



**National Vocational Certificate Level 3 in Seed Processing & Biotechnology  
(Seed Procurement Assistant)**



**National Vocational Certificate Level 3 in Seed Processing & Biotechnology  
(Seed Procurement Assistant)**



**(Curriculum)**

**National Vocational and Technical Training Commission (NAVTTC)**

**Government of Pakistan**



## National Vocational Certificate Level 3 in Seed Processing & Biotechnology (Seed Procurement Assistant)



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## ***National Vocational Certificate Level 3 in Seed Processing & Biotechnology (Seed Procurement Assistant)***



### **Introduction**

#### **Definition/Description of training program (Seed Procurement Assistant)**

Increasing demand in food supply due to increase in population putting pressure on agriculture sector day by day. Many factors like poor cultivation methods, lack of advanced machineries and non-availability of quality inputs also a big challenge for agriculture sector to feed this growing population. Therefore, governing bodies are now focusing for boosting production of better quality with high yield of agriculture commodities. Among the various challenges, availability of quality seeds to the farming community also a big challenge for authorities. Seed as a key for successful farming have prime importance in agriculture sector. Fortunately, industry is creating space for new businesses where Seed Processing & Biotechnology have potential for becoming focal point for investors.

Seed processing is a vital part of the technology to produce quality seeds for farming community, which includes operation involved in harvesting, cleaning, drying, seed treatments, seed quality testing, packaging and storage. Properly processed seed is a guaranty for high production rate of crops. Currently working seed processing units are also not producing satisfactory results. Limitation for their success includes various factors, among these factors availability of skilled labor is a major concern.

Keeping in view of the above, NAVTTC developed a qualification which is based on seed processing operations carried out in advanced processing industry techniques. This competency based national vocational qualifications have been developed to train the unskilled human resource on the technical and entrepreneurial skills to be employed / self-employed and inevitably set sustainable impact on their lives by increasing their livelihood income which ultimately help agriculture sector of country.

Training Course is based on competency standards which are defined by the industry and the traditional role of a trainer changes and shifts towards the facilitation of training. A trainer encourages and assists trainees to learn for themselves. Trainees are likely to work in groups (pairs) and all doing something different. Some are doing practical tasks in the site/workshop, some writing, some not even in the classroom or site/workshop but in another part of the



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building using special equipment. As trainees learn at different pace they might be at different stages in their learning, thus learning must be tailored to suit individual needs. The following facilitation methods (teaching strategies) are generally employed.

### **Purpose of the training program:**

The purpose of this training is to set highly professional standards for seed processing and biotechnology in agriculture sector. The basic goals of establishing these credentials are as follows:

1. Equip with the latest Seed processing techniques
2. Improve crop production through availability of processed seed
3. Improve trainees' professional competence
4. Provide in-depth knowledge in seed processing operations
5. Enable the existing workforce to learn new technologies and methods
6. Provide flexible pathways and progressions in agriculture sectors
7. Enabling the youth with greater employment opportunities



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### **Overall objectives of training program:**

The main objectives of the National Vocational Certificate Level 3 in Seed Processing & Biotechnology (Seed Procurement Assistant) are as follows:

- Improve the professional competence of Seed processing & Biotechnology
- Capacitate the local community and trainers in modern CBT training, methodologies and processes as envisaged under NVQF
- Provide flexible pathways and progressions in the Seed Processing & Biotechnology
- Enable the trainees to perform their duties in efficient manner
- Establish a standardized and sustainable system of training for Seed processing & Biotechnology across globe

### **Competencies to be gained after completion of course:**

At the end of the course, the trainee has attained the following core competencies:

1. Maintain Safety at Site
2. Work in a Team Environment
3. Perform Seed Sampling
4. Perform Seed Procurement
5. Perform Seed Transportation
6. Perform Basic operations for Warehouse Management
7. Manage Inventory of Materials

### **Possible available job opportunities, available immediately and later in the future:**

- Seed Procurement Assistant
- Seed Procurement In charge



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- **Trainee entry level:**

The entry level for National Vocational Certificate Level 3 in Seed Processing & Biotechnology (**Seed Procurement Assistant**) is given below:

| Title  | Entry requirements  |
|--|---|
| National Vocational Certificate Level 3 in Seed Processing & Biotechnology ( <b>Seed Procurement Assistant</b> ) | The entry requirement for this qualification would be Level 2 in Seed Processing & Biotechnology ( <b>Field Assistant for Seed Production</b> ) |

**Minimum qualification of trainer:**

B.Sc. (Hons) Agriculture with preferably major Biotechnology/Plant Breeding and Genetics with at least three year experience in relevant field

**Recommended trainer: trainee ratio**

The recommended maximum trainer: trainee ratio for this program is 1 trainer for 25 trainees.

**Medium of instruction i.e., language of instruction:**

Instructions will be in Urdu/ English/ Local language.



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**Duration of the course (Total time, Theory & Practical time):**

The distribution of contact hours is given below:

- Total - 600 hours**
  - Theory - 120hours (20%)**
  - Practical - 480 hours (80%)**
- Proposed Course Duration-6 Months**

**Sequence of modules:**

|   |  |  |
|---|--|--|
| <b>Module 1:</b> Maintain Safety at Site <b>90 Hours</b>                            | <b>Module 3:</b> Perform Seed Sampling <b>60 Hours</b>       | <b>Module 4:</b> Perform Seed Procurement <b>150 Hours</b>     |
| <b>Module 2:</b> Work in a Team Environment <b>30 Hours</b>                         | <b>Module 5:</b> Perform Seed Transportation <b>90 Hours</b> |  |
| <b>Module 6:</b> Perform Basic operations for Warehouse Management <b>120 Hours</b> |  | <b>Module 7:</b> Manage Inventory of Materials <b>60 Hours</b> |





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Summary template-overview of the curriculum:

Following is the structure of the course:

| Sr No          | Code             | Competency Standards       | Occupation                                | NVQF Level | Category  | Estimated Contact Hours |     |       | Cr Hr |
|----------------|------------------|----------------------------|---|------------|-----------|-------------------------|-----|-------|-------|
|                |                  |                            |   |            |           | Th                      | Pr  | Total |       |
| <b>Level 2</b> |                  |                            |   |            |           |                         |     |       |       |
| 1              | 0811SP&B<br>02-A | Maintain Safety at Site    | <b>Seed<br/>Procurement<br/>Assistant</b> | 3          | Generic   | 18                      | 72  | 90    | 9     |
| 2              | 0811SP&B<br>02-B | Work in a Team Environment |   | 3          | Generic   | 6                       | 24  | 30    | 3     |
| 3              | 0811SP&B<br>02-C | Perform Seed Sampling      |   | 3          | Technical | 12                      | 48  | 60    | 6     |
| 4              | 0811SP&B<br>02-D | Perform Seed Procurement   |   | 3          | Technical | 30                      | 120 | 150   | 15    |



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|   |                              |   |  |   |           |            |            |            |           |
|---|------------------------------|---|--|---|-----------|------------|------------|------------|-----------|
| 5 | <b>0811SP&amp;B<br/>02-E</b> | Perform Seed Transportation                       |  | 3 | Technical | 18         | 72         | 90         | 9         |
| 6 | <b>0811SP&amp;B<br/>02-F</b> | Perform Basic operations for Warehouse Management |  | 3 | Technical | 24         | 96         | 120        | 12        |
| 7 | <b>0811SP&amp;B<br/>02-G</b> | Manage Inventory of materials                     |  | 3 | Technical | 12         | 48         | 60         | 6         |
|   |                              | <b>Total</b>                                      |  |   |           | <b>120</b> | <b>480</b> | <b>600</b> | <b>60</b> |
|   |                              | <b>Percentage</b>                                 |  |   |           | <b>20</b>  | <b>80</b>  |            |           |



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**Module 1: Maintain Safety at Site**

**Objective:** The aim of this module to get knowledge, skills and understanding to maintain safety at site.

**Duration: 90 Hours**

**Theory: 18 Hours**

**Practice: 72 Hours**

**Credit Hours: 9**

| Learning Unit                                       | Learning Outcomes  | Learning Elements   | Duration  | Materials Required  | Learning Place  |
|---|--|---|---|---|---|
| <b>LU 1</b><br>Maintain safe work condition at site | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Recognize the safety signs and symbols</li> <li>Identify potential hazards at work site</li> <li>Identify the risk of slip, trip and fall at work place</li> <li>Perform fall protection measures as per job requirements</li> <li>Label and store chemicals as per Material Safety Data</li> </ol> | <ul style="list-style-type: none"> <li>Describe the safety signs at work place</li> <li>Demonstrate the fall protection measures</li> <li>Describe unsafe act and unsafe conditions</li> <li>Knowledge of hazardous materials and relevant safety procedures</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Visit the work site and identify the potential hazards and apply control measures</li> <li>Practice to wear full body</li> </ul> | <b>Total</b><br>15hrs<br><b>Theory:</b><br>3hrs<br><b>Practical:</b><br>12hrs | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpeners</li> <li>White board marker</li> <li>Duster</li> </ul> <p><b>Non-Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Computer</li> </ul> | <ul style="list-style-type: none"> <li>Class Room</li> <li>Simulated environment</li> </ul> |



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| Learning Unit                        | Learning Outcomes  | Learning Elements   | Duration  | Materials Required  | Learning Place  |
|--------------------------------------|--|---|---|---|---|
|                                      | Sheet (MSDS)   | harness.<br><ul style="list-style-type: none"> <li>Sort and label hazardous chemicals at work site</li> </ul>   |   |   |   |
| <b>LU 2</b><br>Perform fire fighting | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Identify source of fire.</li> <li>Identify classes of fire</li> <li>Raise fire alarms</li> <li>Select fire extinguishers</li> <li>Check expiry of fire extinguisher</li> <li>Check wind direction</li> <li>Locate emergency exits</li> <li>Perform PASS (Pull, aim, squeeze and sweep) on fire</li> </ol> | <ul style="list-style-type: none"> <li>Describe the fire triangle</li> <li>State principles of fire fighting</li> <li>Describe the source of fire</li> <li>Explain classes of fire</li> <li>Demonstrate firefighting techniques</li> <li>Recognize different types of fire extinguisher</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Perform mock exercise of firefighting on a source of fire</li> <li>Participate in emergency response drill</li> </ul> | <b>Total</b><br>30hrs<br><b>Theory:</b><br>6hrs<br><b>Practical:</b><br>24hrs | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpeners</li> <li>White board marker</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> </ul> | <ul style="list-style-type: none"> <li>Class Room</li> <li>Simulated environment</li> </ul> |



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| Learning Unit                                | Learning Outcomes  | Learning Elements  | Duration  | Materials Required  | Learning Place  |
|--|--|--|---|---|---|
|  | extinguisher   |  |   |   |   |
| <b>LU 3</b><br>Carry out first aid treatment | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Follow COVID-19 SOP's</li> <li>2. Identify basic elements for first aid kit</li> <li>3. Maintain a fully stacked first aid kit</li> <li>4. Check expiry date of medicines</li> <li>5. Perform mock first aid treatment for minor injuries</li> </ol> | <ul style="list-style-type: none"> <li>• Describe the ABC of first aid</li> <li>• Describe the first aid procedure for minor cut</li> <li>• Describe components of first aid kit</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate mock exercise of first aid treatment for minor cut</li> </ul> | <b>Total</b><br>15hrs<br><b>Theory:</b><br>3 hrs<br><b>Practical:</b><br>12 hrs | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Computer</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room</li> <li>• Simulated environment</li> </ul> |



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| Learning Unit  | Learning Outcomes  | Learning Elements  | Duration  | Materials Required  | Learning Place  |
|--|--|--|---|---|---|
| <b>LU 4</b><br><br>Perform Basic electrical work safely at workplace | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Check the connectivity of earthing with power equipment</li> <li>2. Check leads and cable for any visual damage before use</li> <li>3. Tag damaged lead, cable and connection points and report to the supervisor</li> </ol> | <ul style="list-style-type: none"> <li>• Knowledge of electric hazards</li> <li>• Describe protective measures against the electric hazards</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Practice to check and tag extension leads and cable for any visual damage</li> </ul> | <b>Total</b><br>15hrs<br><br><b>Theory:</b><br>3 hrs.<br><br><b>Practical:</b><br>12 hrs. | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Computer</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room</li> <li>• Simulated environment</li> </ul> |
| <b>LU 5</b><br><br>Follow Chemical                                   | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Treat all Chemicals as per Material Safety Data Sheet (MSDS).</li> </ol>   | <ul style="list-style-type: none"> <li>• Knowledge of Material Safety Data Sheet</li> </ul>  | <b>Total</b><br>15hrs<br><br><b>Theory:</b><br>3 hrs.                                     | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> </ul>  | <ul style="list-style-type: none"> <li>• Class Room</li> <li>• Simulated environment</li> </ul> |



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| Learning Unit | Learning Outcomes   | Learning Elements   | Duration                             | Materials Required  | Learning Place |
|---------------|---|---|--------------------------------------|---|----------------|
| Safety Rules  | <ol style="list-style-type: none"> <li>2. Use chemical resistant gloves while handling chemicals.</li> <li>3. Label chemicals as per safety standards.</li> <li>4. Dispose chemicals as per set safety rules.</li> <li>5. Clean spillage according to protocols.</li> <li>6. Store chemicals according to compatibility list</li> </ol> | <p>(MSDS).</p> <ul style="list-style-type: none"> <li>• Understanding the procedure of chemical dispose off</li> <li>• Knowledge of chemical storage</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Practice to label and store job related chemicals as per SOPs.</li> <li>• Practice to dispose off chemical as per SOPs.</li> </ul> | <p><b>Practical:</b><br/>12 hrs.</p> | <ul style="list-style-type: none"> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> <li>• Different types of chemicals</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Computer</li> </ul> |                |



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### Module 2: Work in a Team Environment

**Objective of the module:** The aim of this module to get knowledge, skills and understanding to work in a team.

**Duration: 30 Hours**

**Theory: 6 Hours**

**Practice: 24 Hours**

**Credit Hours: 3**

| Learning Unit                                | Learning Outcomes  | Learning Elements   | Duration  | Materials Required  | Learning Place   |
|--|--|---|---|---|--|
| LU1: Obtain and convey Workplace information | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Assess the specific and relevant information from the appropriate sources</li> <li>2. Convey the information using the appropriate medium and ideas</li> <li>3. Use appropriate non-verbal communication</li> </ol> | <ul style="list-style-type: none"> <li>• Describe the importance of effective communication</li> <li>• State different Sources of information</li> <li>• State different mode of communication</li> <li>• Explain types of non-verbal communication</li> <li>• Explain mode of communication while operating machines</li> <li>• Explain the method of recording the information/instructions.</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Role Play each trainee introduce himself.</li> <li>• Convey the job description and company general rules and</li> </ul> | <p><b>Total:7hrs</b></p> <p><b>Theory:1hrs</b></p> <p><b>Practical:6hrs</b></p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• Pen</li> <li>• White board marker</li> <li>• Duster</li> </ul> <p><b>Non-Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room/Lab</li> </ul> |





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| Learning Unit | Learning Outcomes   | Learning Elements             | Duration | Materials Required | Learning Place |
|---------------|---|-------------------------------|----------|--------------------|----------------|
|               | <ol style="list-style-type: none"><li>Identify appropriate lines of communication with supervisors and colleagues</li><li>Use the defined workplace procedures for storage of information</li><li>Inform co-workers and superiors about any deviation</li></ol> | regulations to fellow workers |          |                    |                |



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| Learning Unit   | Learning Outcomes  | Learning Elements   | Duration  | Materials Required  | Learning Place   |
|---|--|---|---|---|--|
| <b>LU2:</b> Participate in workplace meetings and discussions | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>Express your own opinions</li> <li>Listen other's point of view without interruption</li> <li>Prepare simple questions about workplace procedures</li> </ol> | <ul style="list-style-type: none"> <li>Describe the protocol of meeting</li> <li>Describe the role and objective of team</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Participate in mock meeting for preparation to perform job.</li> </ul> | <p><b>Total:</b>7hrs</p> <p><b>Theory:</b>1hrs</p> <p><b>Practical:</b>6hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpener</li> <li>White board marker</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Internet</li> <li>Computer system</li> </ul> | <ul style="list-style-type: none"> <li>Class Room/Lab</li> </ul> |



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| Learning Unit   | Learning Outcomes  | Learning Elements   | Duration  | Materials Required   | Learning Place   |
|---|--|---|---|--|--|
| <p><b>LU3:</b> Identify own role and responsibility within team</p> | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Identify the individual role and responsibilities within the team environment.</li> <li>2. Recognize the roles and responsibility of other team members.</li> <li>3. Report relationships within team and external to team</li> <li>4. Share report with co-workers.</li> </ol> | <ul style="list-style-type: none"> <li>• Describe the importance of creating cooperative work environment</li> <li>• Describe the role and objective of team.</li> <li>• Explain risk of failure team work on the project.</li> <li>• Describe the importance of resolving the co-worker's problems</li> <li>• State plan work and organize required resources in coordination with team</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Role Play, get instruction regarding job order from supervisor and convey it to coworkers according</li> </ul> | <p><b>Total:</b>7hrs</p> <p><b>Theory:</b>1hrs</p> <p><b>Practical:</b>6hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> <li>• White board marker</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room/Lab</li> </ul> |



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| Learning Unit                         | Learning Outcomes   | Learning Elements   | Duration  | Materials Required  | Learning Place   |
|---------------------------------------|---|---|---|---|--|
| <b>LU4:</b><br>Support the co-workers | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Hand over the required materials and tools timely to interfacing team</li> <li>Work together with co-workers in an effective manner.</li> <li>Address the problems of co-worker effectively</li> <li>Report to immediate boss</li> </ol> | <ul style="list-style-type: none"> <li>Describe the importance of creating cooperative work environment</li> <li>Describe the importance of resolving the co-worker's problems</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Role Play, Support and guide stressed coworker in his work-related activity</li> </ul> | <b>Total:</b> 7hrs<br><br><b>Theory:</b> 1hrs<br><br><b>Practical:</b> 6hrs | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpeners</li> <li>Duster</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Internet Computer system</li> </ul> | <ul style="list-style-type: none"> <li>Class Room/Lab</li> </ul> |



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**Module3: Perform Seed Sampling**

**Objective of the module:** The aim of this module to get knowledge, skills and understanding to perform seed sampling.

**Duration:** 60 Hours

**Theory:** 12Hours

**Practice:** 48 Hours

**Credit Hours:** 6

| Learning Unit                        | Learning Outcomes   | Learning Elements  | Duration  | Materials Required   | Learning Place   |
|--------------------------------------|---|--|---|--|--|
| <b>LU1.</b><br>Execute Seed Sampling | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Schedule activities according to work instructions</li> <li>Arrange the tools and equipment</li> <li>Collect sampling material</li> <li>Collect seed sample according to standard method</li> <li>Seal sample according to SOPs</li> </ol> | <ul style="list-style-type: none"> <li>Knowledge of sampling</li> <li>Understanding of sampling tools</li> <li>Knowledge of sampling techniques</li> <li>Understanding of sealing purpose</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Practice to arrange tools/material for seed sampling</li> <li>Practice to perform seed sampling</li> </ul> | <p><b>Total:</b>45hrs</p> <p><b>Theory:</b>9hrs</p> <p><b>Practical:</b>36hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Erasers</li> <li>Sharpeners</li> <li>White board marker</li> <li>Duster</li> <li>Sampling bags</li> <li>PPEs</li> <li>Seed</li> <li>Sealing heater</li> </ul> <p><b>Non</b></p> | <ul style="list-style-type: none"> <li>Class Room/site /field visit</li> </ul> |



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| Learning Unit        | Learning Outcomes   | Learning Elements   | Duration                                     | Materials Required  | Learning Place  |
|----------------------|---|---|--|---|---|
|                      |   |   |  | <b>Consumable</b> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> <li>• Sampling probe</li> <li>• Auger</li> </ul> |   |
| LU2.Perform labeling | <b>The trainee will be able to:</b><br>1. Arrange Labelling | <ul style="list-style-type: none"> <li>• Knowledge of labeling</li> <li>• Understanding of transportation protocol</li> </ul> | <b>Total:15hrs</b><br><br><b>Theory:3hrs</b> | <b>Consumable</b> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Erasers</li> </ul>  | <ul style="list-style-type: none"> <li>• Class Room/site</li> </ul> |



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| Learning Unit | Learning Outcomes  | Learning Elements   | Duration                      | Materials Required   | Learning Place |
|---------------|--|---|-------------------------------|--|----------------|
|               | <p>material</p> <ol style="list-style-type: none"> <li>2. Label sample according to work instructions</li> <li>3. Transfer collected sample from field to lab according to SOPs</li> <li>4. Maintain record</li> </ol> | <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Practice to maintain record</li> <li>• Practice to label samples</li> <li>• Practice to transfer seed samples from field to lab</li> </ul> | <p><b>Practical:</b>12hrs</p> | <ul style="list-style-type: none"> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> <li>• Sampling bags</li> <li>• PPEs</li> <li>• Seed</li> <li>• Sealing heater</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> <li>• Sampling probe</li> <li>• Auger</li> </ul> |                |



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**Module4: Perform Seed Procurement**

**Objective of the module:** The aim of this module is to get knowledge, skills and understanding to perform seed procurement.

**Duration:** 150 Hours

**Theory:** 30Hours

**Practice:** 120Hours

**Credit Hours:** 15

| Learning Unit                     | Learning Outcomes  | Learning Elements   | Duration  | Materials Required   | Learning Place  |
|-----------------------------------|--|---|---|--|---|
| LU1: Prepare for seed procurement | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Collect information regarding type/variety of crop on prescribed format</li> <li>2. Collect information regarding seed collection mechanism on prescribed format</li> <li>3. Collect information regarding seed quality on prescribed format</li> </ol> | <ul style="list-style-type: none"> <li>• Knowledge of different types of seed varieties</li> <li>• Understanding of seed quality standards</li> <li>• Knowledge of seed information sheet</li> </ul> <p align="center"><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Practice to prepare seed collection information sheet on prescribed format</li> </ul> | <p><b>Total:</b>30hrs.</p> <p><b>Theory:</b>6 hrs.</p> <p><b>Practical:</b>24hrs.</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• Pencils</li> <li>• White board marker</li> <li>• Duster</li> <li>• Seeds</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Computer system</li> <li>• Multimedia</li> <li>• Internet</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room/Site</li> </ul> |





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| Learning Unit                       | Learning Outcomes   | Learning Elements  | Duration  | Materials Required   | Learning Place  |
|-------------------------------------|---|--|---|--|---|
| <b>LU2:Execute Seed procurement</b> | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Collect sample report</li> <li>2. Perform purchases according to SOPs</li> <li>3. Manage seed to avoid post-harvest losses, as per the requirement</li> <li>4. Maintain record</li> </ol> | <ul style="list-style-type: none"> <li>• Knowledge of post-harvest losses of seeds</li> <li>• Understanding of sample analysis report</li> <li>• Knowledge of record keeping</li> </ul> <p align="center"><b><u>Activity</u></b></p> <ul style="list-style-type: none"> <li>• Practice to procure seed according to lab analysis report</li> </ul> | <b>Total:90hrs.</b><br><br><b>Theory:18 hrs.</b><br><br><b>Practical:72hrs.</b> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• Pen</li> <li>• White board marker</li> <li>• Duster</li> <li>• Seeds</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Computer system</li> <li>• Multimedia</li> <li>• Internet</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room/Site</li> </ul> |



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| Learning Unit                    | Learning Outcomes   | Learning Elements  | Duration  | Materials Required   | Learning Place  |
|----------------------------------|---|--|---|--|---|
| <b>LU3:Collect Procured Seed</b> | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Arrange site for seed collection</li> <li>2. Maintain sanitary conditions at site according to SOPs</li> <li>3. Perform weighing according to work instructions</li> <li>4. Perform loading and unloading according to standard instructions</li> <li>5. Maintain records</li> </ol> | <ul style="list-style-type: none"> <li>• Knowledge of site selection for procured seed</li> <li>• Understanding of site sanitary requirements for procured seeds</li> <li>• Understanding the importance of record maintenance</li> </ul> <p align="center"><b><u>Activity</u></b></p> <ul style="list-style-type: none"> <li>• Practice to perform loading and offloading of seed bags</li> <li>• Practice to perform seed weighing activities</li> </ul> | <p><b>Total:30hrs.</b></p> <p><b>Theory:6 hrs.</b></p> <p><b>Practical:24hrs.</b></p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• Pen</li> <li>• White board marker</li> <li>• Duster</li> <li>• Seeds</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Computer system</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Vehicles</li> <li>• Different type of weighing balance</li> </ul> | <ul style="list-style-type: none"> <li>• Class Room/Site</li> </ul> |





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**Module5: Perform Seed Transportation**

**Objective of the module:** The aim of this module is to get knowledge, skills and understanding to perform seed transportation.

**Duration: 90 Hours**

**Theory: 18Hours**

**Practice: 72 Hours**

**Credit Hours: 9**

| Learning Unit                               | Learning Outcomes   | Learning Elements  | Duration  | Materials Required  | Learning Place  |
|---|---|--|---|---|---|
| <b>LU1:</b> Prepare for Seed transportation | <b>The trainee will be able to:</b><br><br>1. Collect weather forecast data<br>2. Schedule activities according to work instructions<br>3. Arrange materials required for transportation activity | <ul style="list-style-type: none"> <li>• Knowledge of suitable climatic conditions for seed transportation</li> <li>• Understanding of different materials required for seed transportation</li> <li>• Knowledge of different transportation tools</li> </ul> <p align="center"><b><u>Activity</u></b></p> <ul style="list-style-type: none"> <li>• Practice to prepare checklist for seed transportation</li> </ul> | <b>Total:</b> 15 hrs.<br><br><b>Theory:</b> 3 hrs.<br><br><b>Practical:</b><br>12hrs. | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• Pen</li> <li>• White board marker</li> <li>• Duster</li> <li>• Different types of bags</li> <li>• Seed</li> <li>• Polythene bags</li> <li>• Jute bags</li> <li>• Plastic sheets</li> </ul> <p><b>Non</b></p> | <ul style="list-style-type: none"> <li>• Class Room/Site</li> </ul> |



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| Learning Unit                     | Learning Outcomes  | Learning Elements  | Duration   | Materials Required  | Learning Place  |
|-----------------------------------|--|--|--|---|---|
|                                   |  |  |  | <b>Consumable</b> <ul style="list-style-type: none"> <li>White board</li> <li>Computer system</li> <li>Multimedia</li> <li>Internet</li> <li>Vehicles</li> </ul>  |   |
| <b>LU2:Execute Transportation</b> | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Arrange transportation tools</li> <li>Perform loading of bags as per standards</li> <li>Weighing of vehicle as per requirement.</li> <li>Load material according to work instructions.</li> <li>Transport the loaded material to</li> </ol> | <ul style="list-style-type: none"> <li>Knowledge of warehouse</li> <li>Understanding of appropriate conditions required for warehouses</li> <li>Understanding the importance of record maintenance</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>Practice to prepare checklist for warehouse</li> <li>Practice to perform seed transportation to warehouse</li> </ul> | <b>Total:45hrs</b><br><br><b>Theory:9hrs</b><br><br><b>Practical:36hrs</b> | <b>Consumable</b> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpener</li> <li>White board marker</li> <li>Duster</li> <li>Seed</li> <li>Plastic sheets</li> <li>Plastic bags</li> <li>Jute bags</li> </ul> <b>Non Consumable</b> <ul style="list-style-type: none"> <li>White board</li> </ul> | <ul style="list-style-type: none"> <li>Class Room/Site</li> </ul> |



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| Learning Unit                              | Learning Outcomes   | Learning Elements  | Duration  | Materials Required   | Learning Place  |
|--|---|--|---|--|-----------------|
|  | warehouse.<br>6. Maintain record  |  |   | <ul style="list-style-type: none"> <li>Multimedia</li> <li>Internet</li> <li>Computer system</li> <li>Printer</li> <li>Vehicles</li> <li>Different type of weighing balance</li> </ul>   |                 |
| <b>LU3:</b> Handle Transportation Material | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>Arrange site for seed collection</li> <li>Maintain sanitary conditions at site according to SOPs</li> <li>Perform weighing according to work</li> </ol> | <ul style="list-style-type: none"> <li>Knowledge of transportation losses</li> <li>Understanding of seed lodging</li> <li>Understanding of sanitary requirements for warehouse</li> <li>Knowledge of record keeping</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>Practice to perform post</li> </ul> | <p><b>Total:</b>30hrs</p> <p><b>Theory:</b> 6hrs.</p> <p><b>Practical:</b>24hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpeners</li> <li>White board marker</li> <li>Duster</li> <li>Seed</li> <li>Fumigants</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> </ul> | Class Room/site |



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| Learning Unit | Learning Outcomes  | Learning Elements                      | Duration | Materials Required  | Learning Place |
|---------------|--|--|----------|---|----------------|
|               | instructions<br>4. Perform loading and unloading according to standard instructions<br>5. Maintain records | transportation activities in warehouse |          | <ul style="list-style-type: none"><li>• Multimedia</li><li>• Internet</li><li>• Computer system</li></ul> |                |



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### Module 6: Perform Basic Operations for Warehouse Management

**Objective of the module:** The aim of this module is to get knowledge, skills and understanding to perform basic operation for warehouse management

**Duration: 120 Hours**

**Theory: 24 Hours**

**Practice: 96 Hours**

**Credit Hours: 3**

| Learning Unit         | Learning Outcomes  | Learning Elements  | Duration   | Materials Required   | Learning Place   |
|-----------------------|--|--|--|--|--|
| LU1: Receive raw seed | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Verify procurement data and purchase invoice.</li> <li>2. Receive shipments.</li> <li>3. Weight the raw material.</li> <li>4. Pack raw material in bags.</li> </ol> | <ul style="list-style-type: none"> <li>• Define raw seed</li> <li>• Knowledge of procurement data</li> <li>• Understanding of purchase invoice</li> <li>• Knowledge of packaging materials for raw seed</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Practice to perform packaging of raw seed</li> <li>• Practice to prepare stock register of received raw seed</li> </ul> | <p><b>Total:15hrs</b></p> <p><b>Theory: 3hrs</b></p> <p><b>Practical:12 hrs.</b></p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> <li>• Polythene bags</li> <li>• Labels</li> <li>• Sticker</li> <li>• Raw seed</li> <li>• Packaging bags</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> </ul> | <ul style="list-style-type: none"> <li>• Class room/ Site</li> </ul> |



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| Learning Unit                            | Learning Outcomes   | Learning Elements   | Duration  | Materials Required  | Learning Place   |
|--|---|---|---|---|--|
|  |   |   |   | <ul style="list-style-type: none"> <li>Multimedia</li> <li>Internet</li> <li>Computer system</li> <li>Different types of weighing balance</li> </ul>  |  |
| <b>LU2:</b> Maintain storage environment | <p><b>The trainee will be able to:</b></p> <ol style="list-style-type: none"> <li>Keeping store clean and hygiene.</li> <li>Separate damaged and intact bags.</li> <li>Maintain storage temperature and humidity.</li> <li>Keep record of temperature and humidity in storage, report if there is any deviation.</li> </ol> | <ul style="list-style-type: none"> <li>Knowledge of store house</li> <li>Understanding of hygienic conditions required for storage</li> <li>Knowledge of ideal storage conditions</li> <li>Understanding of fumigation methods</li> <li>Knowledge of safety measures</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>Practice to prepare checklist for ideal store house conditions</li> <li>Practice to perform fumigation</li> </ul> | <p><b>Total:</b>90hrs</p> <p><b>Theory:</b> 18hrs</p> <p><b>Practical:</b>72hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Pencils</li> <li>Erasers</li> <li>Sharpener</li> <li>White board marker</li> <li>Duster</li> <li>Chalk powder</li> <li>Fumigants</li> <li>Pesticides</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Internet</li> </ul> | <ul style="list-style-type: none"> <li>Class room/ Site</li> </ul> |





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| Learning Unit                          | Learning Outcomes   | Learning Elements   | Duration  | Materials Required   | Learning Place   |
|--|---|---|---|--|--|
|  | 5. Keep storage pest free.<br>6. Perform prior fumigation.<br>7. Follow safety standards involved in processing.  | of store house  |   | <ul style="list-style-type: none"> <li>• Computer system</li> <li>• Thermometer</li> <li>• Hygrometer</li> <li>• Humidifier</li> </ul>   |  |
| <b>LU3:</b> Perform coding of raw seed | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Assign batch number to each shipment.</li> <li>2. Maintain shipment record.</li> <li>3. Take Sample of product if required for Govt. department FSC&amp;RD (Federal seed certification and registration department).</li> </ol> | <ul style="list-style-type: none"> <li>• Understanding the importance of shipment record</li> <li>• Knowledge of federal regulations for seed certification</li> <li>• Knowledge of “Federal seed certification and registration department”</li> </ul> <p><b>Activity</b></p> <ul style="list-style-type: none"> <li>• Practice to prepare checklist for seed certification</li> </ul> | <b>Total:</b> 15hrs<br><br><b>Theory:</b> 3hrs<br><br><b>Practical:</b> 12 hrs. | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencils</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Duster</li> <li>• Seed</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> </ul> | <ul style="list-style-type: none"> <li>• Class room/ Site</li> </ul> |



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### Module 7: Manage Inventory of Materials

**Objective:** The aim of this module to get knowledge, skills and understanding to manage inventory of materials.

**Duration:** 60 Hours

**Theory:** 12Hours

**Practice:** 48 Hours

**Credit Hours:** 6

| Learning Unit                       | Learning Outcomes  | Learning Elements  | Duration   | Materials Required  | Learning Place      |
|-------------------------------------|--|--|--|---|---------------------|
| <b>LU 1</b><br>Collect Raw material | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>1. Arrange required raw material according to SOPs</li> <li>2. Calculate amount of materials available on site</li> <li>3. Cross check with the log register</li> <li>4. Manage plan accordingly</li> </ol> | <ul style="list-style-type: none"> <li>• Explain types of Aggregates</li> <li>• Describe classification of raw material/seed according to nature of size and shape</li> <li>• Explain characteristics of different type of seed</li> <li>• Describe principles of safe and efficient storage</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Practice of calculating the amount of material</li> </ul> | <p><b>Total:</b>15hrs</p> <p><b>Theory:</b>3hrs</p> <p><b>Practical:</b><br/>12hrs</p> | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Erasers</li> <li>• Sharpeners</li> <li>• White board marker</li> <li>• Material Log register</li> <li>• Pencils</li> <li>• Raw material</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>• White board</li> <li>• Multimedia</li> <li>• Internet</li> <li>• Computer system</li> </ul> | Class Room/<br>Site |



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| Learning Unit                                | Learning Outcomes  | Learning Elements   | Duration  | Materials Required  | Learning Place  |
|--|--|---|---|---|---|
|  |  | available on site.<br><ul style="list-style-type: none"> <li>Practice of adjusting demands in accordance with available raw material.</li> </ul>  |   |   |   |
| <b>LU 2:</b><br>Perform Storage of Materials | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Segregate the received material according to work instruction</li> <li>Store materials as per nature of material</li> <li>Check materials quality &amp; quantity as per standard procedures</li> <li>Follow standard</li> </ol> | <ul style="list-style-type: none"> <li>Describe moisture in raw material</li> <li>Knowledge about safety of raw material against the weather</li> <li>Describe the importance of gradation of material</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>Practice of dumping material as per graded sizes.</li> <li>Practice of checking</li> </ul> | <b>Total:</b> 30hrs<br><br><b>Theory:</b> 6hrs<br><br><b>Practical:</b> 24hrs | <p><b>Consumable</b></p> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Erasers</li> <li>Sharpener</li> <li>White board marker</li> <li>Pencils</li> <li>Raw material</li> </ul> <p><b>Non Consumable</b></p> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Internet</li> <li>Computer system</li> </ul> | <ul style="list-style-type: none"> <li>Class Room / Site</li> </ul> |



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| Learning Unit                               | Learning Outcomes   | Learning Elements   | Duration   | Materials Required   | Learning Place    |
|---|---|---|--|--|-------------------|
|   | precautions for handling and storage of seed, chemical and pesticides   | material quality and quantity as per standards. <ul style="list-style-type: none"> <li>Practice of maintaining stock book of material</li> </ul>  |  |  |                   |
| <b>LU 3:</b><br>Maintain the Stock Register | <b>The trainee will be able to:</b> <ol style="list-style-type: none"> <li>Manage stock Register on daily basis</li> <li>Enter data corresponding to every type of material</li> <li>Report to in charge</li> <li>Prepare production / dispatch record sheet</li> </ol> | <ul style="list-style-type: none"> <li>Knowledge about the safety of seed against the weather</li> <li>Explain the importance of gradation of seed</li> <li>Describe site material characteristics</li> </ul> <b>Activity:</b> <ul style="list-style-type: none"> <li>Practice of maintaining log register on daily bases.</li> <li>Practice of cross-checking available</li> </ul> | <b>Total:</b> 15 hrs<br><br><b>Theory:</b> 3hrs<br><br><b>Practical:</b> 12hrs | <b>Consumable</b> <ul style="list-style-type: none"> <li>Notebooks</li> <li>Erasers</li> <li>Sharpeners</li> <li>White board marker</li> <li>Duster</li> <li>Material Stock register</li> <li>Pencils</li> </ul> <b>Non Consumable</b> <ul style="list-style-type: none"> <li>White board</li> <li>Multimedia</li> <li>Internet</li> <li>Computer</li> </ul> | Class Room / Site |



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| Learning Unit | Learning Outcomes | Learning Elements   | Duration | Materials Required | Learning Place |
|---------------|-------------------|---|----------|--------------------|----------------|
|               |                   | material with stock register.<br><ul style="list-style-type: none"><li>Practice of generating report in case of any deficiency.</li></ul> |          | system             |                |



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### General assessment guidance for “***Seed Procurement Assistant***”

Good practice in Pakistan makes use of sessional and final assessments, the basis of which is described below. Good practice by vocational training providers in Pakistan is to use a combination of these sessional and final assessments, combined to produce the final qualification result.

**Sessional assessment** is going on all the time. Its purpose is to provide feedback on what students are learning:

- To the student: to identify achievement and areas for further work
- To the teacher: to evaluate the effectiveness of teaching to date, and to focus future plans.

Assessors need to devise sessional assessments for both theoretical and practical work. Guidance is provided in the assessment strategy

**Final assessment** is the assessment, usually on completion of a course or module, which says whether or not the student has "passed". It is – or should be – undertaken with reference to all the objectives or outcomes of the course, and is usually fairly formal. Considerations of security – ensuring that the student who gets the credit is the person who did the work – assume considerable importance in final assessment.

### **Methods of assessment**

For lessons with a high quantity of theory, written or oral tests related to learning outcomes and/ or learning content can be conducted. For workplace lessons, assessment can focus on the quality of planning the related process, the quality of executing the process, the quality of the product and/or evaluation of the process.

Methods include direct assessment, which is the most desirable form of assessment. For this method, evidence is obtained by direct observation of the student's performance.

Examples for direct assessment of a ***Seed Procurement Assistant*** include:

- Work performances, for example Seed Sampling
- Demonstrations, for example Perform Basic operations for Warehouse Management
- Direct questioning, where the assessor would ask the student how to perform seed sampling, how they can perform seed transportation



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- Paper-based tests, such as multiple choice or short answer questions on maintain safety at site, manage inventory of materials etc
- Indirect assessment is the method used where the performance could not be watched and evidence is gained indirectly.

Examples for indirect assessment of a *Seed Procurement Assistant* include:

Work products, such as seed sampling, seed transportation and inventory of materials etc.

Indirect assessment should only be a second choice. (In some cases, it may not even be guaranteed that the work products were produced by the person being assessed.)

### **Principles of assessment**

All assessments should be valid, reliable, fair and flexible:

Fairness means that there should be no advantages or disadvantages for any assessed person. For example, it should not happen that one student gets prior information about the type of work performance that will be assessed, while another candidate does not get any prior information.

Validity means that a valid assessment assesses what it claims to assess. For example, if sampling of seed is to be assessed and certificated, the assessment should involve performance criteria that are directly related to that activity. An interview about the sampling of seed would not meet the performance criteria.

Reliability means that the assessment is consistent and reproducible. For example, if the work performance of preparing documents in words has been assessed, another assessor (e.g. the future employer) should be able to see the same work performance and witness the same level of achievement.

Flexibility means that the assessor has to be flexible concerning the assessment approach. For example, if there is a power failure during the assessment, the assessor should modify the arrangements to accommodate the students' needs.



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### **Assessment strategy for Seed Processing Technician**

This curriculum consists of 07 modules:

- **Module 1:** Maintain Safety at Site
- **Module 2:** Work in a Team Environment
- **Module 3:** Perform Seed Sampling
- **Module 4:** Perform Seed Procurement
- **Module 5:** Perform Seed Transportation
- **Module 6:** Perform Basic operations for Warehouse Management
- **Module 7:** Manage Inventory of Materials

### **Sessional assessment**

The sessional assessment for all modules shall be in two parts: theoretical assessment and practical assessment. The sessional marks shall contribute to the final qualification.

Theoretical assessment for all learning modules must consist of a written paper lasting at least one hour per module. This can be a combination of multiple choice and short answer questions.

For practical assessment, all procedures and methods for the modules must be assessed on a sessional basis. Guidance is provided below under Planning for assessment.

### **Final assessment**

Final assessment shall be in two parts: theoretical assessment and practical assessment. The final assessment marks shall contribute to the final qualification.





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### **The assessment teams**

The number of assessors must meet the needs of the students and the training provider. For example, where two assessors are conducting the assessment, there must be a maximum of five students per assessor. In this example, a group of 25 students shall therefore require assessments to be carried out over a four-day period. For a group of only 10 to 15 students, assessments would be carried out over a two-day period only.

### **Planning for assessment**

Sessional assessment: assessors need to plan in advance how they will conduct sessional assessments for each module. The tables on the following pages are for assessors to use to insert how many hours of theoretical and practical assessment will be conducted and what the scheduled dates are.

Final assessment: Training providers need to decide ways to combine modules into a cohesive two-day final assessment programme for each group of five students. Training providers must agree the content for practical assessments in advance.



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**List of Tool, Machinery and Equipment:**

| SR# | Items/Tools & Equipment   | Quantity                         |
|-----|---|----------------------------------|
| 1.  | <b>PPEs:</b><br>Safety Helmet<br>Safety Shoes<br>Earmuffs<br>Gloves<br>Goggles<br>Face Shields. | 30<br>30<br>30<br>30<br>30<br>05 |
| 2.  | First Aid Kit   | 01                               |
| 3.  | Computer  | 26                               |



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|     |  |         |
|-----|--|---------|
| 4.  | Multimedia                                   | 01      |
| 5.  | Clip Board                                   | 30      |
| 6.  | Empty tool box                               | 05      |
| 7.  | Sealing heater                               | 10      |
| 8.  | Prob   | 25      |
| 9.  | Auger  | 25      |
| 10. | Thermometer                                  | 05      |
| 11. | Humidifier                                   | 05      |
| 12. | Hygrometer                                   | 05      |
| 13. | Van  | 01      |
| 14. | Different type of Weighing balancer(mg/g/kg) | Each 05 |



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**List of Consumable Supplies**

| SR# | Consumable Supplies          | Quantity           |
|-----|------------------------------|--------------------|
| 1.  | Surgical Face Masks          | 2 Boxes            |
| 2.  | Stationary                   | As per requirement |
| 3.  | Safety sign boards           | As per requirement |
| 4.  | White board marker           | 25                 |
| 5.  | Duster                       | 05                 |
| 6.  | Different types of chemicals | As per requirement |
| 7.  | Seed                         | As per requirement |
| 8.  | Stock registers              | 25                 |
| 9.  | Different size bags          | 50                 |



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|     |                |                    |
|-----|----------------|--------------------|
| 10. | Polythene bags | 25                 |
| 11. | Jute bags      | 25                 |
| 12. | Plastic sheets | 25                 |
| 13. | Chalk powder   | As per requirement |
| 14. | Fumigants      | As per requirement |
| 15. | Pesticides     | As per requirement |
| 16. | Labels         | As per requirement |
| 17. | Sticker        | As per requirement |



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**Members of the Curriculum Development Committee**

| S# | Name                | Designation  |
|----|---------------------|--|
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| 2  | Ms. Saima Asghar    | DACUM Expert, Lahore   |
| 3  | Mr. Awais Waheed    | Research Associate, Agriculture University Rawalpindi                              |
| 4  | Dr. Sumaira Maqsood | Associate Professor/ Institute of Agricultural Sciences, Punjab University, Lahore |
| 5  | Mr. Amir Rehman     | Assistant Director, KPK Seed Corporation, Peshawar KPK                             |



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|    |                         |   |
|----|-------------------------|---|
| 6  | Mr. Muhammad Seed Ahmad | Agriculture Officer, UVAS, Pattoki  |
| 7  | Ms. Hina Ashraf         | PhD Scholar, Punjab University, Lahore  |
| 8  | Ms. Iqra Haider Khan    | PhD Scholar, Punjab University, Lahore  |
| 9  | Mr. Tariq Ullah         | Lecturer. GCT D.I.Khan, KPK TEVTA   |
| 10 | Mr. Abid Mahmood        | Scientific officer, Agriculture Department, KPK Peshawar, (Representative of KPK TEVTA) |
| 11 | Mr. Muzamil Usman       | Consultant for Green House/ Off Season vegetables production, Lahore                    |
| 12 | Mr. Khawar Hameed Alvi  | Seed research and quality manager, Ventus Agro Ltd Lahore                               |



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|    |                   |   |
|----|-------------------|---|
| 13 | Mr. Muhammad Asif | Master trainer/ off season vegetables production Lahore |
| 14 | Ms. Hadia Maqsood | IAGS, Punjab University, Lahore                         |
| 15 | Ms. Zunera Rana   | CBT certified Assessor, MBD                             |





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| 3  | Mr. Awais Waheed    | Research Associate, Agriculture University Rawalpindi.                              |
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| 7  | Ms. Hina Ashraf               | PhD Scholar, Lahore  |
| 8  | Ms. Iqra Haider Khan          | PhD Scholar, Punjab University, Lahore   |
| 9  | Ms. Hamna                     | Seed Technician, Ayub Research Faisalabad  |
| 10 | Dr Muhammad Naazir Khan Niazi | Chairman, PBTE Lahore  |
| 11 | Mr. Abid Mahmood              | Scientific Officer, Agriculture Department, KPK Peshawar,<br>(Representative of KPK TEVTA) |
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