

Poultry Management

**National Vocational and Technical Training Commission (NAVTTTC),
Government of Pakistan**

National Competency Standards
For
National Vocational Certificate Level 3 in Poultry
Management “Head Worker”

NVQF Level 3

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INTRODUCTION

Poultry industry plays vital role to reduce malnutrition, alleviate poverty and promoting cost-effective growth. It is one of the largest Agro based segments of Pakistan having an investment of more than 1,190 billion rupees. Poultry Industry of Pakistan continuously reducing the gap between supply and demand of meat protein by producing quality and cheapest protein. Being cheapest available animal protein source for our masses, poultry is also playing as an effective check upon the increasing animal protein prices. Poultry Industry generates employment and provides source of income to more than 1.5 million people of Pakistan directly & indirectly. In our country per capita consumption of meat is only 8.22 kilo grams and 96.75 eggs annually (Economic survey of Pakistan). Whereas developed world is consuming about 40 kilo grams meat and over 300 eggs per capita per year. As per standard of World Health Organization, daily requirement of animal protein for a person is 27 grams whereas public is consuming 17 grams only. Therefore, we are already consuming less animal protein as per required standards.

Poultry management includes all principles and practices involved in production of layer for the purpose of eggs, rearing of broiler for the meat purpose and hatchery unit for the breeding purpose. Poultry industry is one of the sectors which converted their traditional ways of production into fully mechanized system within a short period of time. In latest scenario almost 90 percent of poultry industry rearing their birds on modern mechanized system rather than old traditional ways. Fully controlled system required skilled manpower to operate efficiently which is a major challenge for the industry of Pakistan. Meanwhile, current growth pace of poultry industry produces high demand for skilled labor.

The competency based national vocational qualifications have been developed by NAVTTC 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 increase in their livelihood income.

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 farm, some writing, some not even in the classroom or farm but in another part of the building using specialist equipment, working on computers doing research on the Internet or the library. As trainees learn at different pace they might well 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 QUALIFICATION

The purpose of the training is to provide skilled manpower to improve the existing poultry industry. This will improve the quality in poultry sector and the availability of skilled professionals will bring socio-economic benefits to all stakeholders. The specific objectives of developing these qualifications are as under:

- Improve the professional competence of poultry management
- Capacitate the local community and trainers in modern CBT training, methodologies and processes as envisaged under NVQF
- Provide flexible pathways and progressions in the poultry sector
- Enable the trainees to perform their duties in efficient manner
- Establish a standardized and sustainable system of training for poultry management in Pakistan

DATE OF VALIDATION

This national vocational qualification (NVQ) has been validated by the Qualifications Development Committee (QDC) in 7th March to 11th March 2022 and will remain in currency until 10th March 2032

*Shall be reviewed after 3 years

CODE OF QUALIFICATION

Qualification Title	Code
National Vocational Certificate Level 3 in Poultry Management “Head Worker”	811PM02

ENTRY REQUIREMENTS

- For National Vocational Certificate Level-3 in Poultry Management “Head Worker”, the entry requirement is National Vocational Certificate Level 2 in Poultry Management “Poultry Attendant”. The entry in informal sector is not prescribed.

QUALIFICATIONS DEVELOPMENT COMMITTEE

The following members participated in the qualification development of these qualifications:

Sr. No.	Name	Designation	Organization
1.	Saima Asghar	DACUM Facilitator	CBT Expert/Certified Assessor
2.	Mohammad Ishaq	Coordinator	Deputy Director NAVTTTC, Islamabad
3.	Mr. Shahid Javaid	Asst. Professor	Department of Poultry Production, UVAS, Pattoki
4.	Dr. Masood Haider Jaffery	Poultry Consultant	PPA
5.	Muhammad Faisal Riaz	Ph.D. Scholar	UVAS, Pattoki
6.	Ms. Urooj Khan	Ph.D. Scholar	UVAS, Pattoki
7.	Mr. Shaharyar Ali	M.Phil. Scholar	UVAS, Pattoki
8.	Mr. Mohammad Saeed Ahmad	Agriculture Officer	UVAS, Pattoki
9.	Mr. Muhammad Saleem Minhas	Broiler Farmer	BKM Farms, Sialkot
10.	Dr. Abdul Ghayas	Asst. Farm Manager	Zubair Feeds, Sheikhpura
11.	Dr. Abdul Samad Haidary	Poultry Farm Manager	Broiler Grand Parent Flock at Quality Breeders, Sargodha
12.	Ms. Samia Amir Hamza	M.Phil. Scholar	GCU Faisalabad
13.	Mr. Ahmad Talal Chohan	Poultry Farm Owner	Layyah
14.	Mr. Faizan Nawaz Qureshi	Farm Supervisor	Poultry research Institute, Rawalpindi
15.	Raja Shahid Khan	Veterinary Officer	Poultry research Institute, Jabba Mansehra
16.	Syed Fawad Ali	Asst. Professor	Sindh Agriculture University Tando Jam

VALIDATION COMMITTEE

The following members participated in the qualification development of these qualifications:

Sr. No.	Name	Designation	Organization
1.	Saima Asghar	DACUM Facilitator	CBT Expert/Certified Assessor
2.	Mohammad Ishaq	Coordinator	Deputy Director NAVTTTC, Islamabad
3.	Mr. Shahid Javaid	Asst.Professor	Department of Poultry, UVAS Pattoki
4.	Ms. Maryam Shahid	Ms. Scholar	PU (Agriculture Deptt), Lahore
5.	Dr. Muhammad Faisal Riaz	Ph.D. Scholar	UVAS, Pattoki
6.	Mr. Nazim Khawar Butt	Owner	KK poultry & hatchery, Lahore
7.	Mr. Shaharyar Ali	Ph.D. Scholar,	UVAS, Pattoki
8.	Mr. Muhammad Saeed Ahmed	Agriculture Officer	UVAS, Pattoki
9.	Mr. Muhammad Saleem Minhas	Broiler Farmer	BKM Farms, Sialkot
10.	Liaqat Ali Jamhro	Director Academics	STEVTA
11.	Mr. Faizan Nawaz Qureshi	Farm Supervisor	Poultry Research Institute, Rawalpindi
12.	Dr.Muhammmad Naazir Khan Niazi	Chairman	PBTE Lahore
13.	Raja Shahid Khan	Veterinary Officer	Poultry Research Institute, Jabba Mansehra
14.	Syed Fawad Ali	Assistant professor	Sindh Agriculture University, TandoJam
15.	Ms. Hamna	Food Technologist	GCU, Faisalabad

SUMMARY OF COMPETENCY STANDARDS

Code	Competency Standards	Level	Theory		Practical		Total	
			C	Hr.	C	Hr.	C	Hr.
1.	Maintain Safety at Site	3	1.7	17	6.3	63	8	80
2.	Work in a Team Environment	3	1.2	20	3	30	5	50
3.	Perform Computer Applications	3	1.2	12	4.8	48	6	60
4.	Maintain Inventory at Site	3	1.1	11	6.9	69	8	80
5.	Perform Feeding, watering and light Management	3	3	30	15	150	18	180
6.	Perform Basic Hatchery Operations	3	3	30	12	120	15	150
Total			12	120	48	480	60	600

811PM02A-Competency Standard: Maintain Safety at Site

Overview: This competency standard covers the skills and knowledge required to maintain safe work condition at site, emergency response activity at site. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
CU1. Maintain safe work condition at site	<p><i>You must be able to:</i></p> <p>P1. Recognize the safety signs and symbols</p> <p>P2. Identify potential hazards at site</p> <p>P3. Identify the risk of slip, trip and fall at site</p> <p>P4. Perform protection measures as per job requirements</p> <p>P5. Label and store medicines and chemicals as per Material Safety Data Sheet (MSDS)</p>
CU2. Perform fire fighting	<p><i>You must be able to:</i></p> <p>P1. Identify source of fire.</p> <p>P2. Identify classes of fire</p> <p>P3. Raise fire alarms</p> <p>P4. Select fire extinguishers</p> <p>P5. Check expiry of fire extinguisher</p> <p>P6. Check wind direction</p> <p>P7. Locate emergency exits</p> <p>P8. Perform PASS (Pull, aim, squeeze and sweep) on fire extinguisher</p>
CU3. Carry out first aid treatment	<p><i>You must be able to:</i></p> <p>P1. Follow COVID-19 SOP's</p> <p>P2. Identify basic elements for first aid kit</p> <p>P3. Maintain a fully stocked first aid kit</p> <p>P4. Check expiry date of medicines</p> <p>P5. Perform mock first aid treatment for minor injuries</p>
CU4. Perform Basic electrical work safely at workplace	<p><i>You must be able to:</i></p> <p>P1. Check the connectivity of earthing with power equipment</p> <p>P2. Check leads and cable for any visual damage before use</p> <p>P3. Tag damaged lead, cable and connection points and report to the supervisor</p>

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- Unsafe act and unsafe conditions
- Electrical safety
- First Aid treatment
- Source of fire
- Firefighting techniques
- Housekeeping at workplace
- Emergency exits at workplace
- Types of fire extinguisher
- Classes of fire
- Types of hazardous materials and relevant safety procedures
- Use of required PPE for different situations

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- ✓ Perform first aid treatment for minor cut
- ✓ Perform mock firefighting on a source of fire

811PM02B Competency Standard: Work in a Team Environment

Overview: This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements. It also identifies role and responsibility as a member of a team. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
CU1. Obtain and convey Workplace information	<p><i>You must be able to:</i></p> <p>P1. Assess the specific and relevant information from the appropriate sources</p> <p>P2. Convey the information using the appropriate medium and ideas</p> <p>P3. Use appropriate non- verbal communication</p> <p>P4. Identify appropriate lines of communication with supervisors and colleagues</p> <p>P5. Use the defined workplace procedures for storage of information</p> <p>P6. Inform co-workers and superiors about any deviation</p>
CU2. Participate in workplace meetings and discussions	<p><i>You must be able to:</i></p> <p>P1. Express your own opinions</p> <p>P2. Listen other's point of view without interruption</p> <p>P3. Prepare simple questions about workplace procedures</p>
CU3. Identify own role and responsibility within team	<p><i>You must be able to:</i></p> <p>P1. Identify the individual role and responsibilities within the team environment.</p> <p>P2. Recognize the roles and responsibility of other team members.</p> <p>P3. Share report with co-workers.</p>
CU4. Support the co-workers	<p><i>You must be able to:</i></p>

	<p>P1.Hand over the required materials and tools timely to interfacing team</p> <p>P2.Work together with co-workers in an effective manner</p> <p>P3.Address the problems of co-worker effectively</p> <p>P4.Report to immediate boss</p>
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Knowledge & Understanding:

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes the knowledge of:

- Importance of effective communication
- Different mode of communication
- Types of non-verbal communication
- Mode of communication while operating machines
- Importance of creating cooperative work environment
- Role and objective of team.
- Different Sources of information
- Risk of failure in team work on the project.
- Importance of resolving the co-worker's problems
- Plan work and organize required resources in coordination with team
- 7Cs of communications

Critical Evidence(s) Required

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Prepare minutes of meeting
- Prepare questions for meeting
- Prepare a report about daily workplace tasks

811PM02C Competency Standard: Perform Computer Applications

Overview: This Competency Standard identifies the competencies required to perform computer applications and troubleshooting. Trainee will be able to acquired skills in operating MS PowerPoint, and MS Excel. The underpinning knowledge regarding computer applications will be sufficient to provide the basis for trainee's work.

Competency Units	Performance Criteria
CU1. Prepare Spreadsheet using MS Excel	<i>You must be able to:</i> P1. Create worksheet as per given data P2. Format the worksheet according to given criteria P3. Apply formulas according to the requirement P4. Generate Charts/Graphs according to the given data P5. Print Worksheet according to requirements
CU2. Prepare a presentation using MS Power Point	<i>You must be able</i> P1. Insert slides with different layouts according to requirements of presentation. P2. Insert text, tables, images, etc. according to the requirement. P3. Apply a set of effects to animate the slide according to requirement. P4. Apply slide transitions on slides according to requirement. P5. Apply sound effects on objects/text/images according to requirement.

Knowledge & Understanding

The trainee must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- Different types of formulas in MS Excel
- Short Keys MS Excel and Power Point
- Types of presentation format

Critical Evidence(s) Required

The trainee needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Prepare graph by entering data and applying formula into the respective columns and rows as per given instructions
- Prepare and present a presentation in Power Point according to 7Cs of communication.



811PM02D- Competency Standard: Maintain Inventory at Site

Overview: This competency standard deal with learning the competencies needed to maintain inventory at poultry shed. That includes maintaining tool box and inventory of tools, equipment and consumable items. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
CU1. Explore capacities and utilization of site items	<i>You must be able to:</i> P1. Identify capacity of shed and hatchery machinery and equipment as per manufacturers specifications P2. Identify standard tools supplied with machines P3. Check spares/consumable materials
CU2. Maintain tool box	<i>You must be able to:</i> P1. Check physical condition of tools P2. Place tools in tool box as per layout P3. Perform preventive maintenance of tools as per standards P4. Perform corrective maintenance of tools as per standards P5. Clean tools after use
CU3. Manage Inventory of tools, equipment and consumable items	<i>You must be able to:</i> P1. Count number of tools, equipment and consumable items as per record P2. Report for faulty tools and equipment P3. Generate demand for consumable items, defective tools and equipment P4. Prepare record of all tools, equipment and consumable items

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- Types of consumable items
- Types of poultry shed machinery
- Tool box
- Inventory of consumable items, tools and equipment



- Guidelines and checklists to conduct maintenance of tools

Critical Evidence:

The candidate needs to produce following critical evidence(s) in order to be competent in this competency standard:

- Identify Capacity of machine before use
- Maintain tool box
- Manage Inventory record



811PM02E-Competency Standard: Perform Feeding, Watering and Light Management

Overview: This competency standard deal with learning the competencies needed to perform feed, water and light management. That includes measure and prepare poultry feed manually and water management. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
CU1. Measure poultry birds feed	<i>You must be able to:</i> P1. Interpret feed manual P2. Calculate total feed bags per shed P3. Adjust the numbers of the feeder according to the total feed P4. Calculate the feed according to the age of bird P5. Calculate the feed according to the type of poultry bird P6. Calculate the feed according to the production of the bird P7. Maintain record
CU2. Prepare feed manually	<i>You must be able to:</i> P1. Arrange raw materials as per requirement P2. Measure quality of feed ingredients as per SOPs P3. Perform weighing according to requirement P4. Perform grinding of ingredients P5. Perform mixing of ingredients P6. Store prepared feed according to work instruction P7. Maintain record
CU3. Execute light schedule	<i>You must be able to:</i> P1. Arrange tool and materials for light management P2. Maintain light management for broiler P3. Maintain light management for layer P4. Maintain light management for breeder



	P5. Perform troubleshooting for light
CU4. Perform water management	<i>You must be able to:</i> P1. Arrange tool and materials for water management P2. Collect water sample according to SOPs P3. Measure water pH P4. Maintain water pH P5. Perform chlorination as per SOPs P6. Calculate water intake P7. Maintain water temperature P8. Maintain water odour P9. Maintain Total Dissolve Solids level (TDS) P10. Maintain water system management

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- Importance of feed according to bird's requirement
- Types of feed
- Different feeding methods
- Feeding tools, equipment and management
- Types of raw material
- Physical measurement of raw materials
- Grinding and Mixing Protocol
- Types of grinder and mixers
- Water quality
- Water calculation
- Watering tools, equipment and management
- Importance of light according to bird's requirement
- Types of lighting source



Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

- Measure poultry birds feed
- Prepare feed manually
- Perform light schedule
- Perform water management



811PM02-F Competency Standard: Perform Basic Hatchery Operations

Overview: This competency standard deal with learning the competencies needed to perform basic hatchery operations. That includes selection of hatching eggs; maintain environmental condition inn incubator and carryout hatch pull. Your underpinning knowledge will be sufficient to provide you the basis for your work.

Competency Units	Performance Criteria
CU1. Perform selection of setttable eggs	<i>You must be able to:</i> P1. Wear PPEs P2. Separate eggs on physical basis P3. Perform grading of eggs P4. Perform candling of eggs P5. Maintain record
CU2. Maintain environmental condition in incubator	<i>You must be able to:</i> P1. Calibrate the incubation tools P2. Maintain temperature in setter and Hatcher P3. Maintain relative humidity in setter and Hatcher P4. Maintain air quality
CU3. Carry out Hatch pull	<i>You must be able to:</i> P1. Remove un- hatched eggs P2. Perform egg breakout analysis P3. Maintain record
CU4. Perform hatchery sanitation	<i>You must be able to:</i> P1. Arrange tools and material P2. Remove organic waste as per SOPs P3. Perform dry cleaning of site as per SOPs P4. Perform wet cleaning of site as per SOPs P5. Perform disinfection of equipment and site as per SOPs P6. Perform sanitization of equipment and site as per SOPs



	P7. Maintain record
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Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out the tasks covered in this competency standard. This includes the knowledge of:

- Grading techniques of eggs
- Grading techniques of chicks
- Importance of Candling
- Importance of PPEs
- Incubation conditions
- Stages of Embryonic mortality
- Record keeping
- Types of disinfectants
- Cleaning, disinfection and sanitization procedures

Critical Evidence(s) Required

The candidate needs to produce any or all of the following documents/evidences:

- Perform selection of hatching eggs
- Perform cleaning, disinfection and sanitization
- Carry out Hatch pull
- Maintain environmental condition in incubator



COMPLETE LIST OF TOOLS AND EQUIPMENT

Sr. #	Description
1.	Safety Blankets
2.	PPEs
3.	Fire Buckets
4.	Fire Extinguishers
5.	First aid Kit
6.	Measuring Tape
7.	Multimeter
8.	Water tank
9.	Cooling pads
10.	Feeder
11.	Air inlet
12.	Ventilation Fan
13.	Water drinkers
14.	Temperature Sensors
15.	Thermometer
16.	Relative humidity sensors
17.	Hygrometer
18.	Feed Grinder



Sr. #	Description
19.	Brooders
20.	Barometer
21.	Incubator
22.	Egg Storage cabinet
23.	Shifting trays
24.	Egg trolleys
25.	Candler
26.	pH Meter
27.	Syringes
28.	Vaccine gun
29.	Droppers
30.	Computers
31.	Printer
32.	Scanner
33.	Internet router
34.	Application Software
35.	Log Books/notepad
36.	Stationary Items
37.	Refrigerator



Sr. #	Description
38.	Lux meter
39.	Bulb
40.	Heater
41.	Feed manuals
42.	Calculator
43.	Grinder
44.	Mixer
45.	Chemicals
46.	TDS meter
47.	Petri dish
48.	Shell grit box
49.	Stamp
50.	Spray pumps
51.	Sanitizer
52.	Disinfectors
53.	Plastic crate
54.	Eggs transport cart
55.	Feed bins



Sr. #	Description
56.	Compressed air system
57.	Emergency standby electric plants
58.	Wheel barrow
59.	Racker
60.	Fumigator
61.	Broom
62.	Wire Brush
63.	Showers
64.	Plastic Brush
65.	Wiper
66.	Weighing balance
67.	Wire Mesh
68.	Plastic sheets
69.	Paint brush
70.	Hose pipe
71.	Rice husk
72.	Spade
73.	Dust bin



National Vocational Qualification Level 3 in Poultry Management (Head Worker)

