

## 64<sup>th</sup> Training Programme of NITUB

On the use, maintenance and trouble-shooting of Ultra-Violet, Visible and Infrared Spectrophotometer (UV-VIS and IR)

Venue: Centre for Advanced Research in Sciences (CARS), University of Dhaka,

Date: 08-13 April 2017

### Report

NITUB organized its 64<sup>th</sup> training programme on "Ultra-Violet, Visible and Infrared Spectrophotometer (UV-VIS and IR)" at the Centre for Advanced Research in Sciences (CARS), University of Dhaka, Dhaka-1000 on 08–13 April 2017. Dr. Md. Zakir Sultan, Principal Scientist, CARS, was the Convener of the programme committee. A circular of the UV-VIS and IR training programme was circulated to public and private educational and research institutes of Bangladesh and also to few educational and research organizations of Nepal, Laos, Vietnam and Cambodia.

Professor Dr. Md. Akhtaruzzaman, Pro-Vice Chancellor (Administration), University of Dhaka kindly attended the inaugural session of the training programme as the Chief Guest. Professor Dr. Golam Mohammed Bhuiyan, Director, Centre for Advanced Research in Sciences (CARS), University of Dhaka, was present as the Special Guest in the inaugural session. Professor Altaf Hussain, General Secretary of NITUB, in his address briefly introduced NITUB and its activities. Professor Dr. Akhtaruzzaman in his address spoke highly about the activities of NITUB and thanked NITUB for arranging such training programme. Professor Bhuiyan welcomed NITUB to organize its programme in the laboratory of CARS and spoke on the need of such learned society to enhance the standard of scientific education and research in Bangladesh. Professor M Mosihuzzaman, in his address urged all scientists & technical personnel to work together so that scientific researches in Bangladesh do not suffer due to lack of skilled scientists and technical personnel. Professor Zaman thanked all participants and resource persons for participating in the programme.

17 (Seventeen) participants from different educational institutions and research organizations of Bangladesh attended the training programme. University Professor, research scientists and technical experts of NITUB conducted the training programme. A detailed day-to-day programme is given in the report. There were theoretical lectures and practical sessions on UV-VIS & IR Spectrophotometer. The training programme was designed in such a way that the participants get more time for practical sessions to gain self confidence in handling their equipment.

An open discussion session was held before the closing ceremony where the participants thanked NITUB and the resource persons for conducting such a valuable training programme. They were very pleased to be participants in this training programme and also gave some suggestions for the future training programmes of NITUB. Professor Dr. Nasreen Ahmad, Pro-Vice Chancellor (Academics), University of Dhaka kindly attended the closing ceremony as Chief Guest and in her address he congratulated the

participants for successfully completing the training and handed over certificates to them. Professor Mesbahuddin Ahmad in his address briefly mentioned the genesis of NITUB and highlighted its activities. Professor Ahmad thanked honorable Vice-Chancellor, Pro Vice-Chancellor (Academics) of Dhaka University for their interest and cooperation in the programmes of NITUB.

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### **Detail Programme**

#### **08-04-2017 (Saturday)**

0930-1030 - Registration

1030-1130 - Inauguration

1130-1200 - Tea

1200-1300 - **Lecture 1: Fundamentals of Spectroscopy**

*Professor M. Muhibur Rahman, Ex-Member, UGC, Agargaon, Dhaka*

1300-1400 - Lunch

1400-1530 – **Laboratory Session-1:**

Group A: Demonstration of IR spectrophotometer

*Mr. AKM Rahmat Ullah, Head, Bio-medical Unite, ICDDR'B, Dhaka*

Group B: Demonstration of UV-VIS spectrophotometers

*Md. Fakrul Islam, Assistant Engineer, Centre for Advanced Research in Sciences (CARS), University of Dhaka*

1530-1700 – **Laboratory Session-2:**

Group B: Demonstration of IR spectrophotometer

*Mr. AKM Rahmat Ullah, Head, Bio-medical Unite, ICDDR'B, Dhaka*

Group A: Demonstration of UV-VIS spectrophotometers

*Md. Fakrul Islam, Assistant Engineer, Centre for Advanced Research in Sciences (CARS), University of Dhaka*

1700-1730 - Tea

#### **09-04-2017 (Sunday)**

1000-1100 - **Lecture 2: Principles of UV-VIS & IR spectroscopy**

Professor Dr. Md. Mofazell Hossain, Department of Chemistry, DU

1100-1130 - Tea

1130-1300 - **Laboratory Session-3**

**Group A:** Qualitative analysis of organic compounds with UV-VIS spectrophotometer

*Professor Dr. Md. Qamrul Ehsan, Department of Chemistry, DU and Dr. Rumana Akther Jahan, Principal Scientist, CARS, DU*

**Group B:** Analysis of inorganic compounds with IR spectrophotometer

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU and Hasina Akhter Simol, Scientist, CARS, DU*

**Group C:** Determination of metal ions (i.e. Iron, Chromium) spectrophotometrically

*Professor Pradip Kumar Bakshi, Department of Chemistry, DU and Dr. Md. Zakir Sultan, Principal Scientist, CARS, DU*

1300-1400 - Lunch

1400-1630 - **Laboratory Session-3** (continuation)

1630-1700 - Tea

**10-04-2017 (Monday)**

1000-1100 - **Lecture 3: Application of UV-VIS Spectrophotometer**

*Professor Dr. Md. Qamrul Ehsan, Department of Chemistry, DU*

1100-1130 - Tea

1130-1300 - **Laboratory Session-4**

**Group C:** Qualitative analysis of organic compounds with UV-VIS spectrophotometer

*Professor Dr. Md. Qamrul Ehsan, Department of Chemistry, DU and Dr. Rumana Akther Jahan, Principal Scientist, CARS, DU*

**Group A:** Analysis of inorganic compounds with IR spectrophotometer

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU and Hasina Akhter Simol, Scientist, CARS, DU*

**Group B:** Determination of metal ions (i.e. Iron, Chromium) spectrophotometrically

*Professor Pradip Kumar Bakshi, Department of Chemistry, DU and Dr. Md. Zakir Sultan, Principal Scientist, CARS, DU*

1300-1400 - Lunch

1400-1630 - **Laboratory Session-4** (continuation)

1630-1700 - Tea

**11-04-2017 (Tuesday)**

1000-1100 - **Lecture 4: Application of IR Spectrophotometer**

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU*

1100-1130 - Tea

1130-1230 - **Laboratory Session-5**

**Group B:** Qualitative analysis of organic compounds with UV-VIS spectrophotometer

*Professor Dr. Md. Qamrul Ehsan, Department of Chemistry, DU and Dr. Rumana Akther Jahan, Principal Scientist, CARS, DU*

**Group C:** Analysis of inorganic compounds with IR spectrophotometer

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU and  
Hasina Akhter Simol, Scientist, CARS, DU*

**Group A:** Determination of metal ions (i.e. Iron, Chromium) spectrophotometrically  
*Professor Pradip Kumar Bakshi, Department of Chemistry, DU and Dr. Md.  
Zakir Sultan, Principal Scientist, CARS, DU*

1230-1400 - Lunch

1400-1630 - **Laboratory Session-5** (continuation)

1630-1700 - Tea

### **12-04-2017 (Wednesday)**

1000-1100 - **Lecture 5: Quality Control & Quality Assurance of UV-VIS and IR Analysis**

*Professor Dr. Mohammad A. Rashid, Department of Pharmaceutical Chemistry, University of  
Dhaka*

1100-1130 - Tea

1130-1300 - **Laboratory Session-6**

**Group A:** Study of herbal drugs by UV-VIS spectrophotometer

*Dr. Md. Zakir Sultan, Principal Scientist, CARS, DU and Dr. Rumana Akther Jahan, Principal  
Scientist, CARS, DU*

**Group B:** Study of commercial drug formulations (Tablets/Capsule) and liquid samples by IR/ATR

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU and  
Hasina Akhter Simol, Scientist, CARS, DU*

1300-1400 - Lunch

1400-1630 - **Laboratory Session-6** (continuation)

1630-1700 - Tea

### **13-04-2017 (Thursday)**

1000-1100 - **Lecture 6: Trouble-shooting and Maintenance of UV-VIS and IR spectrophotometers**

*Dr. Rumana Akther Jahan, Principal Scientist, CARS, DU*

1100-1130 - Tea

1130-1300 – **Laboratory Session-7**

**Group B:** Study of herbal drugs by UV-VIS spectrophotometrically

*Dr. Md. Zakir Sultan, Principal Scientist, CARS, DU and Dr. Rumana Akther  
Jahan, Principal Scientist, CARS, DU*

**Group A:** Study of commercial drug formulations (Tablets/Capsule) and liquid samples by IR/ATR

*Dr. Tapas Debnath, Associate Professor, Department of Chemistry, DU and  
Hasina Akhter Simol, Scientist, CARS, DU*

1300-1400 – Lunch

1400-1600 - **Laboratory Session-7** (continuation)

1600-1700 – Closing ceremony & Certificate distribution

1700- - Tea



**Few photographs of 64<sup>th</sup> training programme of NITUB.**

65th Training Programme of NITUB  
On the Use, Maintenance and Trouble-Shooting of Common Laboratory Equipment  
Venue: Department of Chemistry, University of Chittagong  
Date: 14 - 19 October 2017

**Report**

The 65<sup>th</sup> Training Programme of NITUB on the use, maintenance and trouble-shooting of Common Laboratory Equipment was held at Department of Chemistry, University of Chittagong on 14 – 19 October 2017. A brochure on the programme was circulated to all public and private universities, colleges, research organizations and pharmaceutical companies of Bangladesh. The training programme was coordinated by Professor Dr. Monir Uddin, Chairman, Department of Chemistry, University of Chittagong.

The inaugural session of the programme was held in the Chittagong University auditorium on 14 October 2017 and was presided over by Professor Dr. Altaf Hussain, General Secretary of NITUB. Professor Dr. Iftekhar Uddin Chowdhury, Honorable Vice Chancellor, University of Chittagong kindly attended the session as the Chief Guest. Professor Dr. Shafiul Alam, Honorable Dean, Faculty of Science, University of Chittagong was the special guest in the function. The inauguration session was attended by the faculties and students of Chittagong University. Faculties, scientists of other educational and research organizations of Chittagong also attended the inaugural session of the programme. Professor Dr. Monir Uddin, convener of the programme, delivered welcome address, introduced participants and resource persons. He also narrated the detailed schedule of the programme in his address. Professor Dr. Altaf Hussain in his address briefly mentioned about the aims, objectives and activities of NITUB. He also thanked the Vice Chancellor of Chittagong University for his kind permission and also allowing NITUB to use all logistic support to conduct the programme at Chittagong University. The Vice Chancellor in his address urged NITUB to arrange training programmes on regular basis so that faculties, students, scientists and technical personnel of Bangladesh can update their knowledge on instrumentation.

The Training Programme was attended by 31 participants who are faculty members, scientists and technical personnel (list enclosed). Theoretical lectures and practical sessions were conducted by university professors, senior scientists and technical experts of NITUB. A detailed day to day schedule of the programme is given in this report. A few numbers of non-functioning scientific instruments of Chittagong University was repaired and installed during the practical sessions of the training programme. In an open discussion, participants expressed their great satisfaction for the programme and requested NITUB to organize this type of training programme in a regular basis.

The closing ceremony was held in the Chittagong University auditorium on 19 October 2017. The function was presided over by Professor Mesbahuddin Ahmad, President of NITUB. Professor Dr. Shireen Akhter, Honorable Pro-Vice Chancellor, University of Chittagong kindly attended the session as the Chief Guest. Professor Nilufar Nahar, Treasurer of NITUB, was the Special guest. Few participants when evaluating the programme as a very successful and helpful one and they thanked the resource persons and the organizers for such a well organized training programme. Professor Begum Rokeya, Joint Secretary of NITUB and Professor Dr. Monir Uddin, convener of the programme spoke in the closing

session of the programme. Professor Dr. Shireen Akhter was very pleased to all about NITUB and its activities and requested NITUB to organize more training programmes so that faculties, students and scientists get chance to update their knowledge. She congratulated the participants for successfully completing the training and handed over certificates to them. Professor Mesbahuddin Ahmad in his speech, highlighted the activities of NITUB and sought cooperation of all to conduct NITUB training programmes effectively. He also thanked the authority of Chittagong University for allowing NITUB to conduct its training programme.

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**Detail Programme:**

**14-10- 2017 (Saturday)**

0930-1030 -Registration

1030-1130 -Inauguration

1130-1200 -Tea

1200-1300 - **Lecture 1:** Basic principles of common laboratory equipment

Mr. A.K.M. Rahmat Ullah, BMEU (LSD), ICDDR'B, Mohakhali, Dhaka.

1300-1400 - Lunch

1400-1630 - Practical session -I

**Group – I, Lab.-A**

***AAS, Colorimeter, Conductivity Meter, HPLC, High Vacuum Pump, Polarimeter, Electric Balance, Micro Combustion Unit, Melting point apparatus etc.***

Md. Akram Hossain , Principal Technical Officer, Dept. of Chemistry DU, Mahbubur Rahman Sheikh, Supervisor, Analytical Lab, UL VS Bangladesh Ltd. Dhaka, Ashit Kumer Kundu, Ex. Superintendent Engineer, University of Dhaka.

**Group –II, Lab. - B**

**Fault finding technique with general knowledge of Electricity & Electronic equipments, Magnetic Susceptibility Balance, Karl Fisher Titrator , High Volume Air Sampler, Cyber Scan of pH/FET/MV/LON/DO/DOD, Conductivity, TDS etc.** Md. Habibur Rahman,

Assistant Radio Engineer, Bangladesh Beter, Dhaka,

Md. Abul Kalam Chowdhury, Instrument Engineer, NITUB,

**Group – III, Lab. - C**

*Autoclave, Hot plate, Rotary evaporator, Muffle furnace, Incubator, Water bath, Distillation plant, pH-Meter, Refractometer etc*

Dr. Md. Abul Kashem Principal Scientific Officer, BCSIR Laboratories Dhaka,  
BCSIR, Engr. Md. Zakaria Khan, Junior Experimental Officer, BCSIR, Dhaka

1630-1700 - Tea

**15 -10- 2017 (Sunday)**

0930-1100- **Lecture 2:** Maintenance of Electronics in Scientific Instruments  
Md. Abul Kalam Chowdhury, Instrument Engineer, NITUB

1100-1130 - Tea

1130-1300 - Practical session - II

**Group - I; Lab. - A**

**Group - II; Lab. - B**

**Group - III; Lab. - C**

1300-1400 - Lunch

1400-1630 - Practical session -II (Continuation)

1630-1700 - Tea

**16-10-2017 (Monday)**

0930-1100 - **Lecture 3:** Trouble-shooting, Methods, Techniques and Procedures- Analogue and Digital Equipment

Dr. Md. Abul Kashem Principal Scientific Officer, BCSIR Laboratories Dhaka,  
BCSIR, Dhaka

1100-1130 - Tea

1130-1300 -Practical session - III

**Group - I; Lab. - B**

**Group - II; Lab. - C**

**Group - III; Lab. - A**

1300-1400 - Lunch

1400-1630 - Practical session -III (Continuation)

1630-1700 - Tea

**17-10-2017 (Tuesday)**

0930-1100 - Practical session - IV

**Group - I; Lab. - B**

**Group - II; Lab. - C**

**Group - III; Lab. - A**

1100-1130 - Tea

1130-1300 - Practical session -IV (Continuation)

1300-1400 - Lunch

1400-1630 - Practical session -IV (Continuation)

1630-1700 - Tea

**18-10-2017 (Wednesday)**

0900-1000 - **Lecture 4:** Basic principle of AAS.

Professor Dr. Md. Jamaluddin Ahmed, Department of Chemistry University of Chittagong.

1000-1100 - Practical session -V

**Group - I; Lab. - C**

**Group - II; Lab. - A**

**Group - III; Lab. - B**

1100-1130 - Tea

1130-1300 - Practical session -V (Continuation)

1300-1400 - Lunch

1400-1600 - **Lecture 5:** High Performance Liquid Chromatography and its Application in Drug Discovery and Food Safety.

Professor Dr. Nilufar Nahar, Department of Chemistry, University of Dhaka.

1600-1630 - Tea

**19 -10-2017 (Thursday)**

0900-1000 - **Lecture 6:** Laboratory Safety

Professor Dr. Nilufar Nahar, Department of Chemistry, University of Dhaka.

1000-1100 - Practical session –VI

**Group - I; Lab. - C**

**Group - II; Lab. - A**

**Group - III; Lab. - B**

1100-1130 - Tea

1130 -1300 - **Lecture 7:** Common Physical Laboratory Equipment

Professor Dr. Shamim Akhtar , Department of Chemistry University of Chittagong.

1300-1400 - Lunch

1400-1500 - Open Discussion

1500-1600 - Closing Ceremony & Certificate Distribution

1600 - Tea



**Few photographs of 65<sup>th</sup> training programme of NITUB**

## 66<sup>th</sup> Training Programme of NITUB

On the use, maintenance and trouble-shooting of Common Medical Instruments

Venues: BUHS, 125/1, Darus Salam, Mirpur, Dhaka

Date: 28 October–02 November 2017

### Report

The venue for the 66<sup>th</sup> training programme on Common Medical Instruments was at Bangladesh University of Health Sciences (BUHS) and it was held on 28 October – 02 November 2017. A circular on the 66<sup>th</sup> training programme of NITUB on common Medical Instruments was circulated to all public hospitals, polytechnic institutes, health centers, medical colleges and private medical centers of Bangladesh. The training programme was coordinated by Professor Dr. Begum Rokeya.

The training program was attended by 14 participants of different hospitals, university and health centers of Bangladesh. A list of participants is attached herewith. The inaugural session of the programme was held in the BUHS auditorium on 28 October 2017 and was presided over by Professor Mesbahuddin Ahmad, President of NITUB. Professor Liaquat Ali, Honorable Vice-Chancellor, BUHS kindly attended the session as the Chief Guest. Many faculty members of BUHS, and senior scientists of different research organizations attended the inaugural session. Professor Begum Rokeya, Joint Secretary of NITUB and coordinator of the programme, gave welcome address and briefly mentioned about the programme schedule and also introduced the participants and resource persons. Professor Altaf Hussain, General Secretary of NITUB in his address briefly introduced NITUB and its activities. Professors, senior scientists, biomedical engineers and technical experts mainly from BUHS conducted the training programme. The programme included both theoretical and practical sessions. A detailed day-to-day programme is given in the report.

The closing session of the training programme was held in the BUHS auditorium on 02 November, 2017 and was presided over by Professor Mesbahuddin Ahmad President of NITUB. Professor Liaquat Ali, Honorable Vice-Chancellor, BUHS kindly attended the session as the Chief Guest. Professor Altaf Hussain, General Secretary of NITUB attended the session. In the open discussion and concluding session the participants evaluated the programme as very helpful and requested NITUB to organize such programme every year and if possible in different districts of Bangladesh. The participants also mentioned that it would be much more beneficial if the participants were divided into groups for practical sessions according to their need. Professor Begum Rokeya in her address mentioned that it could be done if the participants mention about their desire when they fill application form. Professor Liaquat Ali congratulated the participants for successfully completing the training and handed over certificates to them. Professor Mesbahuddin Ahmad in his speech highlighted the activities of NITUB and sought cooperation from all to conduct NITUB training programmes successfully.

## List of Participants

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**Detail Programme:**

**28-10- 2017 (Saturday)**

- 08.30 –09.00 Registration  
09.00 –10.00 **Lecture-1:** Quality Sample Collection, Handling, and Preservation for an effective Microbial testing  
10.00 –11.00 Inaugural Session  
11.00 –11.30 Tea / Coffee  
11.30 –12.30 **Lecture-2:** Common Medical Equipment-microscope: maintenance & Troubleshooting  
12.30 –13.15 **Practical Session:**  
Group A: Microscope  
Group B: Microbiology Practical  
13.15-- 1400 Lunch  
14.00 –16.00 **Practical:** Rotation of Group A and B  
16.00 – 16.30 Tea / Coffee

**29-10- 2017 (Sunday)**

- 09.00 – 10.00 **Lecture-3:** Automated Blood Cell Counter  
10.00 –11.00 **Lecture-4:** Biochemistry auto analyzer maintenance and on-site troubleshooting  
11.00 – 11.30 Tea / Coffee  
11.30 – 13.00 **Practical Session:**  
Group -A: Automated Blood Cell Counter  
Group –B: Biochemistry auto analyzer  
13.00 – 14.00 Lunch  
14.00 – 16.00 **Practical:** Rotation of Group A and B  
16.00 – 16.30 Tea / Coffee

**30-10- 2017 (Monday)**

- 09.00 – 10.00 **Lecture-5:** Photometric techniques in clinical laboratory  
10.00 – 11.00 **Lecture-6:** ELISA General guideline and Troubleshooting  
11.00 – 11.30 Tea / Coffee



- 11.30 – 13.00 **Practical Session:**  
 Group -A: Spectrophotometer, colorimeter  
 Group –B: ELISA
- 13.00 – 14.00 Lunch
- 14.00 – 16.00 **Practical:** Rotation of Group A and B
- 16.00 – 16.30 Tea / Coffee

### **31-10- 2017 (Tuesday)**

- 09.00 – 10.00 **Lecture-7:** Maintenance & troubleshooting of Dimension, and other machines
- 10.00 – 11.00 **Lecture-8:** Gross decontamination method to avoid floaters & contaminant in a histopathology & cytopathology lab
- 11.00 – 11.30 Tea / Coffee
- 11.30 – 13.00 **Practical Session:**  
 Group -A:  
 Group –B: How to avoid floaters & contaminant in histopathology testing
- 13.00 – 14.00 Lunch
- 14.00 – 16.00 **Practical:** Rotation of Group A and B
- 16.00 – 16.30 Tea / Coffee

### **01-11- 2017 (Wednesday)**

- 09.00 – 10.00 **Lecture- 9:** Genetic polymorphism in the disease pathogenesis & its complications
- 10.00 – 11.00 **Lecture-10:** Microtome, a useful tool in Histopathology Laboratory
- 11.00 – 11.30 Tea / Coffee
- 11.30 – 13.00 **Practical Session:**  
 Group -A: Common troubleshoots in Gel Electrophoresis in DNA lab  
 Group –B: Microtome
- 13.00 – 14.00 Lunch
- 14.00 – 16.00 **Practical:** Rotation of Group A and B
- 16.00 – 16.30 Tea / Coffee

### **02-11- 2017 (Thursday)**

- 09.00 – 10.00 **Lecture-11:** Safety in a clinical laboratory
- 10.00 – 11.00 **Lecture-12:** Use & maintenance of small lab instruments: Digital Balance, pH Meter, Dessicator, Sonicator, etc.
- 11.00-- 11.30 Tea / Coffee
- 11.30 – 13.00 **Practical Session:**  
 Digital Balance, pH Meter, Sonicator etc
- 13.00 – 14.00 Lunch
- 14.00 – 16.00 Open discussion, Concluding Session and Certificate distribution.



**Few photographs of 66<sup>th</sup> training programme of NITUB**

## 67<sup>th</sup> Training Programme of NITUB

On use, maintenance and trouble-shooting of High Performance  
Liquid Chromatography (HPLC)

Venue: Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka-1205

Date: 23-29 December 2017

### Report

The 67<sup>th</sup> training programme of NITUB was on High Performance Liquid Chromatography (HPLC). A circular of the HPLC training programme was circulated to public and private educational and research institutes of Bangladesh. The training programme was held at the Bangladesh Council of Scientific and Industrial Research (BCSIR), Dhaka-1205 on 23-29 December 2017. 27 (Twenty seven) faculty members, scientists and technical officers of different universities research organizations and pharmaceutical industries of Bangladesh attended the training program. A list of participants and detail programme are given in the report.

The inaugural session of the programme was presided over by Professor Mesbahuddin Ahmad, President of NITUB. NITUB Executive Committee members, scientists and technical experts of BCSIR were present in the inaugural session. Professor Altaf Hussain, General Secretary of NITUB and Dr. Md. Zahurul Haque, Director, IFST, BCSIR and Convener of the programme spoke in the inaugural session of the programme. Professor Hussain briefly introduced NITUB and its activities. Dr. Md. Zahurul Haque, Director, IFST, BCSIR, inaugurated the programme. University professor, research scientists and technical experts of BCSIR conducted the training programme. There were theoretical lectures and practical sessions on HPLC.

In the open discussion session, participants thanked NITUB for organizing HPLC training programme and resource persons for conducting such a valuable training programme. The concluding session of the programme was presided by Professor Mesbahuddin Ahmad, President of NITUB and Mr. Md. Golam Rabbany, Member (Development) BCSIR, Dhaka, was the Chief Guest. Few participants spoke highly about the HPLC training programme and requested NITUB to organize such programmes regularly which are very useful for their profession. Professor Altaf Hussain, General Secretary of NITUB, Professor Nilufar Nahar, Treasurer of NITUB, Dr. Md. Zahurul Haque, Director, IFST, BCSIR and Md. Matiur Rahim, CSO, IFST, BCSIR, spoke in the concluding session. In their addresses they highlighted the activities of NITUB. Mr. Rabbany in his address congratulated the participants for successfully completing the training and handed over certificates to them. He also requested NITUB to conduct more of its training programmes at BCSIR and the authority of BCSIR will be pleased to collaboration with NITUB. Professor Mesbahuddin Ahmad thanked resource persons and scientists of BCSIR who conducted the programme and the authority of BCSIR for providing logistic supports.

## Participants List

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### **Detail Programme**

#### **23-12- 2017 (Saturday)**

0900-1000 - Registration of the participants

1000-1100 - Inauguration Training Programme

1100-1130 - Tea

1130-1300 - **Lecture 1: Principle of Chromatography**

*Md. Matiur Rahim, CSO, IFST, BCSIR, Dhaka-1205*

1300-1400 -Lunch

1400-1630 - **Practical Session 1**

**All Participants: Demonstration HPLC**

*Md. Matiur Rahim, CSO, IFST, BCSIR, Dhaka-1205*

1630-1700 -Tea

#### **24-12- 2017 (Sunday)**

0930-1030 - **Lecture 2: Use of HPLC in food Analysis**

*Professor Dr. Nilufar Nahar*

*Department of Chemistry, University of Dhaka*

1030-1100 - Tea

1100-1300 - **Practical Session 2**

**Group 1: Analysis of Caffeine in soft drinks by HPLC**

*Md. Matiur Rahim, CSO, IFST, BCSIR, Dhaka-1205 and associate*

**Group 2: Analysis of aflatoxin in food by HPLC**

*Md. Matiur Rahim, CSO, IFST, BCSIR, Dhaka-1205 and associate*  
**Group 3: Analysis of vitamin A in fortified milk powder by HPLC**  
*Abu Tareq Mohammad Abdullah, SSO, IFST, BCSIR, Dhaka-1205 and associate*

1300-1400 - Lunch  
1400-1630 - **Practical Session 2** Continuation  
1630-1700 - Tea

**25-12- 2017 (Monday)**

Free day (Public Holiday)

**26 -12- 2017 (Tuesday)**

0930-1030 - **Lecture 3: Chemical Contaminants in food**

*Dr. Md. Zahurul Haque, Director  
IFST, BCSIR, Dhaka-1205*

1030-1100 - Tea

1100-1300 - **Practical Session 3**

**Group 3: Analysis of Caffeine in soft drinks by HPLC**

**Group 1: Analysis of aflatoxin in food by HPLC**

**Group 2: Analysis of vitamin A in fortified milk powder by HPLC**

1300-1400 - Lunch  
1400-1630 - **Practical Session 3** Continuation  
1630-1700 - Tea

**27-12- 2017 (Wednesday)**

0930-1030 - **Lecture 4: Detection of Adulterants in food by HPLC**

*Dr. Barun Kanti Saha, PSO, IFST, BCSIR, Dhaka-1205*

1030-1100 - Tea

1100-1300 - **Practical Session 4**

**Group 2: Analysis of Caffeine in soft drinks by HPLC**

**Group 3: Analysis of aflatoxin in food by HPLC**

**Group 1: Analysis of vitamin A in fortified milk powder by HPLC**

1300-1400 - Lunch  
1400-1630 - **Practical Session 4:** Continuation  
1630-1700 - Tea

**28-12-2017 (Thursday)**

0930-1030 - **Lecture 5: Trouble-shooting and maintenance of HPLC**

*Mohammad Tariqul Hassan, SSO, IFST, BCSIR, Dhaka-1205*

1030-1100 - Tea

1100-1300 - **Practical Session 5:**

**Group A: Individual Problem solving session-1**

**Group B: Individual Problem solving session-2**

1300-1400 - Lunch

1400-1630 - **Practical Session 5:** Continuation  
1630-1700 - Tea

**29 -12- 2017 (Friday)**

0900-1000 - **Lecture 6: Method Development and Validation for Drug Analysis by HPLC**  
*Dr. Md. Zakir Sultan, Principal Scientist, CARS, University of Dhaka*

1000-1030 - Tea

1030-1100 - Open discussion

1100-1200 - Closing ceremony & distribution of Certificates

1200-1300 -Lunch



**Few photographs of 67<sup>th</sup> training programme of NITUB**