

72nd Training Programme of NITUB
On the use, maintenance and trouble-shooting of gas chromatography (GC)
24-29 January 2019
Venues: Department of Chemistry & Centre for Advanced Research in Sciences (CARS),
University of Dhaka, Dhaka-1000

Report

The 72nd training programme on the use, maintenance and trouble-shooting of Gas Chromatography (GC) was held at the Department of Chemistry & Centre for Advanced Research in Sciences (CARS), University of Dhaka, Dhaka-1000 on 24-29 January 2019. A brochure on the training programme was circulated in different educational institutions, research centers and pharmaceutical companies with a request to nominate participants to attend the programme. Soft version of this brochure was sent to all members of NITUB and also it was uploaded in the website. The programme committee headed by Professor Dr. Nilufar Nahar chalked out detailed programme of the GC training programme and it was conducted accordingly by university professors, senior research scientists and technical experts of NITUB.

The inaugural session of the training programme was held at the Seminar Room of Physics Department (Room No. 300, MHK BiggaynBhaban, University of Dhaka) on 24th January 2019 which was presided over by Professor Mesbahuddin Ahmad, President of NITUB. The session was attended by faculties and postgraduate students of different departments and institutes of the University of Dhaka. Research scientists of many organizations also attended the function. Dr. Mohammad Shoeb, member of programme committee and EC member of NITUB gave welcome address and conducted the session. Professor Nilufar Nahar, convener of the programme committee and treasurer of NITUB in her address gave a brief description of the programme and also introduced participants and resource persons. Professor Dr. Altaf Hussain, General Secretary, NITUB, in his address briefly introduced the aims, objectives and activities of NITUB. Professor Dr. Mohammed Abdul Aziz, Dean, Faculty of Sciences, University of Dhaka, attended the session as the Chief Guest. In his address he urged NITUB to organize training programmes frequently so that faculties, students, scientists and technical personnel of Bangladesh can update their knowledge on instrumentation and inaugurated the training programme. Professor Mesbahuddin Ahmad in his address requested all to help NITUB in conducting its training programmes and thanked Dhaka University authority for the logistic support to conduct training programmes of NITUB.

Sixteen (16) participants from different educational institutions, research centers, pharmaceutical companies attended on the training programme (list enclosed). The day to day routine of the 72nd training programme on GC was also enclosed in the report. There were 7 theoretical lectures, each one hour duration and 5 practical sessions and each session is of 4 - 5 hours duration. In the programme there were also problem solving sessions,

An open discussion was held before the closing ceremony on 29 January 2019. Professor Dr. Muhammad Samad, Pro-Vice Chancellor (Administration), University of Dhaka was the Chief Guest at the closing ceremony. Professor Dr. Nilufar Nahar, Treasurer, NITUB, briefly narrated the background and the activities of NITUB. The participants evaluated the training programmes as one of the very effective training programmes they ever attended and thanked resource persons for their kind cooperation and effective, valuable deliberations. Chief Guest congratulated the participants for successfully completing the training programme and handed over certificates to them. Professor Mesbahuddin Ahmad in his presidential address

asked the participants to disseminate what they learned to their fellow colleagues and keep their GC in functioning condition. He also reminded all that NITUB will be happy to render services to enhance the standard of research and education of public and private institutes of Bangladesh if asked for

Participants List

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Detailed Programme

24 January 2019 (Thursday)

- 0900-1000 - Registration
1000-1100 - Inauguration
1100-1130 - Tea
1130-1300 - **Lecture 1:** Basic principles of chromatography
Dr. NilufarNahar, Professor (Retired), Department of Chemistry, DU
1300-1400 - Lunch & Prayer

1400-1630 - **Practical Sessions 1:** Instrumentation & Installation of GC (two groups)

1630-1700 - Tea & Discussion

25 January 2019 (Friday)

- 0900-1030 - **Practical Session: 2**
Group-A, Lab-1:Organochlorine pesticide residue analysis in fish samples by GC-ECD

Group-B, Lab-2:Organochlorine pesticide residue analysis in fish samples by GC-ECD

Group-C, Lab-3:Analysis of PAHs in water by GC- FID
Group-D, Lab-4: Analysis of fatty acids by GC- FID

1030-1100 - Tea
1100-1230 - Practical Session: 2 continuations
1230-1430 - Lunch & Prayer
1430-1630 - Practical Session: 2 continuations
1630-1700 - Tea & Discussion

26 January 2019 (Saturday)

- 0900-1000 - **Lecture 2:** Introduction to gas chromatograph

Dr. NilufarNahar, Professor (Retired), Department of Chemistry, DU
 1000-1030 - Tea
 1030-1130 - **Lecture 3:**Method development and validation for analysis of organic pollutants
 Dr. Mohammad Shoeb, Professor, Department of Chemistry, DU
 1130-1300 - **Practical Session: 3**
Group-A, Lab-1:Analysis of PAHs in water by GC- FID
Group-B, Lab-2:Analysis of fatty acid by GC- FID
Group-C, Lab-3:Organochlorine pesticide residue analysis in fish samples by GC-ECD
Group-D, Lab-4: Organochlorine pesticide residue analysis in fish samples by GC-ECD
 1300-1400 - Lunch & Prayer
 1400-1630 - Practical Session: 3 continuations
 1630-1700 - Tea & Discussion

27 January 2019 (Sunday)

0900-1000 -**Lecture 4:** Maintenance and Trouble Shooting of GC
 Dr. Mohammad Shoeb, Professor, Department of Chemistry, DU
 1000-1030 - Tea
 1030-1300 - **Practical Sessions: 4**
Group-A,Lab-2:Pesticide residue analysis in water samples by GC-ECD
Group-B, Lab-3:Analysis of hydrocarbons by GC- FID
Group-C, Lab-1:Pesticide residue analysis in vegetable samples by GC-ECD
Group-D, Lab-4: Analysis of hydrocarbons by GC-FID
 1300-1400 - Lunch & Prayer
 1400-1630 - Practical Sessions: 4 continuations
 1630-1700 - Tea & Discussion

28 January 2019 (Monday)

0900-1000 - **Lecture 5:** Analysis of Sugar by GC
 Dr.Tofail Ahmed Chowdhury, Professor, Department of Chemistry, DU
 1000-1030 - Tea
 1030 -1130 -**Lecture 6:** Analysis of fatty acid in different samples
 Dr. Md. Zakir Sultan, Principal Scientist, CARS, DU
 1130-1300- **Practical Sessions: 5**
Group-A/B/C: Self exercise for analysis of any experiment by GC-ECD/FID
 1300-1400 - Lunch & Prayer
 1400-1630 - Practical Sessions: 5 continuations
 1630-1700 - Tea & Discussion

29 January 2019 (Tuesday)

0900-1000 - Discussion about use of different detectors for different matrices
 1000-1030 - Tea
 1030-1300 - Individual problem solving session
 1300-1400 - Lunch & Prayer
 1400-1500 - Individual problem solving session
 1500-1600 - Open discussion
 1600-1700 - Closing ceremony & certificate distribution
 1700- - Tea

Few photographs of 72nd training programme of NITUB.



73rd Training Program of NITUB

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

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

27 April 2019 – 02 May 2019

Report

As per the decision of the Executive Committee, NITUB organized its 73rd training programme on "High Performance Liquid Chromatography (HPLC)". An announcement of the HPLC training programme was circulated to public and private educational institutes, research institutes and pharmaceutical industries of Bangladesh. The training programme was held at the Centre for Advanced Research in Sciences (CARS), University of Dhaka, Dhaka-1000 on 27 April 2019 to 02 May 2019. 18 (Eighteen) participants who are faculty members, scientists and technical officers of different universities, research organizations and pharmaceutical industries of Bangladesh attended the program. A list of participants and detail programme is attached herewith.

The inaugural session of the programme was presided over by Professor Dr. Mesbahuddin Ahmad, President of NITUB. Professor Dr. Altaf Hussain, General Secretary of NITUB, and Professor Dr. Nilufar Nahar, Treasurer of NITUB spoke highlighting the background of formation of NITUB and its activities as well as importance of the current HPLC programme. Dr. Md. Zakir Sultan, Executive Member of NITUB and Convener of the programme committee conducted the inaugural session as well as described the programme briefly. Professor Dr. Mohammad Shoeb, Executive Member of NITUB, research scientists, technical experts and NITUB members were present in the inaugural programme.

University Professor, research scientists and technical experts of NITUB conducted the training programme. There were seven theoretical lectures each of one hour duration and six practical sessions each about 5 hours duration (detailed schedule is enclosed herewith). The training programme was designed in such a way that the participants get more time for practical sessions to gain self confidence in using HPLC equipment. Four people from Dhaka South City Corporation (DSCC) led by Dr. Md. Mohsin Ali, Director, Modern Food Testing Laboratory and Training Centre came to attend the training programme without getting registered for the programme. As the seats were limited and these were already booked however, on special consideration Dr. Md. Mohsin Ali was allowed to participate in the programme and rest interested personnel of DSCC were advised to apply for the next HPLC training programme of NITUB.

The closing ceremony was held on 02 May 2019 at 4 pm. Professor Mesbahuddin Ahmad, President of NITUB presided over the closing ceremony. The session was conducted by Dr. Md. Zakir Sultan. Few participants in their addresses evaluated the programme as a very effective and useful training and requested NITUB to organize such training programme regularly. Dr. Latiful Bari and Mrs. Asma Rahman of CARS spoke in the occasion highlighting the details of the training programme. Executive Committee members of NITUB, faculties and scientists of Dhaka University were present in the closing ceremony. Professor Mesbahuddin Ahmed handed over certificates to the participants and congratulated them for successfully completing the training. He also urged them to use the knowledge gained during the training in their respective laboratory.

Participants List

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Detailed Programme

27 April 2019 (Saturday)

0900-1000 - Registration of the Participants
1000-1100 - Inauguration of the HPLC Training Program
1100-1130 - Tea
1130-1230 - **Lecture 1: Principles of Chromatography**
Prof. NilufarNahar
Rtd. Faculty member, Department of Chemistry, DU
1230-1300 - **Practical Session 1:** Demonstration of HPLC
Mr. A.K.M. RahmatUllah, Head, BMEU, ICDDR'B
Eng. Md. Fakrul Islam, Executive Engineer, CARS, DU
1300-1400 - Lunch and Prayer
1400-1630 - **Practical Session 1:** Continuation
1630-1700 - Tea

28 April 2019 (Sunday)

0900-1000 - **Lecture 2: Basic instrumentation of HPLC and its application**
Prof. Dr. Md. Abdur Rashid
Department of Pharmaceutical Chemistry, DU.
1000-1030 - Tea
1030-1300 - **Practical Session 2**
Group A: Analysis of caffeine from soft drink
Dr. GaziNurunNahar Sultana,
Chief Scientist, Centre for Advanced Research in Sciences (CARS), DU &
Ms. FarzanaYasmin, Research Fellow, CARS, DU.
Group B: Analysis of vitamin C in vegetables
Dr. Latiful Bari
Principal Scientist, Centre for Advanced Research in Sciences (CARS), DU
Ms. AsmaRahman, Senior Scientist, CARS, DU
Group C: Analysis of anti-diabetic and antibiotic drugs
Dr. Md. Zakir Sultan
Principal Scientist, Centre for Advanced Research in Sciences (CARS), DU
Ms. Rajia Sultana, Research Fellow, CARS, DU.
1300-1400 -Lunch and Prayer
1400-1630 - **Practical Session 2:** Continuation
1630-1700 - Tea

29 April 2019 (Monday)

0900-1000 - **Lecture 3: Method development and validation of pharmaceutical drugs by HPLC and performance verification of HPLC**
Dr. Md. Zakir Sultan
Principal Scientist, Centre for Advanced Research in Sciences (CARS), DU
1000-1030 - Tea
1030-1300 - **Practical Session 3**
Group C: Analysis of caffeine from soft drink
Group A: Analysis of vitamin C in vegetables

Group B: Analysis of anti-diabetic and antibiotic drugs

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

30 April 2019 (Tuesday)

- 0900-1000 - ***Lecture 4: Trouble-shooting and maintenance of HPLC***
Dr. GaziNurunNahar Sultana
Chief Scientist, Centre for Advanced Research in Sciences (CARS), DU
1000-1030 - Tea
1030-1300 - **Practical Session 4**
Group B: Analysis of caffeine from soft drink
Group C: Analysis of vitamin C in vegetables
Group A: Analysis of anti-diabetic and antibiotic drugs
1300-1400 - Lunch and Prayer
1400-1630 - **Practical Session 4:** Continuation
1630-1700 - Tea

01 May 2019 (Wednesday): National Holiday

02 May 2019 (Thursday)

- 0900-1000 - ***Lecture 5: Quality Assurance and Uncertainty Measurement in HPLC Analysis***
Prof. Dr. Amir Hossain Khan, Rtd. Professor of Department of Chemistry, DU
and Chief Scientist, Plasma Plus, Dhaka
1000-1030 - Tea
1030-1130 - ***Lecture 6: Use of HPLC in Food Analysis***
Dr. Latiful Bari
Principal Scientist, Centre for Advanced Research in Sciences (CARS), DU
1130-1300 - **Practical Session 5**
(Grouping will be done on participants' choice)
Group I: Analysis of paraben in herbal drug syrup
Dr. GaziNurunNahar Sultana and Mrs. FarzanaYasmin.
Group II: Analysis of Vitamin D3 in serum
Dr. Latiful Bari and Ms. AsmaRahman
Group III: Analysis of riboflavin by HPLC using fluorescence detector
Dr. Md. Zakir Sultan and Ms. Rajia Sultana
1300-1400 - Lunch and Prayer
1400-1630 - **Practical Session 5:** Continuation
1630-1700 - Tea

03 May 2019 (Friday)

- 0900-1000 - ***Lecture 7: Analysis of Natural Products by HPLC***
Prof. Dr. Mohammad Shoeb, Department of Chemistry, DU
1000-1030 - Tea
1030-1230 - **Practical Session 6**
(Grouping will be done on participants' choice)
Group IV: Analysis of paraben in herbal drug syrup
Dr. GaziNurunNahar Sultana and Mrs. FarzanaYasmin
Group V: Analysis of Vitamin D3 in serum
Dr. Latiful Bari and Ms. AsmaRahman
Group VI: Analysis of riboflavin by HPLC using fluorescence detector
Dr. Md. Zakir Sultan and Ms. Rajia Sultana
1230-1430 - Lunch and Prayer
1430-1500 - Open discussion
1500-1600 - Closing ceremony and distribution of certificates.

Few photographs of 73rd training programme of NITUB.



74th Training Programme of NITUB
On the use, maintenance and trouble-shooting of Common Medical Instruments
19 – 24 October 2019
Venues: Bangladesh University of Health Sciences, Mirpur, Dhaka

Report

The 74th training programme on Common Medical Instruments was held on 19 - 24 October 2019 at Bangladesh University of Health Sciences (BUHS). A brochure on the 74th training programme of NITUB on common Medical Instruments was circulated to all public hospitals, Polytechnic Institute, health centers, medical colleges and private medical centers of Bangladesh. Professor Dr. Begum Rokeya, Dean, Department of Pharmacology, BUHS and Joint Secretary NITUB was the Convener of the programme committee.

The training program was attended by 19 participants (List enclosed) of different hospitals, polytechnic Institute, university and health centers of Bangladesh. The inaugural session of the programme was held in the BUHS auditorium on 19 October 2019 and was presided over by Professor Mesbahuddin Ahmad, President of NITUB. Professor Dr. Faridul Alam, Honorable Vice-Chancellor, BUHS kindly attended the session as the Chief Guest. Professor Altaf Hussain, General Secretary of NITUB in his address briefly introduced NITUB and its activities. Professor Begum Rokeya, Joint Secretary of NITUB and Convener of the programme committee briefly mentioned about the programme schedule and gave welcome address.

Resource persons from the university professors, engineers, and technical experts of NITUB conducted the training programme. The programme included both theoretical and practical sessions. There were 11 theoretical lectures on various aspects of common medical equipments. Each lecture was of one hour duration. In the practical sessions, the participants were divided into two groups and parallel practical sessions were conducted at the laboratories of Bangladesh University of Health Sciences. A detailed day-to-day programme is enclosed in the report. Two participants and one resource person talked about the overall performance of the training programme in the closing session. In the session, participants submitted their evaluation sheet regarding the training programme. The participants in their evaluation reports emphasized some aspects like longer duration of training programme and categorized the participants according to the specialty. Finally the participants evaluated the

programme as a very successful one and thanked NITUB for organizing the training programme.

The closing session of the training programme was presided over by Professor Mesbahuddin Ahmad, president of NITUB. Prof Mesbahuddin Ahmad congratulated the participants for completing the training successfully. Then Prof Faridul Alam, Vice Chancellor of BUHS, and Prof Mesbahuddin Ahmad gave away the certificates to the participants of the training programme. Professor Begum Rokeya, Joint Secretary and the Coordinator of this Training Programme delivered vote of thanks on behalf of NITUB.

List of Participants

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Detailed Programme:

19 October 2019 (Saturday)

09.00 –10.00 Inaugural Session

10.00 –10.30 Tea / Coffee

10.30 –11.30 **Lecture-1:** Common Medical Equipment- microscope: maintenance & Troubleshooting.

Mr Abdul Quddus Tarafder

11.30 –13.15 **Practical Session:**

Group-A & Group-B: Microscope

13.15-1400 Lunch

14.00 –16.00 **Practical Session:**

Group A and B Microscope contd.

16.00 – 16.30 Tea / Coffee

20 October 2019 (Sunday)

09.00 – 10.00 **Lecture-2:** Quality Sample Collection, Handling, and Preservation for an

Effective Microbial testing

Mousumi Karmaker, Dept. of Microbiology, BUHS

10.00 – 11.00 **Lecture-3:** Automated Blood Cell Counter

Dr Enamul Haque, BUHS

11.00 – 11.30 Tea / Coffee

11.30 – 13.00 **Practical Session:**

Group -A: Microbiology Practical

Group –B Automated Blood Cell Counter

13.00 – 14.00 Lunch

14.00 – 16.00 **Practical Session:**

Rotation of Group A and B

16.00 – 16.30 Tea / Coffee

21 October 2019 (Monday)

09.00 – 10.00 **Lecture-4:** Biochemistry auto analyzer maintenance and on-site troubleshooting

Dr Salima Akter, Dept. of Medical Biotechnology, BUHS

10.00 – 11.00 **Lecture-5:** Photometric techniques in clinical laboratory

Muhammad Saiedullah, Dept. of Applied Laboratory Sciences, BUHS

11.00 – 11.30 Tea / Coffee

11.30 – 13.00 **Practical Session:**

Group –A: Biochemistry auto analyzer

Group --B: Spectrophotometer, colorimeter and Micropipette calibration.

13.00 – 14.00 Lunch

14.00 – 16.00 **Practical Session:**

Rotation of Group A and B

16.00 – 16.30 Tea / Coffee

22 October 2019 (Tuesday)

09.00 – 10.00 **Lecture-6:** ELISA General guideline and Troubleshooting

Dr Rosy Sultana, Dept of Immunology, BUHS

10.00 – 11.00 **Lecture-7:** Genetic polymorphism in the disease pathogenesis & its complications

Muhammad Saiedullah, Dept. of Applied Laboratory Sciences, BUHS

11.00 – 11.30 Tea / Coffee

11.30 – 13.00 **Practical Session:**

Group –A: ELISA

Group –B: Common troubleshoots in Gel electrophoresis in DNA lab.

13.00 – 14.00 Lunch

14.00 – 16.00 **Practical Session:**

Rotation of Group A and B

16.00 – 16.30 Tea / Coffee

23 October 2019 (Wednesday)

09.00 – 10.00 **Lecture-8:** Medical equipments and their principles used in diagnostic radiology and imaging

Prof. SM Muraduzzaman, Dept. of Biomedical Engineering & Medical Physics, BUHS

10.00 – 11.00 **Lecture-9:** Clinical Safety in Radiology

Prof Dr Faridul Alam, Vice-Chancellor, BUHS

11.00 – 11.30 Tea / Coffee
11.30 – 13.00 **Practical Session:**
Group -A: X- ray/ imaging
Group –B: Ultra sonogram
13.00 – 14.00 Lunch
14.00 – 16.00 **Practical Session:**
Rotation of Group A and B
16.00 – 16.30 Tea / Coffee

24 October 2019 (Thursday)

09.00 – 10.00 **Lecture-10:** Microtome, a useful tool in Histopathology Laboratory
Prof Nasim Ahmed, Delta Medical College
10.00 – 11.00 **Lecture-11:** Use & maintenance of small lab instruments: Digital Balance,
Ph Meter, Dessicator, Sonicator, etc.
Prof Shahinul Haque Khan, Dept of Chemistry, BUHS
11.00--11.15 Tea / Coffee
11.15 – 12.15 **Practical Session:**
Microtome
12.15-13.30 Digital Balance, Ph Meter, Sonicator etc
13.30 – 14.30 Lunch
14.30 – 16.00 Open discussion, Concluding Session and Certificate distribution

Few photographs of 74th training programme of NITUB



75th Training Programme of NITUB
on the use, maintenance and trouble-shooting of Ultra Violet, Visible, and Infrared
spectrophotometer

23 November – 28 November 2019

Venue: Department of Chemistry, Jagannath University, Dhaka-1100

Report

The 75th Training Programme of NITUB on the use, maintenance and trouble-shooting of Ultra Violet, Visible, and Infrared spectrophotometer was held at Department of Chemistry, Jagannath University on 23 November – 28 November 2019. A brochure on the programme was circulated to all public and private universities, colleges, research organizations and pharmaceutical companies of Bangladesh. Professor Dr. Mohammad Sayed Alam, Chairman, Department of Chemistry, Jagannath University was the convener of the programme committee.

The inaugural session of the programme was held at the Room No. 218, Department of Chemistry, Jagannath University on 23 November 2019 and was presided over by Professor Mesbahuddin Ahmad, President of NITUB. Professor Dr. Mijanur Rahman, Honorable Vice Chancellor, JnU, kindly attended the session as the Chief Guest. The inauguration session was attended by the faculties and students of JnU, participants, resource persons. Professor Dr. Mohammad Sayed Alam, convener of the programme, delivered welcome address. Dr. Subrata Chandra Roy, Associate Professor, Department of Chemistry, JnU, member of the programme committee moderate the inaugural session, introduced participants and resource persons. He also narrated the detailed scheduled of the programme. Professor Dr. Altaf Hussain General Secretary, NITUB, briefly mentioned aims, objectives and activities of NITUB. He also thanked the Vice Chancellor of JnU for his kind permission and cooperation to allow NITUB to conduct the programme at JnU. 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 11 participants who are university 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 non-functioning visible spectrometer of JnU was repaired and installed during the practical session 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 at the Room No.218, Department of Chemistry, Jagannath University on 28 November 2019. The function was presided over by Professor Dr. Mohammad Sayed Alam, Chairman, Department of Chemistry, Jagannath University. Professor Dr. Mijanur Rahman, Honorable Vice Chancellor, JnU, kindly attended the session as the Chief Guest. Professor Dr. Nilufar Nahar, Treasurer of NITUB attended the function as Special Guest. In his speech, she highlighted the activities of NITUB and sought cooperation of all to conduct NITUB training programmes effectively. Professor Dr. Mohammad Sayed Alam, convener of the programme also spoke in the closing session of the programme. Prof. Dr. Md. Shajahan, Department of Chemistry, Jagannath University, another member of the programme committee expressed his great feeling as a resource person. Participants evaluated the programme as a very successful and helpful one. They thanked the resource persons and the organizers for such a well organized training programme. Honorable Vice-Chancellor in his address appreciated NITUB's activities and thanked NITUB to organize such an effective training programme at JnU. He specially thanked all resource persons who repaired and also installed scientific equipment of JnU during practical sessions of the training programme. The Vice-

Chancellor handed over certificates to the participants. Professor Dr. Nilufar Nahar congratulated the participants for successfully completing the training and thanked members of JnU for their support and cooperation in organizing the 75th training programme of NITUB.

Participants List

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Detailed Programme

23.11.2019 (Saturday)

0900-0930 - Registration

0930-1030 - Inauguration

1030-1100 - Tea

1100-1150 - **Lecture 1: Fundamentals of Spectroscopy - I**

Professor M. Muhibur Rahman, Former Professor, Department of Chemistry, DU & Former Member, UGC, Agargaon, Dhaka

1200-1250 - **Lecture 2: Fundamentals of Spectroscopy - II**

Professor M. Muhibur Rahman

1300- 1400 - Lunch

1400-1630 – **Laboratory Session-1:**

Demonstration of UV-VIS spectrophotometer & IR spectrophotometer

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

1630-1700 - Tea

24.11.2019 (Sunday)

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

Professor Dr. Mohammad Sayed Alam, Department of Chemistry, Jagannath University (JnU), Dhaka

1100-1130 – Tea

1130-1300 - **Laboratory Session-2**

Group A: Qunatitive analysis of phosphate ion (PO_4^{3-}) with UV-Vis Spectrophotometer

Trainer: Dr. Subrata Chandra Roy, Associate Professor, Dept. of Chemistry, JnU

Trainer: Dr. Abdus Samad, Associate Professor, Dept. of Chemistry, JnU

Group B: Analysis of Solid and Liquid sample by IR Spectrophotometer

Trainer: Professor Dr. Mohammad Sayed Alam, Dept. of Chemistry, JnU

Trainer: Professor Dr. Md. Aminul Haque, Dept. of Chemistry, JnU

Group C: Determination of Iron by UV-Vis Spectrophotometer

Trainer: Professor Dr. Md. Shajahan, Dept. of Chemistry, JnU

Trainer: Dr. Nafees Ahmed, Assistant professor, Dept. of Chemistry, JnU

1300-1400 - Lunch

1400-1630 - **Laboratory Session-2** (continuation)

1630-1700 - Tea

25.11.2019 (Monday)

1000-1100 - **Lecture 4: Trouble-shooting and Maintenance of UV-VIS and IR Spectrophotometers**

Professor Dr. Md. Abu Bin Hasan Susan, Department of Chemistry, DU

1100-1130 - Tea

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

Group B: Qunatitive analysis of phosphate ion (PO_4^{3-}) with UV-Vis Spectrophotometer

Group C: Analysis of Solid and Liquid sample by IR Spectrophotometer

Group A: Determination of Iron by UV-Vis Spectrophotometer

1300-1400 - Lunch

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

1630-1700 - Tea

26.11.2019 (Tuesday)

1000-1100 - **Lecture 5: Quality Control & Quality Assurance of Analytical Laboratory**

Dr. Lutfor Rahman, Department of Chemistry, Jagannath University, Dhaka

1100-1130 – Tea

1130-1230 – **Laboratory Session-4**

Group C: Quantitative analysis of phosphate ion (PO_4^{3-}) with UV-Vis Spectrophotometer

Group A: Analysis of Solid and Liquid sample by IR Spectrophotometer

Group B: Determination of Iron by UV-Vis Spectrophotometer

1230-1400 - Lunch

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

1630-1700 - Tea

27.11.2019 (Wednesday)

1000-1100 - **Lecture 6: Development of Analytical Method & validation as per ISO/IEC 17025**

Md. Aminul Ahsan, Director (Addl. Charge), INARS, BCSIR, Dhaka

1100-1130 - Tea

1130-1300 - **Laboratory Session-5**

Group A: Quantitative analysis of phosphate ion (PO_4^{3-}) with UV-Vis Spectrophotometer

Group B: Analysis of Solid and Liquid sample by IR Spectrophotometer

Group C: Determination of Iron by UV-Vis Spectrophotometer

1300-1400 - Lunch

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

1630-1700 - Tea

28.11.2019 (Thursday)

1000-1100 - **Laboratory Session-6**

Group B: Quantitative analysis of phosphate ion (PO_4^{3-}) with UV-Vis Spectrophotometer

Group C: Analysis of Solid and Liquid sample by IR Spectrophotometer

Group A: Determination of Iron by UV-Vis Spectrophotometer

1100-1130 - Tea

1130-1300 – **Laboratory Session-6** (continuation)

1300-1400 – Lunch

1400-1500 - **Laboratory Session-6** (continuation)

1500-1630 - Closing ceremony & Certificate distribution

1630-1700 - Tea

Few photographs of 75th training programme of NITUB



76th Training Programme of NITUB
On the Use, Maintenance and Trouble-Shooting of Common Laboratory Equipment
28 December 2019 – 2 January 2020
Venue: Department of Chemistry, Shahjalal University of Science and Technology, Sylhet.

Report

The 76th Training Programme of NITUB on the use, maintenance and trouble-shooting of Common Laboratory Equipment was held at Department of Chemistry, Shahjalal University of Science & technology, Sylhet-3114 on 28 December 2019 – 02 January 2020. 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. Md. Ashraful Alam, Head, Department of Chemistry and Director, Institutional Quality Assurance Cell (IQAC), Shahjalal University of Science and Technology, Sylhet.

The inaugural session of the programme was held in the Mini auditorium of Shahjalal University of Science and Technology, Sylhet on 28 December 2019 and was presided over by Professor Dr. Altaf Hussain, General Secretary of NITUB. Professor Dr. Anwarul Islam, Treasurer, SUST attended the function as Special guest. The inauguration session was attended by the faculties and students of SUST, and participants, resource persons of the training programme. Professor Dr. Md. Ashraful Alam, 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 SUST for his kind permission and cooperation to allow NITUB to conduct the programme at Shahjalal University of Science and Technology, Sylhet. Professor Dr. Anwarul Islam 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 28 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 SUST was repaired and installed during the practical session 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 on a regular basis.

The closing ceremony was held in the Mini Auditorium of SUST on 2 January 2020. The function was presided over by Professor Mesbahuddin Ahmad, President of NITUB. Professor Farid Uddin Ahmed, Honorable Vice Chancellor, SUST, kindly attended the session as the Chief Guest. In his speech, he highlighted the activities of NITUB and sought cooperation of all to conduct NITUB training programmes effectively. Professor Dr. Anwarul Islam, Treasurer, SUST attended the function as Special guest. Professor Nilufar Nahar, Treasurer of NITUB, Professor Begum Rokeya, Joint Secretary of NITUB and Professor Dr. Md. Ashraful Alam, convener of the programme also spoke in the closing session of the programme. Participants evaluated the programme as a very successful and helpful one. They thanked the resource persons and the organizers for such a well organized training programme. Professor Mesbahuddin Ahmad congratulated the participants for successfully completing the training and handed over certificates to them.

Participants List

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Detailed Programme:

28 December 2019 (Saturday)

0930-1030 - Registration

1030-1130 - Inauguration

1130-1200 - Tea

1200-1300 - ***Lecture 1: Working Principle, Use and Maintenance of TGA, GSC and GPC***

Professor Dr. Mohammad Mizanur Rahman khan, Dept. of Chemistry, SUST,
Sylhet-3114

1300-1400 - Lunch

1400-1630 - Practical session - I

Group – I, Lab. - A

Autoclave, Colorimeter, Conductivity Meter, High Vacuum Pump, Centrifuge, Ice maker, Electric Balance, Melting point Apparatus etc

1. Ashit Kumer Kundu, Ex. Superintendent Engineer, University of Dhaka

2. Md. Tanvir Uddin, Instrument Engineer, NITUB

Group –II, Lab. - B

Vortex, Rotary evaporator, Oven, pH-Meter, Orbital shaker, Heating mantle, UV-lamp, Hot plate Stirrer etc

1. Dr. Md. Kamrul Islam Khan, Sub-Assistant Engineer, BINA, Mymensingh

2. Engr. Md. Zakaria Khan, Junior Experimental Officer, Analytical Service cell,

BCSIR,

Dhaka

Group – III, Lab. - C

Muffle furnace, Incubator, Water bath, Distillation plant, Laminar Air Flow, Hot plate, Ultrasonic bath, Spectrophotometer etc

1. Mr. Abdus Salam Patwary, Former Instrument Engineer, ICDDR'B, Dhaka

2. Md. Abul Kalam Chowdhury, Instrument Engineer, NITUB,

1630-1700 - Tea

29 December 2019 (Sunday)

0930-1100 - **Lecture 2: Basic Electronics**

Engr. Md. Muzibur Rahman, Regional Engineer, Bangladesh Betar, Dhaka

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

30 December 2019 (Monday)

0930-1100 - **Lecture 3: Troubleshooting, Maintenance & Causes of failure in Common Laboratory**

Equipment

Md. Tanvir Uddin, Instrument Engineer, NITUB

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

31 December 2019 (Tuesday)

0930-1030 - **Lecture 4: Basic knowledge of Electricity & Electronics for fault finding technique of**

Common Laboratory Equipments

Md. Abul Kalam Chowdhury, Instrument Engineer, NITUB

1030-1100 - Tea

1100-1300 - Practical session - IV

Group - I; Lab. - B

Group - II; Lab. - C

Group - III; Lab. - A

1300-1400 - Lunch

1400-1630 - Practical session -IV (Continuation)

1630-1700 - Tea

01 January 2020 (Wednesday)

0930-1100 -*Lecture 5: Fabrication of Commonly Used Laboratory Equipment*

Professor Dr. Md. Ashraful Alam, Dept. of Chemistry, SUST, Sylhet-3114

1100-1130 - Tea

1130- 1300 - Practical session -V

Group - I; Lab. - C

Group - II; Lab. - A

Group - III; Lab. - B

1300-1400 - Lunch

1400-1630 - Practical session -V (Continuation)

1600-1630 - Tea

02 January 2020 (Thursday)

0930-1030 - Practical session –VI

Group - I; Lab. - C

Group - II; Lab. - A

Group - III; Lab. - B

1030-1100 - Tea

1100-1200 - Practical session –VI (Continuation)

1200 -1300 -*Lecture 6: Laboratory Safety*

Professor Dr. NilufarNahar, Ex. Chairperson Dept. of Chemistry University of

Dhaka.

1300-1400 - Lunch

1400-1500 - Open Discussion

1500-1600 - Closing Ceremony & Certificate Distribution

1600-1630 - Tea

Few photographs of 76th training programme of NITUB

