM detection- Strategies and Methodology imparted by expert from CFTRI, Mysore (04.05.2015 to 07.05.2015, on-site)

**Mr. Santosh Kumar Singh, Scientist (Chemical)**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
3. Training on Critical points in Ambient Air, Stack Emission Monitoring & Noise Monitoring (30.12.2015 on-site)
4. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
5. Workshop on Agilent Food Solution Workshop & EMR- Lipid Product Launch (26.11.15, On-site)
6. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)
7. Seminar on Challenges faced by India in Environment Monitoring organized by CPCB & APPCB at New Delhi (24.07.15)

**Dr. Sanjivan Alkesh, Assistant Scientific Officer**

1. Training on "Triple Quadrupole GCMS Techniques & Operation (R1718A) at Agilent Technologies, Singapore from 20.10.15 to 23.10.15
2. Training on "Methods for the Detection of Veterinary Drug Residues in Food Products (Chloramphenicol, Tetracyclines & Sulphonamides)" organized by TAIEX Expert Mission under CITD Project at Export Inspection Agency, Mumbai (07.10.2015 to 09.10.2015)
3. Technical Training on "Implementation of method validation and quality control procedures for the detection in rice and peanuts of aflatoxins B1, B2, G1, G2 by HPLC-FLD and total (AFs) by Vicam Flurometry organized by EIC under CITD at Export Inspection Agency, Mumbai (01.06.2015 to 05.06.2015)

4. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
5. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
6. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
7. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
8. Workshop on Agilent Food Solution Workshop & EMR- Lipid Product Launch (26.11.15, On-site)
9. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)
10. Training on Basics of EA IRMS & its application in Honey Authenticity Testing by expert from SVI India Pvt. Ltd. (10.07.2015, On-site)

**Ms. Ravneet Kaur, Assistant Scientific Officer**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
3. Training on Analysis of Bromate in Packaged Drinking Water Using Ion Chromatography (27.01.2016 to 10.02.2016, In-House)
4. Workshop on Agilent Food Solution Workshop & EMR- Lipid Product Launch (26.11.15, On-site)
5. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)
6. Training on Basics of EA IRMS & its application in Honey Authenticity Testing by expert from SVI India Pvt. Ltd. (10.07.2015, On-site)

**Mr. Amit Agarwal, Assistant Scientific Officer**

1. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at EIA Kochi from 29.02.2016 to 04.03.2016
2. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at PBTI Mohali from 26.10.15 to 31.10.15
3. Training on Labeling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
4. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations imparted by expert from CFTRI, Mysore (03.02.16, on-site)
5. Training on Critical points in Ambient Air, Stack Emission Monitoring & Noise Monitoring (30.12.2015 on-site)
6. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
7. Training on Basmati Authentication Testing Using DNA Sequencer (12.09.2015, on-site)
8. Technical Training on RT-PCR based GM detection- Strategies and Methodology imparted by expert from CFTRI, Mysore (04.05.2015 to 07.05.2015, on-site)

**Ms. Shainandini Dogra, Junior Scientific Officer**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)

2. Orientation Training on Conformity Assessment- General requirements for Proficiency Testing as per ISO/IEC 17043:2010 (15.12.15, on-site)
3. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)

**Ms. Aarti Bhardwaj, Junior Scientific Officer**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)

**Ms. Anju Thakur, Junior Scientific Officer**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)

**Ms. Dimple Trikha, Junior Scientific Officer**

1. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at EIA Kochi from 29.02.2016 to 04.03.2016
2. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at PBTI Mohali from 26.10.15 to 31.10.15
3. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)

4. Training on Basmati Authentication Testing Using DNA Sequencer (12.09.2015, on-site)
5. Technical Training on RT-PCR based GM detection- Strategies and Methodology imparted by expert from CFTRI, Mysore (04.05.2015 to 07.05.2015, on-site)
6. Brain Storming seminar on Regulatory Aspects of GM Crops, Food & Nutrition organized at NABI, Mohali (27.04.16)

**Mr. Vikas C. Roy Scientific Assistant**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Workshop on Agilent Food Solution Workshop & EMR- Lipid Product Launch (26.11.15, On-site)
3. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)
4. Training on Basics of EA IRMS & its application in Honey Authenticity Testing by expert from SVI India Pvt. Ltd. (10.07.2015, On-site)

**Mr. Rajesh Panwar, Scientific Assistant**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Testing of Honey & Biscuits for Physiochemical Parameters as per FSSAI Regulations (27.01.2016 to 05.02.2016, In-house)
3. Training on Critical points in Ambient Air, Stack Emission Monitoring & Noise Monitoring (30.12.2015 on-site)
4. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)

**Ms. Satinder Kaur, Project Associate**

1. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at EIA Kochi from 29.02.2016 to 04.03.2016
2. Training on Detection of Living Modified Organisms/Genetically Modified Organisms Organized by Ministry of Environment, Forest & Climate Change, Government of India Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety imparted at PBTI Mohali from 26.10.15 to 31.10.15
3. Training on Labeling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
4. Training on Overview on Sample Handling as per Food Safety & Standards Act & Regulations (03.02.16, on-site)
5. Training on Critical points in Ambient Air, Stack Emission Monitoring & Noise Monitoring (30.12.2015 on-site)
6. Training on Basmati Authentication Testing Using DNA Sequencer (12.09.2015, on-site)
7. Technical Training on Analysis of Potato Viruses by ELISA Method (20.07.2015 to 24.07.2015, In House)
8. Technical Training on Analysis of Packaged drinking water samples for Microbiological parameters as per IS 13428 & IS 14543 (03.06.2015 to 03.07.2015, In House)
9. Technical Training on DNA isolation and purification from bacterial/ fungal culture (03.06.2015 to 17.06.2015, In House)
10. Technical Training on RT-PCR based GM detection- Strategies and Methodology imparted by expert from CFTRI, Mysore (04.05.2015 to 07.05.2015, on-site)

**Mr. Jitender Sharma, Project Assistant**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations imparted by expert from CFTRI, Mysore (04.02.16, on-site)
2. Training on Analysis of Bromate in Packaged Drinking Water Using Ion Chromatography (27.01.2016 to 10.02.2016, In-House)
3. Training on Estimation of Uncertainty Measurement (UM) in Chemical Testing (05.11.2015 to 06.11.2015, On-site)
4. Technical Training on Analysis of Water for Colour, Odour, Taste, Turbidity, pH, Nitrite, Chloride, Sulphate, Alkanity, Calcium, Magnesium, Sodium, Residual Free Chlorine, Sulphide, Hardness, Chloramines and Ammonia as per IS 10500 (04.05.2015 to 18.05.2015, In-house)
5. Training on Operation, Maintenance & New Instrumentation/Requirements for Stack Monitoring Systems organized by M/s Vayubodhan Upkaran Pvt. Ltd. At New Delhi (23.04.15 to 25.04.15)

**Mr. Naresh Bhadarge, Project Assistant**

1. Training on Estimation of Vitamin A & D in Food & Feed Samples (22.07.2015 to 05.08.2015, In-House)
2. Training on "Estimation of Sudan Dyes in Curried vegetables by LCMSMS (15.07.2015 to 29.07.2015, In-House)
3. Training on Basics of EA IRMS & its application in Honey Authenticity Testing by expert from SVI India Pvt. Ltd. (10.07.2015, On-site)
4. Technical Training on Pesticide Residue in Water (29.06.2015 to 11.07.2015, In-house)

**Ms. Komal Kumari, Project Assistant**

1. Training on "Analysis of Sudan dyes in Curried Vegetables (21.03.2016 to 31.03.2016 In-house)
2. Training on "Analysis of Vitamins using HPLC (21.03.2016 to 31.03.2016 In-house)

3. Training on Labeling requirements as per Food Safety Standards Act & Regulations (04.02.16, on-site)
4. Training on “Sample Preparation for Chromatography and Mass Spectrometry based Analysis (29.12.2015 to 28.01.2016, In –house)
5. Training on “Handling of Digital balance and Autopipettes (28.12.15, In-house)

**Ms. Priyanka, Project Assistant**

1. Training on Labelling requirements as per Food Safety Standards Act & Regulations (04.02.16, on-site)
2. Training on Testing of Honey & Biscuits for Physiochemical Parameters as per FSSAI Regulations (27.01.2016 to 05.02.2016, In-house)
3. Training on “Estimation of Vitamin C in Food Samples and Sodium Chloride content in Salt Samples (22.01.2016 to 29.01.2016, In- House)
4. Training on “Proximate Analysis of Food Samples (31.12.2015 to 21.01.2016, In- House)
5. Training on “Handling of Digital balance and Autopipettes (30.12.15, In-house)

## 12 INVITED LECTURES / TALKS

### **Dr. S.S. Marwaha, Chief Executive Officer**

1. Lecture on “Research & Development And Role Of Skill Development For Achieving Goals” during the refresh course organized by Punjabi University, Patiala on 11.06.2015
2. Delivered a Lecture as Key note speaker on “Food Processing and Analysis” during the International Conference and Chaired a technical session on “Trends and Innovations in food processing packaging” during the food processing and analysis meeting organized by Select Biosciences India on 20.08.2015
3. Delivered a keynote address on “Research & Development in Food and Safety issues” during the technical session on “Safety aspect for food and dairy products during the Food Processing Analysis meeting organized by Select Biosciences on 20.08.2015.
4. Delivered a lecture “ Innovation in Food and Quality and Safety issues” during the National Conference on “Applicability of Biotechnology for sustainability development at DAV College, Amritsar on 16.10.2015.
5. Delivered a lecture and chaired the technical session during the conference on Biotechnology at Chandigarh University, Gharuan on 23.12.2015

### **Dr. Ajit Dua, Senior Scientist**

1. Delivered lecture on “Laboratory Accreditation – An Overview” in Winter School on Advanced Techniques and Novel Approaches for Quality and Safety Evaluation of Dairy Foods” organized by Dairy Chemistry Division ICAR-National Dairy Research Institute Karnal on 23.11.15.
2. Lecture on “Laboratory Quality Management System at PBTI” for the Delegates of International Training course on QMS organized by BIS

### 13. PARTICIPATION IN STATE / NATIONAL LEVEL BODIES

**Dr. S.S. Marwaha, Chief Executive Officer**

1. Nominated Member of the committee of MHRD, Govt. of India to develop the concept paper for sampling and testing of Mid Day Meals scheme.
2. Nominated Member of Research Council of PAU, Ludhiana
3. Continued Director on the Board of Directors of Export Inspection Council of India (EIC)
4. Nominated Member of Governing Body of Punjab State Council for Science and Technology, Chandigarh
5. Continued Member of Board of Directors of Section 25 Company registered by Govt. of Punjab and Development of Biotechnology (DBT), Govt. of India for the development of Mohali Food Biotechnology Park at Knowledge City, Mohali
6. Nominated Member of steering committee of institutions of Knowledge City, Sector-81, Mohali
7. Continued Member of Scientific Panel for “Methods of Sampling and Analysis” for Food Safety and Standards Authority of India (FSSAI).
8. Continued Member of “Research Advisory Committee” of Pushpa Gujral Science City (PGSC). Kapurthala
9. Continued Member of the State Level Committee for issuing NOC to conduct field trials of GM crops
10. Continued Member of the State Food Processing Development Council (SFPDC).
11. Nominated Member of Technical Expert Committee of Food and Drug Administration (FDA), Dept. of Health & Family Welfare, Punjab
12. Nominated Member of Academic Council of Central University Punjab, Bathinda.
13. Nominated Member of Council and Forum of University Industry Interaction of Central University Punjab, Bathinda

14. Continued Member of Institutional Biosafety Committee and Visiting Professor of Central University, Punjab Bathinda.
15. Member of Board of Studies of the Centre for Biochemistry & Microbial Sciences and Centre for Animal Sciences of Central University Punjab, Bathinda.
16. Nominated Member of Academic Council of Chandigarh University, Mohali
17. Nominated Member of Board of Studies of Pharmaceutical Sciences and Biotechnology, Chandigarh University, Mohali
18. Continued Member of Advisory Committee of Shri Guru Granth Sahib World University, Fatehgarh Sahib
19. Continued Advisory Member and Visiting Professor of Desh Bhagat University, Mandi Gobindgarh
20. Continued Chairman of Research Advisory Committee of Shaheed Udham Singh College of Engineering and Technology, Tangori
21. Continued Member of Core Committee of Panjab University for Institution / Industry Partnership Programme (CIIPP)
22. Nominated Member of the advisory committee of MCM DAV college and SD college Chandigarh for their grading under Star Colleges Scheme of DBT, GOI.
23. Continued State Water Analyst notified by Punjab Govt.
24. Continued Authorized Signatory of PBTI for CPCB recognition of PBTI's Laboratory under EPA
25. Continued Authorized Signatory for PPCB recognition of PBTI's Laboratory as Class 'A' Laboratory.
26. Life Member of Indian Association of Air Pollution Control (AAPC).
27. Life Member of Association of Microbiologist of India (AMI)
28. Member of AOAC India Chapter.

**Dr. Ajit Dua, Senior Scientist**

1. Expert Member in Scientific Panel for Biological Hazards, FSSAI, GOI since 05.02.13.
2. Member Working Group for recommending Biological Standards of Fruits and Vegetables, FSSAI, GOI
3. Member Working Group for recommending Biological Standards of Spices, FSSAI, GOI
4. Member Working Group for drafting Water Analysis Manual for FSSAI, GOI.
5. Member Working Group for drafting the Manual on Good Food Laboratory Practices by FSSAI, GOI
6. Nominated Member of Laboratory Services, Buildings and Works Committee (LSBWC) of National Institute of Pharmaceutical Education and Research (NIPER) by Board of Governors, NIPER, since 04.05.12
7. Member of the committee for finalizing specifications for the purchase of Equipment for Sardar Swaran Singh National Institute of Renewable Energy (SSNIRE) Kapurthala.
8. Nominated Member of the committee for screening of Logo Design for Knowledge City, Mohali.
9. Empanelled by NABL, GOI as Technical Assessor for Biological Field since 2011 : Has audited 4 laboratories for compliance against ISO/IEC 17025 on behalf of NABL during the period under report .
10. Continued Notified State Water Analyst by Punjab Govt. and Notified Govt. Analyst by Ministry of Environment and Forest (MOEF), Govt. of India
11. Chairperson of the committee for Performance Evaluation of JRF at NABI, Mohali.
12. Nominated as member of Advisory Board of Sri Guru Teg Bahadur Khalsa College, Anadpur Sahib.
13. Member of the working Group constituted by FSSAI, GOI to give recommendations on the stakeholders comments on Manuals of Methods of Analysis.

## 14 MEMBERSHIP OF PROFESSIONAL BODIES

1. Life Member of Association of Food Scientists and Technologists (India), **AFSTI**, Mysore
2. Life Member of Indian Association of Air Pollution Control (**IAAPC**).
3. Life Member of Association of Microbiologist of India (**AMI**)
4. Annual Member of **AOAC** India Chapter.

## 15 PUBLICATIONS

### Dr. Ajit Dua, Senior Scientist

1. **Ajit Dua** 2015. Laboratory Accreditation –An Overview; In “Compendium of Lectures Winter School on Advanced Techniques and Novel Approaches for Quality and Safety Evaluation of Dairy Foods” compiled by Dairy Chemistry Division ICAR- National Dairy Research Institute Karnal.
2. Rekha Sharma, **Ajit Dua**, Sonika Ahlawat , RAK Aggarwal and MS Tantia, 2016 “Milk Metabolites of Protein: Indigenous Cow vis-à-vis Exotic and Crossbred Cattle” In Compendium of 44th Dairy Industry conference on the topic of “Dairying in India by 2030: Make in India”, from February 18-20, 2016 at ICAR-NDRI, Karnal. Abstract on Page No. 143.
3. Rekha Sharma, **Ajit Dua**, Sonika Ahlawat, RAK Aggarwal and MS Tantia 2016 “Exploring Superiority of Indigenous Cow Milk by Fat Metabolite Profiling” In Compendium of National Symposium on Policy Planning for Livelihood Security through Domestic Animal Biodiversity and XIII Annual Convention of SOCDAB, held at Faculty of Veterinary Sciences and Animal Husbandry (SKUAST-J), Jammu from February 11-12, 2016. Abstract on Page No 223

### Dimple Trikha, Junior Scientific Officer

1. Rather R A, Malik V S, **Trikha D**, Bhat O, Dhawan V. Aqueous Terminalia arjuna extract modulates expression of key atherosclerosis-related proteins in a hypercholesterolemic rabbit: A proteomic-based study. Proteomics Clin. Appl. 2016; 00; 1–10. (PMID: 26934842).
2. Kapoor D, **Trikha D**, Vijayvergiya R, Parashar KK, Kaul D, Dhawan V. Short-term adjuvant therapy with Terminaliaarjuna attenuates ongoing inflammation and immune-imbalance in patients with stable coronary artery disease: In vitro and In vivo evidence. J CardiovascTransl Res. 2015; 8; 173-86. (PMID: 25827448).

3. V. Dhawan, **D. Trikha**, et al., Proteomic analysis of differential protein expression in high fat diet-induced hypercholesteromic rabbits. *Lipid and Lipoproteins* 2015; 241; e32.

## 16 EVENTS 2015-16

### 16.1 IMPORTANT MEETINGS

Meeting	Date
<b>Governing Council</b>	
24 <sup>th</sup> meeting of Governing Council	29.09.2015
25 <sup>th</sup> meeting of Governing Council	29.02.2016
<b>Core Committee</b>	
21 <sup>st</sup> meeting of Core Committee	17.07.2015
<b>Management Review Committee</b>	
12 <sup>th</sup> meeting of Management Review committee	21.03.2016

### 16.2 AUDITS BY EXTERNAL AGENCIES

1. **National Accreditation Board for Testing & Calibration Laboratories (NABL)**  
 - Audit of PBTI's facilities for Management and Technical requirements as per ISO 17025 : 2005 was conducted by NABL on 4<sup>th</sup> & 5<sup>th</sup>, April 2015 for renewal of its accreditation.
2. **Bureau of Indian Standards (BIS)** – Audit of PBTI's facilities for renewal of its approval was conducted by BIS on 10<sup>th</sup> & 11<sup>th</sup> March 2016

## **17. INFRASTRUCTURE DEVELOPMENT IN KNOWLEDGE CITY, SECTOR-81, MOHALI**

The work for the construction of PBTI's building was awarded to PWD (B&R) on 20.11.2014 after the approval of Society in its 8<sup>th</sup> meeting. The building plans including civil works, public health services and electrical works for the construction of PBTI's building in Knowledge City, Sector-81, Mohali were finalized by the sub-committee and approved by Empowered Building Construction Committee (EBCC). The cost estimates of construction, public health and electric work were got approved from Technical Advisor to Hon'ble Chief Minister, Punjab. The administrative approval was given to PWD (B&R) for inviting the tender for construction of PBTI's building.

The process for working out the details of the Technical Infrastructure Development was initiated.

# **18. PHOTO GALLERY OF MAJOR EVENTS IN 2015-16**



**Visit of Advisory Committee of APEDA on 13.12.2015**



**Visit of Delegates of International Training course organized by Bureau of Indian Standards (BIS) to PBTI on 13.02.2016**



**Visit of Delegates of International Training course organized by Bureau of Indian Standards (BIS) to PBTI on 13.02.2016**



**Training Programme on detection of Living Modified Organisms imparted by experts from Sweden, organized by MOEF&CC at PBTI, Mohali from 26<sup>th</sup> – 31<sup>st</sup> October, 2015**



**Training Programme on detection of Living Modified Organisms imparted by experts from Sweden, organized by MOEF&CC at PBTI, Mohali from 26<sup>th</sup> – 31<sup>st</sup> October, 2015**



**Visit of Sh. Hussan Lal, IAS, Commissioner, Food and Drugs Administration (FDA), Department of Health and Family Welfare, Punjab and his team to PBTI in Oct., 2015**



**Signing of MOU for providing proficiency testing services in Food and Environment Sectors in September, 2015**



**Hands on Training on Detection of LMOs/GMOs by experts from Sweden organized by MOEF&CC Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety at EIA Kochi from 29.02.2016 to 04.03.2016.**



**Hands on Training on Detection of LMOs/GMOs by experts from Sweden organized by MOEF&CC Under the UNEP-GEF Supported Phase II Capacity Building Project on Biosafety at EIA Kochi from 29.02.2016 to 04.03.2016.**



**Participation of PBTI in Punjab Investor's Summit at ISB, Mohali  
from 28 – 29<sup>th</sup> October, 2015**



**Participation of PBTi in training on Detection of LMOs/GMOs at Intertek-Scan Bi Diagnostics, Sweden organized by MOEF&CC for National Referral Laboratories from 07.12.15 to 11.12.15**

## 19. ACCOUNTS STATEMENT

The Annual Statement of Accounts of PBTI for the F.Y. 2015-16 has been finalized and prepared in the prescribed format. This includes the Balance Sheet, Income & Expenditure Account and relevant schedules. The accounts have been prepared on accrual basis. The annual accounts of PBTI of year in question have been audited by a Firm of M/s Chambyal and Associates, Chartered Accountants who had been appointed as Statutory Auditor of PBTI by the Governing Council.

The salaries, wages and allowances of PBTI's staff are being paid under Non Plan Scheme, whereas, the contingencies and committed expenditures are paid under the Plan Scheme by the State Govt. During the period under report Rs. 144.00 lacs have been received under non plan scheme on account of salary, wages and allowances.

The Balance Sheet for the year 2015-16 is placed on the proceeding pages :

**M S CHAMBYAL AND ASSOCIATES**  
**CHARTERED ACCOUNTANTS**  
 # 14, BLOCK NO 2004 SECTOR 32 C CHANDIGARH 160030  
 Email : ca.ms.chambyal@gmail.com, Mob : 9888127510

**Audit Report U/S 12 A(b)**  
**FORM NO. 10B**  
 (See rule 17B)

**AUDIT REPORT UNDER SECTION 12A(b) OF THE INCOME TAX ACT 1961, IN THE  
 CASE OF CHARITABLE OR RELIGIOUS TRUSTS OR INTUTUTIONS.**

1. We have examined the attached Balance Sheet of **Punjab Biotechnology Incubator – SAS Nagar** as on March 31<sup>st</sup> ,2016 and the Income & Expenditure Account for the period ended on that date which are in agreement with the books of account maintained by the said Society.
2. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of the audit.
3. In our opinion, proper books of account have been kept by the head office and the branches of the above-named Society so far as appears from our examination of the books.
4. In our opinion, and to the best of our information and according to information given to us, the said accounts give a true and fair view-
  - (i) In the case of the balance sheet, of the state of affairs of the above named institution as at March 31,2016, and
  - (ii) In the case of the income and expenditure account, of the deficit of its accounting year ending on March 31, 2016.

The prescribed particulars are annexed hereto.

Dated: 14.09.2016  
 Place: SAS Nagar

For M S Chambyal & Associates  
 Chartered Accountants  
 CA Mastan Singh Chambyal  
 Partner

## ANNEXTURE 1

## STATEMENT OF PARTICULARS

## APPLICATION OF INCOME FOR CHARITABLE OR RELIGIOUS PURPOSES-F.Y 31.3.2016

1. a) Amount of income of the previous year applied to charitable or religious purposes in India during that year. Rs. 37647358.22
- b) Amount of income of years prior to previous year applied to charitable or religious purposes in India during that year out of the accumulated income. --
2. Whether the trust/institution has exercised the option under clause (2) of the Explanation to section 11(1) ? If so, the details of the amount of income deemed to have been applied to charitable or religious purposes in India during the previous year. -----
3. Amount of income accumulated or set apart/finally set apart for application to charitable or religious purposes, to the extent it does not exceed 15 per cent of the income derived from property held under trust wholly/in part only for such purposes. -----
4. Amount of income eligible for exemption under section 11(1) (C) (Give details). N.A
5. Amount of income in addition to the amount referred to in item 3 above, accumulated or set apart for specified purposes under section 11(2). -----
6. Whether the amount of income mentioned in item 5 above has been invested or deposited in the manner laid down in section 11(2)(b)? If so, the details thereof. N.A
7. Whether any part of the income in respect of which an option was exercised under clause (2) of the Explanation to section 11(1) in any earlier year is deemed to be income of the previous year under section 11(1B)? If so, the details thereof. N.A
8. Whether, during the previous year, any part of income accumulated or set apart for specified purposes ; under section 11(2) in any earlier year- N.A
  - (a) has been applied for purposes other than charitable or religious purposes or has ceased to be accumulated or set apart for application thereto, or NO
  - (b) has ceased to remain invested in any security referred to in section 11(2) (b)(i) or deposited in any account referred to in section 11(2)(b)(ii) or section 11(2)(b)(iii), or -----
  - (c) has not been utilized for purposes for which it was accumulated or set apart during the period for which it was to be accumulated or set apart , or in the year immediately following the expiry thereof ? If so, the details thereof. N.A

**II. APPLICATION FOR USE OF INCOME OR PROPERTY FOR THE BENEFIT OF PERSONS REFERRED TO IN SECTION 13(3)**

1. Whether any part of the income or property of the trust/institution was lent, or continues to be lent, in the previous year to any person referred to in section 13(3) (hereinafter referred to in this Annexure as such person)? If so, give details of the amount, rate of interest charged and the nature of security, if any  
N.A.
2. Whether any land, building or other property of the trust/institution was made, or continued to be made, available for the use of any such person during the previous year? If so, give details of the property and the amount of rent or compensation charged, if any.  
N.A.
3. Whether any payment was made to any such person during the previous year by way of salary, allowance or otherwise? If so, give details,  
N.A.
4. Whether the services of the trust/institution were made available to any such person during the previous year. If so, give details thereof together with remuneration or compensation received. If any,  
N.A.
5. Whether any share, security or other property was purchased by or on behalf of the trust/institution during the previous year from any such person. If so, give details thereof together with the consideration paid.  
N.A.
6. Whether any share, security or other property was sold by or on behalf of the trust/institution during the previous year to any such person. If so, give details thereof together with the consideration received.  
N.A.
7. Whether any income or property of the trust/institution was diverted during the previous year in favor of any such person? If so, give details thereof together with the amount of income or value of property so diverted.  
N.A.
8. Whether any income or property of the trust/institution was used or applied ; during the previous year for the ; benefit of any such person in any other manner. If so, give details.  
N.A.

**III. INVESTEMENT HELD AT ANY TIME DURING THE PREVIOUS YEAR(S) IN CONCERNS IN WHICH PERSONS REFERRED TO IN SECTION 13(3) HAVE A SUBSTANTIAL INTERES.**

Sr. No.	Name and Address of the concern	Where the concern is a company. Number and class of shares held	Nominal value of the investment	Income from the investment	Whether the amount in col.4 exceeded 5 per cent of the capital of concern during previous year- Say Yes/No
1	2	3	4	5	6
-----Not Applicable-----					

Dated: 14.09.2016  
Place: SAS Nagar

For M S Chambyal & Associates

Chartered Accountants

CA Mastan Singh Chambyal  
Partner

PUNJAB BIOTECHNOLOGY INCUBATORBALANCE SHEET AS AT 31ST MARCH, 2016

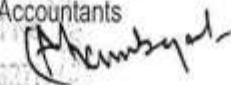

SOURCES OF FUNDS	SCHEDULE	AMOUNT (Rs.)
Capital Fund	A	141237834.42
Unspent Fund	B	53719929.60
<b>Grand Total</b>		<u><u>194957764.02</u></u>
 <b>APPLICATION OF FUNDS</b>		
Fixed Assets	C	104716474.75
Current Assets, Loans & Advances	D	103414189.28
<b>Less: Current Liabilities &amp; Provisions</b>	E	<u>13172900.01</u> 90241289.27
Significant Accounting Policies & Notes to Accounts	F	-
<b>Grand Total</b>		<u><u>194957764.02</u></u>


As per report of even date attached

For M.S. Chambyal & Associates  
Chartered Accountants

Date : 14.09.2016  
Place : SAS Nagar

For Punjab Biotechnology Incubator

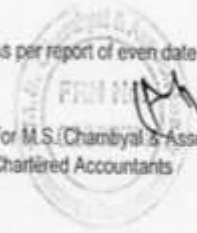
  
  
AF & AO

  
Chief Executive Officer

PUNJAB BIOTECHNOLOGY INCUBATORINCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH, 2016

EXPENDITURE	Schedule	AMOUNT(Rs)	INCOME	Schedule	AMOUNT(Rs)
Opening stock		3035837.00	Grant Received from Govt. of Punjab		14400000.00
Purchases			Interest Received	G	1869035.82
- Lab Chemicals		3382560.00	Testing fees		20653455.00
- Lab Consumables		2740329.00	Team Mobilisation Charges		110999.00
- Lab Glassware		123956.00	Miscellaneous Income	H	614168.40
Audit fees		21900.00	Closing Stock		2981596.00
Consultancy Charges		154000.00	Excess of Expenditure over Income		20132567.77
Depreciation		16378667.38			
Electricity & Water Expenses		2984904.00			
Establishment Expenses	I	16582039.00			
Foreign Exchange Fluctuation		70365.00			
Insurance Expenses		65120.00			
Legal & Professional Charges		136150.00			
Office Expenses	J	2217846.00			
Other Expenses	K	400173.66			
Quality Assurance/Technical Audit Exp.	L	980128.85			
Rent		5583477.00			
Repair & Maintenance Expenses	M	4059690.00			
Running & Maintenance Expenses					
- Car		212971.00			
- Tata Winger		78577.00			
Security Charges		476727.00			
Sitting fees		218300.00			
Testing Charges		292961.00			
Travelling Expenses		565043.10			
		60761521.99			60761521.99

As per report of even date attached



For M.S. Chambyal & Associates  
Chartered Accountants

Date : 14.09.2016  
Place : SAS Nagar

For Punjab Biotechnology Incubator



AF & AO

Chief Executive Officer

## PUNJAB BIOTECHNOLOGY INCUBATOR

**SCHEDULE A : CAPITAL FUND**

PARTICULARS	AMOUNT(RS)
Capital fund	
- opening balance	147141459.19
Add: Transfer from unspent balances (Being amount utilised during the year)	14228943.00
Less: deficit during the year (Transfer from Income & Exp. A/c)	20132567.77
<b>Total</b>	<b>141237834.42</b>

**SCHEDULE B : UNSPENT FUND**

PARTICULARS	AMOUNT(RS)
Implementation of scheme	
(A) Opening balance (Honey & Basmati Project)	23906720.87
Add: Grants received during the year	0.00
Add: Interest received on the grant accounts	1837531.73
Less: Amount spent on Fixed Assets	13348569.00
Unspent Balance	12395683.60
(B) Opening balance (From PSIEC-Building)	0.00
Add: Grants received during the year	40000000.00
Add: Interest received on the grant accounts	613469.00
Less: Amount spent on Fixed Assets	0.00
Unspent Balance	40613469.00
(C) Opening balance (UNEP GEF)	0.00
Add: Grants received during the year	1832674.00
Add: Interest received on the grant accounts	0.00
Less: Amount spent on Fixed Assets	880374.00
Less: Amount spent on consumables	241523.00
Unspent Balance	710777.00
<b>Total Unspent Balance</b>	<b>53719929.60</b>

**SCHEDULE E: CURRENT LIABILITIES & PROVISIONS**

PARTICULARS	AMOUNT(RS)
Earnest Money payable	1621864.00
Expenses payable	544019.00
Sundry Creditors	10771149.01
TDS payable	235868.00
<b>Total</b>	<b>13172900.01</b>

**LIST OF EXPENSES PAYABLE**

PARTICULARS	AMOUNT(RS)
Audit fees	21900.00
Electricity Expenses	260760.00
EPF payable	223283.00
Telephone expenses	1266.00
Professional Charges	36810.00
<b>Total</b>	<b>544019.00</b>

As per report of even date attached

For M.S. Chambyal & Associates  
Chartered AccountantsDate : 14.09.2016  
Place : SAS Nagar

For Punjab Biotechnology Incubator


  
AF&AO


  
Chief Executive Officer

## PUNJAB BIOTECHNOLOGY INCUBATOR

## Schedule C : FIXED ASSETS

PARTICULARS	W.D.V as on 1.04.2015	ADDITIONS		TOTAL	RATE (In %)	DEPRECIATION	W.D.V as on 31.03.2016
		upto 30.09.15	after 30.09.15				
Furniture & Fixtures:	5019950.17	8892.00	0.00	5028742.17	10	502874.22	4525667.95
Electrical Fitting & Installation	1761268.05	0.00	0.00	1761268.05	10	176126.81	1585141.25
Computers & Peripherels	68229.10	122113.00	60924.00	251266.10	60	132482.46	118783.64
Computer Software	71096.64	0.00	0.00	71096.64	60	42657.98	28438.66
Plant & Machinery	91440.32	0.00	0.00	91440.32	15	13716.05	77724.27
Fire Extinguisher	129531.37	0.00	0.00	129531.37	15	19429.71	110101.67
Office Equipments	176222.09	0.00	0.00	176222.09	15	26433.31	149788.77
Electrical Equipments	690877.59	1600.00	31763.00	724240.59	15	106253.86	617986.73
Generator	315441.33	0.00	0.00	315441.33	15	47316.20	268125.13
Vehicle							
-Car	119471.88	0.00	0.00	119471.88	15	17920.78	101551.10
- Cycle	544.04	0.00	0.00	544.04	15	81.81	462.44
- Tata Winger	641212.97	0.00	0.00	641212.97	15	96181.95	545031.02
Lab Equipments	56839146.02	962061	102924	57904131.02	15	8677900.35	49226230.67
Library Books	182097.08	18806.00	1070.00	201973.08	15	30215.71	171757.37
Assets Under Aside Project							
Furniture & Fixtures	4051352.95	0.00	137588.00	4188940.95	10	412014.70	3776926.26
Electrical Fitting & Installation	614280.35	27221.00	0.00	641501.35	10	64150.14	577351.22
Computers & Peripherels	104330.50	0.00	0.00	104330.50	60	62598.30	41732.20
Computer Software	13082.80	0.00	0.00	13082.80	60	7849.88	5233.12
Fire Extinguisher	156933.65	0.00	0.00	156933.65	15	23540.05	133393.60
Electrical Equipments	799629.15	36630.00	71336.00	907595.15	15	130789.07	776806.08
Lab Equipments	20193474.38	958175	10469380.00	31621029.38	15	3957950.91	27663078.47
Equipments(DG Set-Basmatl)Not put to use	0.00	61600.00	1586639.00	1648239.00	0	0.00	1648239.00
Lab Equip.(UNEP-GEF)Not put to use	0.00	0.00	832674.00	832674.00	0	0	832674.00
Lab Furniture (UNEP-GEF Project)	0.00	0.00	47700.00	47700.00	10	2385.00	45315.00
Lab Equipments (under MoFPI Grant)	12175130.70	0.00	20386.00	12195516.70	15	1827798.56	10367718.15
Capital Work-in-Progress (Building)	1064546.00	95250.00	161221.00	1321017.00		0.00	1321017.00
<b>Total</b>	<b>105279189.14</b>	<b>2292348.00</b>	<b>13523605.00</b>	<b>121095142.14</b>		<b>16378667.38</b>	<b>104716474.75</b>

As per report of even date attached

For M.S. Chambyal & Associates  
Chartered AccountantsDate : 14.09.2016  
Place : SAS Nagar

For Punjab Biotechnology Incubator

Chief Executive Officer

## PUNJAB BIOTECHNOLOGY INCUBATOR

SCHEDULE D: CURRENT ASSETS, LOANS & ADVANCES

PARTICULARS	AMOUNT(Rs)	AMOUNT(RS)
<b>Bank Balance:</b>		
Saving account in Corporation Bank	2572706.31	
Saving account in Punjab National Bank	109797.86	
Saving account (IGNOU -6022)	385.00	
Current account in State Bank of India	12552.00	2695441.17
<b>Fixed deposits with Corporation Bank</b>	81398091.22	81398091.22
<b>Security Deposits</b>		
Chandigarh Gases (for Argon Gas Cylinder)	30000.00	
Mohali Gas Enterprises (for LPG Cylinder)	16000.00	
Guru Hargobind Thermal Plant, Bathinda	5000.00	
Khaira Trabders (for waters bottles)	1050.00	
Food Safety Standards Authority of India, New Delhi	100000.00	
Punjab State Power Corporation Ltd.	479803.00	631853.00
<b>Advances to staff</b>		
Dinesh Kumar	9930.00	9930.00
Cash in hand	57935.64	
Prepaid Expenses- (CMC & AMC)	291150.00	
Closing Stock	2981596.00	
Interest Accrued on Fixed Deposit	185036.42	
Tax Deducted at Source	7334414.25	
Sundry Debtors		
-Outstanding for a period less than 6 months	6871125.14	
-Outstanding for a period exceeding 6 months	756312.44	7627437.58
Service Tax-Advance	201304.00	18678873.89
<b>Total</b>		<b>103414189.28</b>

As per report of even date attached

For M.S. Chambyal & Associates  
Chartered Accountants

Date : 14.09.2016  
Place :SAS Nagar

For Punjab Biotechnology Incubator

*Arinder Singh*  
AF&AO

*N.S.*  
Chief Executive Officer

## PUNJAB BIOTECHNOLOGY INCUBATOR

**SCHEDULE G : INTEREST RECEIVED**

PARTICULARS	AMOUNT(RS)
Interest in FDR'S	1201187.42
Interest on Saving Bank account	223752.40
Interest on Income Tax Refund	444096.00
<b>Total</b>	<b>1869035.82</b>

**SCHEDULE H : MISCELLANEOUS INCOME**

PARTICULARS	AMOUNT(RS)
Application fee	35950.00
Tender fee	5000.00
Training fee	50000.00
Biotec Consortlum Fee	49998.00
Creditors Write Back	463000.50
Misc. Income	10219.90
<b>Total</b>	<b>614168.40</b>


**SCHEDULE I : ESTABLISHMENT EXPENSES**

PARTICULARS	AMOUNT(RS)
Salary & Wages	14958174.00
Contribution to Employees Provident fund	1358914.00
Medical reimbursements	48543.00
Staff Welfare	201498.00
Accidental Insurance Charges	14910.00
<b>Total</b>	<b>16582039.00</b>

**SCHEDULE J: OFFICE EXPENSES**

PARTICULARS	AMOUNT(RS)
Cleaning & sanitation	49273.00
Diesel DG Set	136025.00
Hiring of taxi	189201.00
Manpower/helper Charges	1255971.00
Newspapers & Periodicals	2903.00
Printing & Stationary	381342.00
Postage & courier	30437.00
Refreshment charges	63292.00
Subscription & Publications	6360.00
Telephone expenses	102842.00
<b>Total</b>	<b>2217646.00</b>

As per report of even date attached



For M.S. Chambyal & Associates  
Chartered Accountants

For Punjab Biotechnology Incubator

Date : 14.09.2016

Place : SAS Nagar

   
-AF&AO- Chief Executive Officer

**SCHEDULE K: OTHER EXPENSES**

PARTICULARS	AMOUNT(RS)
Bank Charges	8060.00
Debtors written off	117414.98
Misc. Expenses	2282.68
Fees & Taxes	6300.00
Recruitment Charges	79185.00
Sample Collection Charges	69930.00
Training fees	78164.00
Tender expenses	18032.00
Swatch Bharat Cess	20805.00
<b>Total</b>	<b>400173.66</b>

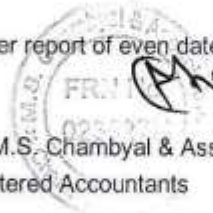
**SCHEDULE L: Quality Assurance/Technical Audit Expenses**

PARTICULARS	AMOUNT(RS)
Accreditation/Recognition Fees	92000.00
Caliberation Charges	478880.00
EIC/NABL Audit Expenses	173927.85
Proficiency testing charges	114521.00
Performance verification charges	120800.00
<b>Total</b>	<b>980128.85</b>

**SCHEDULE M: REPAIR & MAINTENANCE EXPENSES**

PARTICULARS	AMOUNT(RS)
Repair & maintenace- General	171127.00
Repair & maintenace-Electrical	299349.00
Repair & maintenace-Computer	88608.00
Repair & maintenace-Lab equipments	1368707.00
Annual Maintenance Charges-Equipment	983192.00
Annual Maintenance Charges-Others	1148707.00
<b>Total</b>	<b>4059690.00</b>

As per report of even date attached



For M.S. Chambyal & Associates  
Chartered Accountants

For Punjab Biotechnology Incubator

Date : 14.09.2016  
Place : SAS Nagar


  
 AF&AO Chief Executive Officer

**PUNJAB BIOTECHNOLOGY INCUBATOR – SAS NAGAR  
ANNEXURE TO THE BALANCE SHEET  
NOTES TO ACCOUNTS**

**SCHEDULE: F**

**A. SIGNIFICANT ACCOUNTANT POLICIES**

**1. CONVENTION**

The accounts have been prepared on the mercantile/accrual basis under the historical cost convention and on the accounting principle of a going concern. Applicable Accounting Standards issued by the Institute of Chartered Accountants of India and with the generally accepted accounting principles.

**2. REVENUE RECOGNITION**

Punjab Biotechnology Incubator is testing laboratory and revenue is recognized on accrual basis.

**3. FIXED ASSETS AND DEPRECIATION**

Fixed Assets have been shown at historical cost. However, no cost of Land (measuring 01 acre) has been taken into account as the same has been allotted by Punjab Govt. through Punjab State Council for Science & Technology free of Cost vide letter No. PSCST/3932 dated 13.08.2014. Depreciation is provided on written down value method at the rates and in the manner prescribed in the Income tax Act, 1961 on the assets put to use during the year under audit. Cost is inclusive of Freight, Duties, Levies and any other directly attributable cost of bringing the assets to their working condition for intended use. No Depreciation has been provided on the Assets not put to use.

**4. GOVERNMENT GRANTS**

Government grants received are being treated as capital fund contribution received in case of capital grants and income in case of revenue grants and are being depicted in accounts as funds received from the government.

**5. EMPLOYEE BENEFITS**

Employees of the PBTI are covered under the Gratuity Act amended from time to time. Further, they are also having the earned leave facility as provided in the service rules. However, PBTI has not maintained any provision/reserve for payment of Gratuity and Leave encashment to its employees under employee's benefits.

**6. FOREIGN CURRENCY TRANSACTIONS**

Initial recognition – Foreign currency transactions are recorded in the reporting currency, by applying to the foreign currency amount the exchange rate between the reporting currency and the foreign currency at the date of transaction.



Conversion – Foreign currency monetary items are retranslated using the exchange rate prevailing at the reporting date.

Exchange Differences - Exchange differences arising on the settlement of monetary items , or on reporting such monetary items at rates different from those at which they were initially recorded during the year, or reported in the previous financial statements , are recognized as income or as expense in the year in which the arise.

## B. NOTES ON ACCOUNTS

### 1. Government Grants

#### Central Government

A Grant of Rs. 75.00 Lakhs has been sanctioned to Punjab Biotechnology incubator (PBTI) under UNEP-GEF Project from Ministry of Environment Forests and Climate Change (MoEF&CC), Government of India vide contract dated 30<sup>th</sup> December, 2015. Out of the said amount, Biotech Consortium India Limited has placed order of equipments worth Rs. 61.61 Lakhs with the vendors vide letter No. CONS/VA/FSP/Phase-II/73 Dated 25<sup>th</sup> January, 2016 and Rs. 3.39 Lakhs has been retained by it towards meeting Foreign Exchange Fluctuations, any unforeseen extra costs etc. vide letter no. quoted above. Fixed Assets amounting to Rs. 8,32,674/- has been received by PBTI upto 31<sup>st</sup> March, 2016 and the same have been taken under Fixed Assets. As per the certificate of Store Purchase officer of PBTI, the same have not yet put to use in the year under audit. Balance amount of Rs. 10.00 has been received by PBTI. Out of said Rs. 10.00 Lakhs, consumables amounting to Rs. 2,41,523/- and Office Furniture amounting to Rs. 47,700/-have been purchased and the balance amount is shown under the unspent balances.

#### State Government

A grant of Rs. 4.00 crores received from Punjab Small Indus. & Export Corp. Ltd. for Building Construction during the FY 2015-16 vide letter no. PSIEC/Exp/ASIDE/673 dated 11.01.2016.

### 2. Current Assets, Loans & Advances

The Current assets are approximately of the value stated, if realized in the ordinary course of business. The provision for all known liabilities is adequate and not in excess of the amount considered reasonably necessary.

### 3. Closing stock is taken as valued and certified by Store & Purchase Officer, PBTI on cost or market price whichever is low.

### 4. Contingent Liabilities

Punjab Biotechnology incubator (PBTI) has given performance bank guarantee in favor of Export Inspection Agency-Delhi amount of Rs. One lakh vide guarantee No. PBG 2015/2 dated 13.02.2015 from Corporation Bank in respect of approval granted under EIC's Laboratory Approval Scheme.

5. Sundry Debtors and Sundry Creditors balances are subject to confirmation.
6. The Society is registered under the Section 12AA of the Income Tax Act,1961 vide S.no. 180-P in the register of application u/s 12A(a) maintained in the office of the Commissioner of Income Tax, Chandigarh – II w.e.f 08.07.2005. No provision for income tax has been made thereof.
7. Tax deducted at source shown under Schedule D amounting to Rs.7334414.25 includes Tax deducted at source during the year under audit amounting to Rs.2035545.20 and the balance amount pertains to previous year. Steps should be taken to get the refund of the same at earliest.
8. Schedule 'A' to 'M' forms an integral part of Balance Sheet and Income & Expenditure Account.

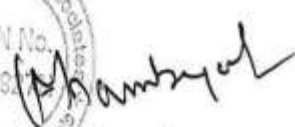
As per report of even date attached



For M.S. Chambyal & Associates  
Chartered Accountants

Date : 14.09.2016  
Place : SAS Nagar

For Punjab Biotechnology Incubator

  
M.S. Chambyal  
AF&AO

  
Chief Executive Officer