

Assessment Evidence Guide

For

Food Technology

Level-5

(Summative)



**National Vocational & Technical Training
Commission Islamabad**

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate Level-5 in Food Technology
Competency Standards	<ol style="list-style-type: none"> 1. Use Food Grade packaging Material 2. Perform Food Microbiology Tests 3. Comply Quality Standards 4. Implement Quality Management System 5. Ensure Compliance of Food Safety System 6. Monitor Freezing Process 7. Apply meat curing and smoking 8. Prepare Different Types of Cheese 9. Prepare Sugar 10. Prepare Extruded Products 11. Produce Confections 12. Ensure Quality Control in Food Industry
Purpose of Assessment	Summative Assessment
Candidate Details	Name _____ Registration Number _____
Guidance for Candidate	<p>To meet this qualification level, you are required to perform and demonstrate the procedures/skills of Meat Curing as well as Cheese Processing by ensuring Quality Management Systems (QMS) emphasizing food safety (HACCP) within 05 hours during assessment.</p> <p>Knowledge Assessment (Oral)</p>
Time: 05 Hours	<p>To meet this qualification standard, you are required to perform the following tasks during practical and knowledge assessment, under observation by an assessor:</p> <ol style="list-style-type: none"> 1. Perform Curing and smoking of meat 2. Monitor cheese processing 3. Implement Quality Management Systems
Minimum Evidence Required	<ol style="list-style-type: none"> 1. Perform Curing and smoking of meat <ol style="list-style-type: none"> i. Select meat according to product specifications ii. Prepare brines & use Hydrometer (Salometer) to check the brine strength. iii. Perform curing and make adjustments to the process as required iv. Perform Smoking by following correct mandate procedures v. Store product according to product specifications and monitor the chilling process 2. Monitor cheese processing <ol style="list-style-type: none"> i. Ensure curdling of milk and start cutting process according to product specifications

	<ul style="list-style-type: none"> ii. Check moulding equipment to confirm operating condition iii. Ensure the pressing and moulding process is started up according to standards iv. Ensure pressed and the moulded product meets specifications v. Ensure salt dose according to formulation specifications <p>3. Implement Quality Management Systems</p> <ul style="list-style-type: none"> i. Ensure implementation of SOP's against set standards (GMP, GHP, GLP) during meat curing/cheese processing ii. Determine Critical Control Points (CCPs) during meat curing/cheese processing iii. Develop Corrective/Preventive Action reports iv. Record information and maintain checklists (Temperature, Time, pH, Packaging, Humidity, Salinity, TPC and Coliforms etc.) v. Ensure the quality parameters and specifications of packaging relating to product
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Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate Level-5 in Food Technology
Purpose of Assessment	Summative Assessment
Assessment Task	<ol style="list-style-type: none"> 1. Perform curing and smoking of meat 2. Monitor cheese processing 3. Implement Quality Management Systems

I can.....

Performance Criteria	Yes	No
1. Select meat according to product specifications	<input type="checkbox"/>	<input type="checkbox"/>
2. Prepare brines & use Hydrometer (Salometer) to check the brine strength.	<input type="checkbox"/>	<input type="checkbox"/>
3. Perform curing and make adjustments to the process as required	<input type="checkbox"/>	<input type="checkbox"/>
4. Perform Smoking by following correct mandate procedures	<input type="checkbox"/>	<input type="checkbox"/>
5. Store product according to product specifications and monitor the chilling process	<input type="checkbox"/>	<input type="checkbox"/>
6. Ensure curdling of milk and start cutting process according to product specifications	<input type="checkbox"/>	<input type="checkbox"/>
7. Check moulding equipment to confirm operating condition	<input type="checkbox"/>	<input type="checkbox"/>
8. Ensure the pressing and moulding process is started up according to standards	<input type="checkbox"/>	<input type="checkbox"/>
9. Ensure pressed and the moulded product meets specifications	<input type="checkbox"/>	<input type="checkbox"/>
10. Ensure salt dose according to formulation specifications	<input type="checkbox"/>	<input type="checkbox"/>
11. Ensure implementation of SOP's against set standards (GMP,GHP, GLP) during meat curing/cheese processing	<input type="checkbox"/>	<input type="checkbox"/>
12. Determine Critical Control Points (CCPs) during meat curing/cheese processing	<input type="checkbox"/>	<input type="checkbox"/>
13. Develop Corrective/Preventive Action reports	<input type="checkbox"/>	<input type="checkbox"/>
14. Record information and maintain checklists (Temperature, Time, pH, Packaging, Humidity, Salinity, TPC and Coliforms etc.)	<input type="checkbox"/>	<input type="checkbox"/>
15. Ensure the quality parameters and specifications of packaging relating to product	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____ Assessor's Signature _____

Date: _____

Assessors Judgment Guide

Qualification	National Vocational Certificate Level-5 in Food Technology
Purpose of Assessment	Summative Assessment
Candidate Details	Name: _____ Registration Number: _____ Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor _____ Assessor's code: _____ Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

Observation Checklist

Assessment Task	1. Perform curing and smoking of meat 2. Monitor cheese processing 3. Implement Quality Management Systems			
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Selected meat according to product specifications			
2.	Prepared brines & used Hydrometer (Salometer) to check the brine strength.			
3.	Performed curing and made adjustments to the process as required			
4.	Performed Smoking and followed correct mandate procedures			
5.	Stored product according to product specifications and monitored the chilling process			
6.	Ensured curdling of milk and performed cutting according to product specifications			
7.	Checked moulding equipment to confirm operating condition			
8.	Ensured the pressing and moulding during cheese processing			
9.	Ensured pressed and moulded product (cheese) meets specification			
10.	Ensured salt dosage according to formulation specifications			
11.	Ensured implementation of SOP's against set standards (GMP,GHP, GLP) during meat curing/cheese processing			
12.	Determined Critical Control Points (CCPs) during meat curing/cheese processing			
13.	Developed Corrective/Preventive Action reports			
14.	Recorded information and maintained checklists (Temperature, Time, pH, Packaging, Humidity, Salinity, TPC and Coliforms etc.)			
15.	Ensured the quality parameters and specifications of packaging relating to product			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	National Vocational Certificate Level-5 in Food Technology
Purpose of Assessment	Summative Assessment
Candidate Details	Name: _____ Registration Number: _____ Candidate Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	What is meat curing?		
2.	Enlist meat curing agents?		
3.	Define smoking of meat?		
4.	What are the effects of curing on shelf life?		
5.	What is Salometer?		
6.	What are storage conditions for cured products?		
7.	What is the role of brine in meat shelf life?		
8.	What is the effect of smoking on meat?		

9.	Mention the bacterial contaminants present in meat?		
10.	Give temperature range for storage of smoked products?		
11.	What is rennet?		
12.	Differentiate between curd and yoghurt?		
13.	Mention the fermenting microbes for yoghurt?		
14.	Define pasteurization of milk?		
15.	What are the quality characteristics to be observed in curd making?		
16.	What is inoculum?		
17.	What is the role of culture in cheese making?		
18.	What is pressing of cheese?		
19.	What is cheese moulding?		
20.	How to coagulate the milk for cheese making?		
21.	What is culture in yoghurt making?		
22.	How aging affects the quality of cheese?		
23.	What is ripening of cheese?		

24.	What is the optimum temperature of milk fermentation?		
25.	At what pH curdling of milk starts?		
26.	What is Syneresis?		
27.	What is HACCP?		
28.	What is Hazard?		
29.	How many Principles of HACCP are there?		
30.	What is CCP?		
31.	Enlist types of hazard?		
32.	What are the chemical hazards?		
33.	What is food poisoning?		
34.	What does TPC stand for?		
35.	Give names of microbes involved in food poisoning?		
36.	What are Lactic Acid Bacteria (LAB)?		
37.	MSNF stands for?		

38.	What is the use of LR test?		
39.	What is the role of Calcium Chloride (CaCl ₂) in cheese making?		
40.	What is sensory evaluation?		
41.	What does PET stand for?		
42.	What is the purpose of vacuum packaging?		
43.	What is the role of agar in culture medium?		

Feedback to the Candidate	
Candidate's Signature _____	Assessor's Signature _____

List of Tools and Equipment

Sr. No.	List of Tools/Equipment	Quantity (25 Candidates)
01	Cutting boards	10
02	Choppers	10
03	Knives	15
04	Automatic Injector Machine (Injectometer)	01
05	Massager	05
06	Pumping Equipment	01
07	Smoker generator	01
08	Smoke jet	01
09	Brine tanks	05
10	Chiller/Freezer	02
11	Wooden Boxes	05
12	Pasteurizer	01
13	Pilot cheese-making Vat	01
14	Pressing and moulding machine	01
15	Homogenizer	01
16	Colony Counter	01
17	Laminar Flow hood	01
18	Test tubes	50
19	Petri plates	50
20	Optical Microscope	01
21	pH meter	02
22	Titration apparatus	01
23	Cheese Moulds	10

List of Consumables

Sr. No.	List of Consumables	Quantity (25 Candidates)
1	Meat	5 kg
2	Rock Salt	1 kg
3	Preservatives	100 g
4	Spices for seasoning/flavoring	500 g
5	Wooden pallets/ shavings	5 kg
6	Aluminum Foil	1 roll
7	Cling Film Wraps	1 roll
8	Milk	10 ltr
9	Calcium Chloride	100 g
10	Rennet	50 g
11	Tartaric Acid	100 g
12	Acetic Acid	500 ml
13	Bacterial Culture	2 sachets
14	Muslin Cloth	5 meters
15	Log sheets	25
16	Checklists	25