

# **Course Guideline**

## **Training on Seed Technology**

**Duration: 28 October to 06 November 2018**



**National Agriculture Training Academy (NATA)**  
**Gazipur-1701**  
**[www.nata.gov.bd](http://www.nata.gov.bd)**

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## **Course Management Team**

- Course Advisor** : **Dr. Md. Abu Sayeed Miah**  
Director General (In-charge)  
NATA, Gazipur.
- Course Director** : **Dr. Md. Ataur Rahman Howlader**  
Director, Administration (In-charge)  
NATA, Gazipur.
- Course Coordinator** : **Dr. Mohammad Shariful Islam**  
Deputy Director (Agronomy)  
NATA, Gazipur.
- Asst. Course Coordinator:** **1. Khabirunnahar**  
Senior Assistant Director  
(Pulse & Oil Crops)  
NATA, Gazipur.
- 2. Hafsha Khatun**  
Senior Assistant Director  
(Genetics & Plant Breeding)  
NATA, Gazipur.
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# **Introduction to National Agriculture Training Academy**

## **1.1 The Academy**

National Agriculture Training Academy (NATA) is the apex training institute for human resource development of officers (grade-9 and above) under the Ministry of Agriculture (MoA) for providing training on diversified fields of professional interest in agriculture sector. The Academy organizes various training programs related to modern agricultural technologies and office management issues throughout the year. The academy is established in Gazipur as Central Extension Resources Development Institute (CERDI) on 14 March 1975 with the financial assistance of Japan International Cooperation Agency (JICA). Afterwards, on 27 June 1984, CERDI was undertaken to the Training Wing of Department of Agricultural Extension (DAE). On 03 April 2013, Government of the People's Republic of Bangladesh abolished CERDI and established NATA as an independent organization of MoA and on 07 June 2014, NATA has been started its journey as a training academy.

After emergence as NATA, the Academy began its training functions with only 10 faculty members. Though Government approved strength is 184, at present NATA has 84 staff members including 30 faculty members.

## **1.2 Vision**

National Agriculture Training Academy becomes a center of excellence for developing competent human resources in agriculture sector.

## **1.3 Mission**

We are pledged to achieve the shared vision through:

- i. Development of skilled human resources of all organizations under MoA by imparting quality training, research and development and publications;
- ii. Enhancement of linkage between education, research and extension to endow agriculture service delivery system;
- iii. Building a network with reputed institutions of home and abroad for organizational capacity development; and
- iv. Fostering a culture of continuous learning for development of knowledge-intensive agriculture service.

## **1.4 Functions**

The NATA has been entrusted to perform the following functions:

- i. Develop skilled human resources of the government, semi-government, autonomous organizations under MoA through imparting training program on modern and sustainable agriculture technology and office management topics;
  - ii. Transfer modern and sustainable agriculture technology developed by the research organizations obtaining higher yield of crops of the farmers;
  - iii. Conduct demonstration, adaptive research and research of proven technologies;
  - iv. Impart all sorts of in-service training with special emphasis on induction, foundation and senior staff course;
  - v. Exchange publications, participants and resource persons in seminars, workshops, conferences and training among the stakeholders;
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- vi. Advice government and other organizations on training, achieving food and nutrition security, ICT, transfer of agriculture technology, agro-based industries and conservation environments etc.;
- vii. Help government and policy makers in framing and analyzing agricultural policies;
- viii. Conduct different training activities of academy in consonance with provision of the public administration training policy, 2003; and
- ix. Perform all kinds of duties directed by the government.

## **1.5 Location of the Academy**

The Academy is about 25 km away from the capital city Dhaka and 3 km away from Joydevpur Chandana Chowrasta towards Gazipur district head quarter. It is located adjacent to Bangladesh Rice Research Institute (BRRI) and occupied 49 acres of land. The academy provides the trainees an ample scope to get free access to the adjacent institutions like Bangladesh Agriculture Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Seed Certification Agency (SCA), Bangabondhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Telecommunication College, and other government offices in Gazipur.

## **1.6 Facilities**

### **1.6.1 Physical Facilities**

The Academy is well equipped with some physical facilities to run the training programs successful though it began its voyage recently. Existing facilities of the academy are as follows.

- Office building-2
- Class room- 3
- Laboratory (Subject wise technical)
- Plant protection museum- 1
- Conference room- 1
- Auditorium-1
- Dormitory- 4
- Cafeteria- 1
- Greenhouse- 3
- Workshop-1
- Mosque-1

### **1.6.2. Digital Computer cum Language Lab. and IT facilities**

There is one Digital Computer cum Language Lab in the Academy. It is located on the 1<sup>st</sup> floor of the Administrative building. IT facilities available include LAN and Wi-Fi and the whole campus under Wi-Fi coverage. To expedite foreign language learning, NATA set up a Digital Computer cum Language Lab. as part of the Academy's drive for capacity building of government officials. Participants can avail the opportunity of learning the foreign language while they stay in NATA.

### **1.6.3 Recreational Facilities**

The Academy has a recreation room with color T.V in the dormitory. The daily newspapers are also available in recreation room for the participants.

### **1.6.4 Linkage with other Training Organizations**

NATA maintains good relations with other training Academies in the country including BPATC, RPATC, BCS Administration Academy, BIAM, FIMA and so on. NATA has a plan

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to collaborate with international training institutes for improvement its human resources. NATA also collaborate with national research organizations for research in agriculture sector.

### **1.7 Evaluation**

Course coordinator and asst. course coordinators are given the responsibility to evaluate the participants. The course is evaluated during pre and post training situation. Furthermore, the participants are given the chance to evaluate the resource speakers by using a prescribed format.

### **1.8 Sessions**

Everyday the session is started at 9.00 am in the morning and ends at 5:00 pm in the afternoon. There are two health breaks started at 10.30 am for snacks and 03.30 pm for tea as well as lunch with prayer break at 01.05 pm respectively. Participants are advised to attend the class in time without fail for avoiding any kinds of disciplinary action.

### **1.9 Norms to be followed during the training**

- No casual leave is allowed during training period;
  - Participants living in the dormitory are advised to follow the norms of the dormitory;
  - The campus area is a “Non Smoking Zone”. Participants are advised to refrain from smoking inside the Academy; and
  - Participants are not allowed to enter the dormitory after 10:00 pm at night.
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# Course at a glance

## Introduction

National Agriculture Training Academy (NATA) is the apex training academy under Ministry of Agriculture. NATA is organized training programs on the basis of the needs of 17 organizations under the MoA. At the pace of progress in agricultural productivity, it has become necessary to ensure that seeds of good quality reach every farmer at the right time, at the right place and at affordable price. To achieve this we need as soon as possible a large number of seed technologists who are conversant with all aspects of seed industry. Therefore, the officers of different organizations under the MoA need skills on different activities regarding quality seeds and the training on seed technology will help them to perform efficiently their jobs with seed related activities in order to achieve quality seeds.

## Course objectives

After completion of training course the participants will be able to:

- a) state the concept of seed quality and seed technology;
- b) explain the quality control mechanism of seed in Bangladesh;
- c) perform the production, processing, testing and storage of seed properly;
- d) illustrate the marketing system and planning of seed business for an entrepreneurs;
- e) comply the seed acts, rules and regulations of Bangladesh in their job area.

**Target population:** Officers (9<sup>th</sup> Grade and above) of different organizations under Ministry of Agriculture.

**Duration of each session:** 60 minutes.

## Prerequisites of the course:

- To attend in the training class in time;
  - To be present at least 99% of the classes otherwise certificate may not be awarded;
  - Maintain the norms in dormitory and cafeteria;
  - Absent from any session is not allowed without prior permission from the course coordinator even in case of emergency
  - Enthusiastic to learn and share ideas in training session
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## Course content

Sl.	Subject
1.	<b>Module - 1: Seed Technology and Quality Aspects</b>
2.	Lesson 1: Seed technology: Conceptual issues of seed and seed quality
3.	Lesson 2: Concept on quality seed, dormancy and seed quality enhancement
4.	Lesson 3: Seed system and status of quality seed in Bangladesh and abroad
5.	<b>Module - 2: Seed Quality Control and Assurance</b>
6.	Lesson 1: Seed quality control mechanism in Bangladesh and abroad
7.	Lesson 2: Seed generation and seed certification system in Bangladesh
8.	Lesson 3: Field inspection of cereal crops and field & seed standards
9.	Lesson 4: Field counting in rice seed crop (practical/group work)
10.	Lesson 5: National integrity and ethics in quality seed supply
11.	<b>Module - 3: Varietal Development and Seed Maintenance</b>
12.	Lesson 1: Varietal types and methods of their development
13.	Lesson 2: Maintenance of nucleus and breeder seed of rice and other crops
14.	Lesson 3: Variety release and registration procedures in Bangladesh
15.	Lesson 4: Identifying characters of important varieties of notified crops
16.	Lesson 5: Special characters of important varieties of non-notified crops
17.	<b>Module - 4: Seed Multiplication and Processing</b>
18.	Lesson 1: General principles of seed production and seed research
19.	Lesson 2: Seed production techniques of open pollinated vegetable crops
20.	Lesson 3: Hybrid seed production technology of important vegetables
21.	Lesson 4: Seed production technology of hybrid rice
22.	Lesson 5: Harvesting and seed extraction methods of different vegetables
23.	Lesson 6: Control measures of important insects of major crops
24.	Lesson 7: Control measures of important diseases of major crops
25.	Lesson 8: Processing of seeds (drying, cleaning, grading, treatment and packing)
26.	Lesson 9: Seed preservation and storage management
27.	Lesson 10: Control measures of pests in seed storage
28.	<b>Module - 5: Seed Sampling and Quality Testing</b>
29.	Lesson 1: Seed sampling and sample preparation
30.	Lesson 2: Seed sample registration and purity analysis
31.	Lesson 3: Seed moisture content, vigour and viability test
32.	Lesson 4: Seed germination test and seedling evaluation
33.	Lesson 5: Seed health test: Materials and testing procedure
34.	Lesson 6: Seed purity analysis (practical)
35.	Lesson 7: Seed moisture content, vigour and viability test (practical)
36.	Lesson 8: Seed setting for germination test and seedling evaluation (practical)
37.	Lesson 9: Identification of seed borne pathogens of major crops (practical)
38.	<b>Module - 6: Seed Marketing and Seed Business</b>
39.	Lesson 1: Seed marketing and distribution system in Bangladesh
40.	Lesson 2: Seed business and seed enterprises development
41.	Lesson 3: Field visit to seed related organization on marketing/business
42.	<b>Module - 7: Seed Policy and Seed Legislation/Law</b>
43.	Lesson 1: Overview of the national seed policy and the agriculture policy
44.	Lesson 2: The Seed act of Bangladesh in comparison to other countries
45.	Lesson 3: The Seed rules of Bangladesh and problems in its enforcement
46.	Lesson 4: The plant quarantine act & rules and nursery guidelines of Bangladesh
47.	Lesson 5: Seed market monitoring and mobile court enforcement



### List of resource speaker/personnel

Sl. No.	Name & Designation	Address	Mobile No.
1	Dr. M. Moynul Haque Professor & Dean	Dept. of Agronomy, Agriculture Faculty, BSMRAU, Gazipur	01711908640
2	Dr. M. Mofazzal Hossain Professor	Dept. of Horticulture, BSMRAU, Gazipur	01819433225
3	Dr. Md. Golam Rasul Professor	Dept. of Genetics & Plant Breeding, BSMRAU, Gazipur	01715401448
4	Dr. Md. Abu Ashraf Khan Professor	Dept. of Plant Pathology, BSMRAU, Gazipur	01711193457
5	Mr. M. Shahjahan Ali Member Director (Ret.)	BSFIC, Dhaka and Seed Technologist & Regulation Specialist	01730013391
6	Mr. Mir Nurul Alam Director	Planning, Project Implementation and ICT Wing, DAE, Dhaka	01755507728
7	Mr. Md Khairul bashar Director	Seed Certification Agency, Gazipur	01720379535
8	Dr. Md. Abdul Khaleque CSO	Seed Technology Division, BARI, Gazipur	01712768569
9	Md. Ahsan Ullah AD & Consultant (PRA)	BPAE Project, DAE, Dhaka	01715041099
10	Dr. Md. Jamil Hasan PSO & Head	Hybrid Division, BRRI, Gazipur	01718289331
11	Sarder Md. Salauddin Joint Director (Ret.)	Horticulture, BADC, Dhaka	01712406777
12	Dr. Md. Shariful Islam Deputy Director (Agronomy)	NATA, Gazipur	01743051115
13	Md. Azim Uddin Chief Seed Technologist	Seed Wing, MoA	01556341143
14	Md. Hasan Kabir Deputy Director (Finance)	Seed Certification Agency, Gazipur	01625805717
15	Dr. Shukdev Kumar Das DD (Planning & Evaluation),	Seed Certification Agency, Gazipur	01720078274
16	Md. Shahidul Islam Chief Seed Technologist	NST Lab., SCA, Gazipur	01924084994
17	Dr. Md. Abdul Mazed Deputy Director (LR)	Attached to NATA, Gazipur	01814849190
18	Dr. Md. Sadek Deputy Manager	Seed Marketing, BADC, Dhaka	01915448929
19	Khabirunnahar, Sr. Ast. Director (Pulse and Oil Crops)	NATA, Gazipur	01733995286
20	Jharna Begum, Sr. Ast. Director (Field Crop Pest)	NATA, Gazipur	01716227489
21	Nilufa Akhtar, Sr. Asst. Director (Food Processing Technology)	NATA, Gazipur	01719174775

## Faculty members

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	Dr. Md. Delwar Hossain Mazumder Deputy Director (Agril. Ext. & Rural Economy)	01552-426576 01815-597304 dhossain1960@yahoo.com
	Ranjit Kumar Pal Deputy Director (Agril. Machinery & Water Management)	01818-600706 ranjitrkpbdb@gmail.com
	Md. Mahmud Hasan Deputy Director (Horticulture)	01817-066613 mahamudhassandae@gmail.com
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	Dr. Md. Sayedur Rahman Deputy Director (Admin & Support Service)	02-49261075 01552-495564 sayedur.63@gmail.com
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	Mst. Mushfiqua Hasneen Chowdhury Senior Assistant Director (Soil Physics)	01716-972977 mushfiqua21@yahoo.com
	Abul Kalam Azad Senior Assistant Director (Farm Machinery and Water Management)	01940-652412 azadipm@gmail.com
	Jharna Begum Senior Assistant Director (Field Crop Pest)	01716-227489 jharna.kahaloo@gmail.com
	Md. Eskandar Hossain Senior Assistant Director (Vegetables & Spices)	01938-615225 eskandarhossain@yahoo.com

	Nilufa Aktar Senior Assistant Director (Food Processing Technology)	01719-174775 nilufaa@yahoo.com
	Mist. Sharmin Akhter Senior Assistant Director (Horticulture Crop Pest)	01711-736571 slaboni1980@gmail.com
	Tahazul Islam Senior Assistant Director (Cereal & Cash Crop)	01717-287940 tahazul@yahoo.com
	Sharmin Jui Senior Assistant Director (Biotechnology)	01670-709313 shrmn_jui@yahoo.com
	Mst. Irin Parvin Senior Assistant Director (Field Crop Disease)	01727-249448 irin.dae28@gmail.com
	Muhammad Shahadat Hossain Siddiquee Senior Assistant Director (Agriculture Economics)	01753-896598 muhammadsiddiquee@gmail.com
	Hafsha Khatun Senior Assistant Director (Genetics & Plant Breeding)	01721-670789 hafshahappy@yahoo.com
	Most. Nurnahar Senior Assistant Director (Flower & Fruit)	01712-672804 nrstdae2011@gmail.com
	Md. Anowarul Islam Juwel Senior Assistant Director (Agriculture Extension)	01710-586075 juwelbau@gmail.com
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## প্রশিক্ষার্থীদের তালিকা

সময়কালঃ ২৮ অক্টোবর - ০৬ নভেম্বর ২০১৮ খ্রি:

ক্র. নং	নাম ও পদবী	কর্মস্থল	মোবাইল ও ইমেইল
1.	মোঃ আবুদল্লাহ আল নোমান কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, কালীগঞ্জ, ঝিনাইদহ	01736602631 nomansau69@gmail.com
2.	মোঃ এহসানুল হক কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, শাহজাদপুর, সিরাজগঞ্জ	01723948277 ahsanulsau@gmail.com
3.	তানজিলা রহমান কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, সদর, গাজীপুর	01670014124 almueez208@gmail.com
4.	মাসউদ পারভেজ কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, সদর, কক্সবাজার	01722552734 parvezrock4@gmail.com
5.	মর্জিনা আক্তার মুন্নি কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, নেত্রকোনা সদর, নেত্রকোনা	01721697679 marjinadae@gmail.com
6.	মোঃ আব্দুল মতিন কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, খোকসা, কুষ্টিয়া	01731453344 krishibid.matin@gmail.com
7.	মুহাম্মদ মোরশেদ আলম কৃষি সম্প্রসারণ অফিসার	উপজেলা কৃষি অফিস, আদর্শ সদর, কুমিল্লা	01734995818 sophisticated.id14@gmail.com
8.	আবু সালেহ উদ্যানতত্ত্ববিদ	হটিকালচার সেন্টার, নাটোর	01724392261 asbau09a@gmail.com
9.	মোহাঃ আরিফুন্নাহার বৈজ্ঞানিক কর্মকর্তা	উদ্ভিদ রোগতত্ত্ব বিভাগ, বিএআরআই, গাজীপুর	01719247502 bonitlpa@yahoo.com
10.	মোঃ মিজানুর রহমান বৈজ্ঞানিক কর্মকর্তা	উদ্যানতত্ত্ব বিভাগ, বিএআরআই, মৌলভী বাজার	01911884287 mizan_sau1057@yahoo.com
11.	মোঃ তৌহিদুল করিম সহকারী ব্যবস্থাপক	বিএডিসি, ঢাকা	01868565622 towhidulkarim91@gmail.com
12.	মোঃ মাহমুদুল হাসান খান সহকারী পরিচালক	বিএডিসি, টেবুনিয়া পাবনা	01717412887 mhksumon07@gmail.com
13.	মোঃ মামুনুর রশিদ বৈজ্ঞানিক কর্মকর্তা	বিএসআরআই, ঠাকুরগাঁও	01724861861 mamun.sau67@gmail.com
14.	জেড এম রাফিকুল ইসলাম তুলা উন্নয়ন কর্মকর্তা	তুলা উন্নয়ন বোর্ড	01717385469 torun2844@yahoo.com
15.	মোহাম্মদ শরিফুল ইসলাম সহকারী প্রকৌশলী	তানোর জোন, বিএমডিএ, রাজশাহী	01712536768 ae_tanore_raj@bmda.gov.bd
16.	মোঃ মাহমুদ আল নূর বৈজ্ঞানিক কর্মকর্তা	বিনা, ময়মনসিংহ	01797371659 alnoormahmud4@gmail.com
17.	মোঃ মুকুল মিয়া বৈজ্ঞানিক কর্মকর্তা	বিজেআরআই, ঢাকা	01520053088 mukulbjribreeding@gmail.com
18.	সিফাত-ই-জামাল বীজ রোগতত্ত্ববিদ	বীজ প্রত্যয়ন এজেন্সী, গাজীপুর	01710583348 pathologist.1@sca.gov.bd
19.	মোঃ আরিফুজ্জামান বীজ বিশ্লেষক	বীজ প্রত্যয়ন এজেন্সী, গাজীপুর	01710540789 arifsau2839@gmail.com
20.	মোঃ রাজিব হুসাইন বীজ বিশ্লেষক	আঞ্চলিক বীজ প্রত্যয়ন অফিস, চট্টগ্রাম	01735635656 razib321@gmail.com
21.	মোঃ সাবের আলম বীজ প্রত্যয়ন অফিসার	জেলা বীজ প্রত্যয়ন অফিস, চাঁপাইনবাবগঞ্জ	01757336683 md.saber.ag@gmail.com
22.	□□□□ □□□□□□ □□□□ সীড প্যাথলজিস্ট	আঞ্চলিক বীজ প্রত্যয়ন অফিস, রংপুর	01755386140 ruhulsau222@gmail.com

# *Training Course on “Seed Technology”*

## Training Schedule

### Day-1: 28/10/2018 (Sunday)

Time	Topic/Session	Speaker/Facilitator
08:45 - 09:15	Registration	Mrs. Sadekunnahar, Demonstrator, NATA
09:15 - 09:30	Pre-evaluation/perception test	Hafsa Khatun, Sr.AD, NATA
09:30 - 09:35	About training norms & formation of PMC	Khabirunnahar, Sr.AD, NATA
09:35 - 09:55	Inaugural ceremony	DG/Directors, CC, ACC & Faculty Members
09:55 - 10:55	Seed science and technology: Conceptual issues of seed and seed quality	Prof. Dr. M. Moynul Haque, Dean, Faculty of Agriculture, BSMRAU
10:55 - 11:15	<b>Tea Break</b>	
11:15 - 12:15	Concept on quality seed, seed dormancy and seed/quality enhancement	Do
12:20 - 01:20	Seed system and status of quality seed in Bangladesh & abroad	Md. Shahjahan Ali, MD (Ret.), BSFIC & Seed Technologist and Regulation Specialist
01:20 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Seed quality control mechanism in Bangladesh and abroad	Do
03:40 - 04:40	Seed generation and seed certification system in Bangladesh	Dr. Mohammad Shariful Islam DD (Agronomy), NATA

### Day-2: 29/10/2018 (Monday)

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Hafsa Khatun, Sr.AD, NATA
09:35 - 10:35	Field inspection of cereal crops and field & seed standard of notified crops	Dr. Mohammad Shariful Islam DD (Agronomy), NATA
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Field counting in rice seed crop (practical)	Do
12:10 - 01:10	Varietal types and methods of their development	Prof. Dr. Md. Golam Rasul Dept. of Genetics & Plant Breeding, BSMRAU
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Maintenance of nucleus and breeder seed of rice and other crops	Do
03:40 - 04:40	Variety release and registration mechanism in Bangladesh	Khabirunnahar, Sr.AD (Pulse & Oil Crops), NATA

### Day-3: 30/10/2018 (Tuesday)

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Khabirunnahar, Sr.AD, NATA
09:35 - 10:35	National integrity and ethics in quality seed supply	Mir Nurul Alam, Director, Planning, Project Implemt. and ICT Wing, DAE
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Identifying characters of important varieties of notified crops	Khabirunnahar, Sr.AD (Pulse & Oil Crops), NATA
12:10 - 01:10	Special characters of important varieties of non-notified crops	Dr. Mohammad Shariful Islam DD (Agronomy), NATA
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	General principles of seed production and review & scope of seed research & development	Dr. Md. Abdul Khaleque, CSO & Head, Seed Tech. Div., BARI, Gazipur
03:40 - 04:40	Seed production technology of hybrid rice	Dr. Md. Jamil Hasan, PSO & Head, Hybrid Division, BRRI, Gazipur

**Day-4: 31/10/2018 (Wednesday)**

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Hafsa Khatun, Sr.AD, NATA
09:35 - 10:35	Special seed production techniques of important open pollinated vegetables	Prof. Dr. M. Mofazzal Hossain Dept. of Horticulture, BSMRAU
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Hybrid seed production technology of important vegetables	Do
12:10 - 01:10	Harvesting and seed extraction methods of different vegetables	Do
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Control measures of important insects of major crops	Dr. Md. Abdul Mazed, DD (LR) Attached to NATA, Gazipur
03:40 - 04:40	Seed sampling and sample preparation for testing	Dr. Mohammad Shariful Islam DD (Agronomy), NATA

**Day-5: 01/11/2018 (Thursday)**

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Khabirunnahar, Sr.AD, NATA
09:35 - 10:35	Processing of seeds (drying, cleaning, grading, treatment and packaging)	Dr. Md. Sadek, Deputy Manager (Seed Marketing), BADC, Dhaka
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Seed preservation and storage management	Do
12:10 - 01:10	Seed marketing and distribution system in Bangladesh	Md. Salauddin, Ret. JD (Horticulture), BADC
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Seed business and seed enterprises development	Do
03:40 - 04:40	Seed sample registration and purity analysis	Nilufa Akhtar, Sr. Asst. Director (Food Processing Technology), NATA

**Day-6: 02/11/2018 (Friday): Weekly Holiday****Day-7: 03/11/2018 (Saturday)**

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Hafsa Khatun, Sr.AD, NATA
09:35 - 10:35	Seed moisture content, vigour and viability test	Md. Hasan Kabir DD (Finance), SCA, Gazipur
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Seed germination test and seedling evaluation	Do
12:10 - 01:10	Control measures of important diseases of major crops	Prof. Dr. Md. Abu Ashraf Khan Dept. of Plant Pathology, BSMRAU
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Seed health test: Materials and testing procedure	Do
03:40 - 04:40	Seed market monitoring and mobile court enforcement	Dr. Shukdev Kumar Das, DD (Planning & Evaluation), SCA, Gazipur

**Day-8: 04/11/2018 (Sunday)**

Time	Topic/Session	Speaker/Facilitator
09:20 - 09:35	Review of previous day	Dr. Shariful Islam, DD (Agronomy), NATA
09:35 - 10:35	Seed purity analysis (practical)	Md. Shahidul Islam Khan CST, NST Lab., SCA, Gazipur
10:35 - 10:55	<b>Tea Break</b>	
11:00 - 12:00	Seed moisture content, vigour and viability test (practical)	Do
12:10 - 01:10	Seed setting for germination test and seedling evaluation (practical)	Do
01:10 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30 - 03:30	Identification of seed borne pathogens of major crops (practical)	Dr. Md. Ashik Iqbal, SSO, BRRI, Gazipur
03:40 - 04:40	Control measures of pests in seed storage	Jharna Begum, Sr. Asst. Director (Field Crop Pest), NATA

**Day-9: 05/11/2018 (Monday)**

<b>Time</b>	<b>Topic/Session</b>	<b>Speaker/Facilitator</b>
09:00 - 09:30	Visit to breeder seed production plot, BRRI, Gazipur	Representative Officers, BRRI
09:50- 10:20	Visit to seed processing centre, BADC, Gazipur	Representative Officers, BADC
10:20 - 10:35	<b>Tea Break</b>	
11:00 - 01:00	Visit to R & D Farm, Lal Teer Seed Ltd., Bason, Gazipur	Representative Officers, LTSL
01:00 - 02:00	<b>Prayer &amp; Lunch</b>	
02:00 - 03:00	Visit to R & D Farm, Lal Teer Seed Ltd., Bason, Gazipur	Do
03:30 - 04:30	Preparation of presentation of group assignment on visit	All participants

**Day-10: 06/11/2018 (Tuesday)**

<b>Time</b>	<b>Topic/Session</b>	<b>Speaker/Facilitator</b>
09:00 - 10:00	The National Seed Policy, the Agriculture Policy (Seed related) and the Nursery Guidelines of Bangladesh	Md. Azim Uddin, CST, MoA / Dr. Shariful Islam, DD, NATA
10:05 - 11:05	Overview of the Seed Act of Bangladesh in comparison to abroad	Md. Khairul Bashar, Director, SCA, Gazipur
11:05 - 11:20	<b>Tea Break</b>	
11:25 - 12:25	The Seed Rules of Bangladesh and problems in its enforcement	Md. Khairul Bashar, Director, SCA, Gazipur
12:30 - 01:30	Salient features of the Plant Quarantine Act & the Plant Quarantine Rules of Bangladesh	Md. Ahsan Ullah, AD, DAE, Dhaka / Dr. Shariful Islam, DD, NATA
01:30 - 02:30	<b>Prayer &amp; Lunch</b>	
02:30- 03:15	Group work/assignment presentation	Chairman of the session & Faculty Members
03:15 - 03:45	Post-evaluation/perception test and course evaluation	Course Coordinator and ACC
03:45 - 04:30	Closing Ceremony	DG/Directors, CC, ACC & Faculty Members

\*This schedule is subject to change.

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