

# **NSQF QUALIFICATION FILE GUIDANCE**

Version 6: Draft of 08 March 2016

## **CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE**

### **Name and address of submitting body:**

Food Industry Capacity & Skill Initiative (FICSI)  
Federation House1, Tansen Marg, New Delhi - 110001

### **Name and contact details of individual dealing with the submission**

**Name:** Ms. Mallika Verma

**Position in the organisation:** Chief Executive Officer

**Address if different from above:** Address same as above

**Tel number(s):** 9891272185

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### **List of documents submitted in support of the Qualifications File**

1. Career Map of Cottage Cheese Maker - Annexure 1
2. Qualification Pack of Cottage Cheese Maker - Annexure 2
3. List of QP/NOS validating companies – Annexure 3
4. NSDC Human Resource and Skill Requirement Study- Annexure 4

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## SUMMARY

<b>Qualification Title</b>	Cottage Cheese Maker
<b>Qualification Code</b>	FIC/Q2005
<b>Nature and purpose of the qualification</b>	Nature of the qualification - a Qualification Pack (QP) The main purpose of the qualification - to enable candidate to produce cottage cheese from milk by process of separation of cheese from whey
<b>Body/bodies which will award the qualification</b>	Food Industry Capacity & Skill Initiative (FICSI)
<b>Body which will accredit providers to offer courses leading to the qualification</b>	Food Industry Capacity & Skill Initiative (FICSI)
<b>Body/bodies which will carry out assessment of learners</b>	Mettl, Stamp, IQAG, Skills Mantra, Aspiring Mind
<b>Occupation(s) to which the qualification gives access</b>	Cottage Cheese Maker
<b>Licensing requirements</b>	N/A
<b>Level of the qualification in the NSQF</b>	Level 4
<b>Anticipated volume of training/learning required to complete the qualification</b>	240 hours
<b>Entry requirements and/or recommendations</b>	Preferably Class 10 0-1 year experience in a milk processing unit
<b>Progression from the qualification</b>	Dairy Products Processor/Supervisor Dairy Products Processing ( Level 5)

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<b>Planned arrangements for the Recognition of Prior learning (RPL)</b>	RPL arrangements and policies are under development.
<b>International comparability where known</b>	This qualification has been compared with courses being offered by the National Skills Academy ( Food and Drink) of UK and no matching course has been found
<b>Date of planned review of the qualification.</b>	30 <sup>th</sup> March 2019

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<b>Formal structure of the qualification</b>			
<b>Title of unit or other component</b> (include any identification code used)	<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
<b>FIC/N2017</b> Prepare and maintain work area and process machineries for production of cottage cheese	<b>Mandatory</b>	<b>16</b>	<b>4</b>
<b>FIC/N2018</b> Production of cottage cheese	<b>Mandatory</b>	<b>176</b>	<b>4</b>
<b>FIC/N2019</b> Complete documentation and record keeping related to production of cottage cheese	<b>Mandatory</b>	<b>32</b>	<b>4</b>
<b>FIC/N9001</b> Ensure Food safety, hygiene and sanitation for processing food products	<b>Mandatory</b>	<b>16</b>	<b>Common across levels</b>

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum Document or a Qualification Pack.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

1. Qualification Pack of Cottage Cheese Maker - Annexure 2

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## SECTION 1 ASSESSMENT

### **Body/Bodies which will carry out assessment:**

The assessment bodies include Mettl, Stamp, IQAG and Skills Mantra, Aspiring Mind

### **How will RPL assessment be managed and who will carry it out?**

FICSI recognizes that there may be candidates who have prior learning experience in the FOOD PROCESSING Sector and are desirous of being certified. Such candidates can apply to FICSI for testing and certification of their skills, and they will be allotted a Training Provider / TC for being tested. Documentation for such candidates will be done by the Training Provider / TC. Certificates of successful candidates will be dispatched to the TP / TC for distribution to them.

### **Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:**

Assessment will be based on the concept of Independent Assessors empanelled with Assessment Agencies, identified, selected, trained and certified on Assessment techniques. These assessors would be aligned to assess as per the laid down criteria.

Assessment Agency would conduct assessment only at the training centres of Training Partner or designated testing centers authorized by FICSI.

Ideally, the assessment will be a continuous process comprising of three distinct steps:

A. Mid- term assessment

B. Term / Final Assessment

Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. Therein each Performance Criteria in the NOS will be assigned marks for theory and / or practical based on relative importance and criticality of function.

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets / question bank so created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially with regard to the practical test and the defined tolerances, finish, accuracy etc.

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The following tools are proposed to be used for final assessment:

i. *Written Test*: This will comprise of (i) True / False Statements (ii) Multiple Choice Questions (iii) Matching Type Questions. Online system for this will be preferred.

ii. *Practical Test*: This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.

iii. *Structured Interview*: This tool will be used to assess the conceptual understanding and the behavioral aspects as regards the job role and the specific task at hand.

Please attach any documents giving further information about assessment and/or RPL. Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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## ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the the qualification” in the Summary.

*NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.*

**Title of Component: Cottage Cheese Maker**

### **CRITERIA FOR ASSESSMENT OF TRAINEES**

**Job Role** Cottage Cheese (Paneer) Maker

**Qualification Pack** FIC/Q2005

**Sector Skill Council** Food Industry Capacity and Skill Initiative (FICSI)

#### **Guidelines for Assessment**

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack , every trainee should score a minimum of 60% in aggregate
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

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Assessment outcomes	Assessment criteria for outcomes	Marks Allocation			
		Total Marks	Out Of	Theory	Skills Practical
<b>1.FIC/N2017:(Prepare and maintain work area and process machineries for production of cottage cheese)</b>	PC1. clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests	<b>100</b>	15	5	10
	PC2. ensure that the work area is safe and hygienic for food processing		20	8	12
	PC3. dispose waste materials as per defined SOPs and industry requirements		15	6	9
	PC4. check the working and performance of all machineries and tools used for production of cottage cheese such as filter, homogenizer, pasteurizer, cheese vat, paneer press, paneer cutter, packaging machines etc		20	8	12
	PC5. clean machineries and tools used with recommended sanitizers following the SOP		10	4	6
	PC6. place the necessary tools		5	1	4

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	required for process				
	PC7. attend to the minor repairs/ faults of all machines, if required		15	3	12
			<b>100</b>	<b>35</b>	<b>65</b>
<b>2.FIC/N2018: (Production of cottage cheese (paneer))</b>	PC1. assemble fittings, valves, impeller shaft and other parts to equipment to prepare for operation	<b>100</b>	2	0.5	1.5
	PC2. connect pipes between holding tanks and process equipment		2	0.5	1.5
	PC3. start each of the process machineries and ensure its working and performance		2	0.5	1.5
	PC4. turn valves or pump sterilizing solution and rinse by passing water through pipes to sterilize process equipment		2	0.5	1.5
	PC5. check and ensure all process machineries are clean and in good mechanical condition		2	0.5	1.5
	PC6. refer work order from the supervisor and refer process chart for product produced		2	1	1

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PC7. receive milk from the raw material storage area/warehouse/holding tanks	
PC8. check and conform the quality through physical parameters (like impurities, colour, appearance, temperature etc) and by verifying the quality report	
PC9. set and control metering devices to allow measured volume of milk for processing	
PC10. open valves to pass measured quantity of milk through filter to remove impurities	
PC11. set control parameters and open valves to allow milk into homogenizer to homogenize milk to achieve required fat content	

2	0.5	1.5
4	1.5	2.5
4	1.5	2.5
4	1.5	2.5
5	2	3

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PC12.	set steam pressure and temperature of the pasteurizer, turn valves to allow steam, observe pressure and temperature, and open valves to allow milk into pasteurizer for pasteurization of milk to kill microbes
PC13.	open valves to transfer pasteurized milk into cheese vat and start agitator to stir milk in vat
PC14.	turn valves to allow steam through cheese vat to heat milk to specified temperature following sop
PC15.	monitor dials and gauge, adjust steam valve to obtain and maintain process parameters, close steam valves on achieving required temperature
PC16.	open valves to pass water through vat to cool milk to required temperature

5	2	3
2	0.5	1.5
2	0.5	1.5
4	1.5	2.5
3	1	2

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<p>PC17. measure milk coagulant (like citric acid) and prepare coagulant solution required for production of paneer, following SOP</p>	3	1	2
<p>PC18. check temperature of milk to ensure it has reached the process temperature</p>	3	1	2
<p>PC19. stop agitator, add measured quantity of coagulant solution into milk, and allow to stand until milk coagulate and separate into whey and cheese</p>	3	1	2
<p>PC20. using ladle push cheese away from the drain valve of the vat</p>	4	1.5	2.5
<p>PC21. open drain valves to drain whey from cheese (paneer), using ladle push and pile solid mass of cheese in vat, and check the quality through feel to ensure it has achieved desired firmness and texture</p>	4	1.5	2.5

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<p>PC22. transfer solid mass of cheese into hooves and turn wheel to apply pressure on cheese in hooves to remove whey (or)</p>	4	1.5	2.5
<p>PC23. set controls of pneumatic paneer press and start machine to mechanically apply pressure to compress and remove whey from cheese</p>	4	1.5	2.5
<p>PC24. using knife cut big blocks of cheese into smaller blocks and transfer into vat containing cold water and keep immersed for specified time following sop</p>	4	1.5	2.5
<p>PC25. open drain valves to drain cold water from vat (or) remove cheese from cold water and transfer to cutting table or paneer cutting machine</p>	2	1	1
<p>PC26. cut cheese to required size and weight using knife (or) set controls of cheese cutting machine, load cheese (paneer) blocks on machine and start machine to cut paneer to desired shape</p>	3	1	2

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	and weight			
	PC27. check the quality of finished products to ensure its specification to organisation and regulatory standards	3	1.5	1.5
	PC28. manually weigh the finished product, fill in the labelled packaging material and seal (or) start conveyor or manually transfer product(s) into the packaging machine	2	0.5	1.5
	PC29. load packaging materials and labels in packaging machine, set packing quantity and labelling details, start machine to pack finished products	2	0.5	1.5
	PC30. sample products produced from production line and packed product from packaging line, and transfer to quality lab for analysis	2	1	1
	PC31. report discrepancies/concerns to department	3	1.5	1.5

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	supervisor for immediate action and implement the suggested corrective action				
	PC32. place packed and labelled products in cartons and transfer to storage area and store maintaining storage conditions following SOP		1	0.5	0.5
	PC33. clean the work area, equipment and tools using recommended cleaning agents and sanitizers		2	0.5	1.5
	PC34. attend minor repairs/faults (if any) of all components and machines		2	0.5	1.5
	PC35. attend minor repairs/faults (if any) of all components and machines		2	0.5	1.5
			<b>100</b>	<b>35</b>	<b>65</b>
<b>3.FIC/N2019: (Complete documentation and record keeping related to production of cottage cheese)</b>	PC1. document and maintain record of details of raw materials and packaging materials such as raw material type (milk from cow, buffalo etc), name	<b>100</b>	10	6	4

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	of ingredients/chemicals used, vendor/supplier details, receiving date, supplier details, receiving date/ date of manufacture, expiry date, quality parameters of raw materials and ingredients/chemicals, supplier quality document, internal quality analysis report, etc. as per organisation standards			
PC2.	document and maintain record on observations (if any) related to raw materials and packaging materials	5	3	2
PC3.	load the raw materials details in ERP for future reference	5	3	2
PC4.	verify the documents and track from finished product to raw materials, in case of quality concerns and during quality management system audits	5	3	2
PC5.	document and maintain records of production plan with details such as product details,	10	6	4

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	equipments and machinery details, efficiency and capacity utilization of equipment			
PC6.	document and maintain records of process details such as type of raw material used, process parameters (temperature, time etc. as applicable) for entire production and packaging in process chart or production log for product produced	15	9	6
PC7.	document and maintain records of batch size, production yield, wastage of raw materials, energy utilization and final products produced	10	6	4
PC8.	document and maintain record of observations (if any) or deviations related to process and production	5	3	2
PC9.	load the production plan and process details in ERP for future reference	5	3	2
PC10.	verify documents and track from finished	5	3	2

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	product to process details and raw materials, in case of quality concerns and for quality management system audits			
	PC11. document and maintain records of the cottage cheese produced	5	3	2
	PC12. document and maintain records of the finished products details such as batch number, time of packing, date of manufacture, date of expiry, other label details, primary, secondary and tertiary packaging materials for all finished products, storage conditions, etc. as per organisation standards	5	3	2
	PC13. document and maintain record of observations or deviations (if any) related to finished products	5	3	2
	PC14. load the finished product details in ERP for future reference	5	3	2
	PC15. verify the documents and track from finished	5	3	2

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	product to ingredients, in case of quality concerns and for quality management system audits				
			<b>100</b>	<b>60</b>	<b>40</b>
<b>4.FIC/N9001: (Ensure food safety hygiene and sanitation)</b>	PC1. comply with food safety and hygiene procedures followed in the organisation	<b>100</b>	5	3	2
	PC2. ensure personal hygiene by use of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.		5	1	4
	PC3. ensure hygienic production of food by inspecting raw materials, ingredients, finished products, etc. for compliance to physical, chemical and microbiological parameters		5	1	4
	PC4. pack products in appropriate packaging materials, label and store them in designated area, free from pests, flies and infestations		10	2	8
	PC5. clean, maintain and monitor food processing equipment periodically, using it only for the specified purpose		5	2	3

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PC6.	use safety equipment such as fire extinguisher, first aid kit and eye-wash station when required
PC7.	follow housekeeping practices by having designated area for materials/tools
PC8.	follow industry standards like GMP and HACCP and product recall process
PC9.	attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them
PC10.	identify, document and report problems such as rodents and pests to management
PC11.	conduct workplace checklist audits before and after work to ensure safety and hygiene
PC12.	document and maintain raw material, packaging material, process and finished products for the credibility and effectiveness of the food safety control system
PC13.	determine the quality of food using criteria such

10	2	8
5	2	3
10	4	6
5	2	3
5	2	3
5	2	3
5	2	3
5	2	3

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	as odour, appearance, taste and best before date, and take immediate measures to prevent spoilage			
	PC14. store raw materials, finished products, allergens separately to prevent cross-contamination	5	2	3
	PC15. label raw materials and finished products and store them in designated storage areas according to safe food practices	5	3	2
	PC16. follow stock rotation based on FEFO/ FIFO	10	3	7
		<b>100</b>	<b>35</b>	<b>65</b>

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## SECTION 2

### **EVIDENCE OF LEVEL**

**Awarding bodies will enter a proposed NSQF level for the qualification in the Qualification File Summary. This section asks for the evidence on which that proposal is based. The evidence must refer to the level descriptors of the NSQF.**

NSDA recommends an approach to working out the level of qualifications which starts with the level descriptor domains (Process, Professional knowledge, Professional skill, Core skill and Responsibility: see annex A). Two variants for providing the evidence of level are offered here: Option A and Option B in the following pages. Awarding bodies should choose the option which best suits the qualification.

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## OPTION B

Title/Name of qualification/component: Cottage cheese maker		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	A Cottage Cheese (Paneer) Maker is responsible for production of cottage cheese from milk by process of separation of cheese from whey.	<p>The job holder is responsible for production of cottage cheese from milk. This involves working in familiar, predictable, routine, situation of clear choice such as preparing and maintaining work area and process machineries for production of cottage cheese, prepare machineries for production of cottage cheese, processing milk, producing cottage cheese, carrying out post production cleaning and regular maintenance of equipments.</p> <p>Hence, it qualifies as a Level 4 role. Since it does not involve several choices to be made even in a familiar context, the role does not qualify for Level 5.</p> <p>This role requires the job holder to work in a familiar, predictable, routine of clear choice and the activities that h/she is expected to perform are not limited in range. For example, he is expected to set and control metering devices to allow measured volume of milk for processing himself, set control parameters, sample products produced from the production line, attend minor repairs and defaults, ensure that the work area is safe and hygienic for food processing. Hence it cannot be placed at level 3.</p>	4
Professional knowledge	The user/individual on the job needs to know and understand: The hygiene requirements and standards	The job holder is expected to have factual knowledge of field of knowledge or study. For example, the job holder is	4

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Title/Name of qualification/component: Cottage cheese maker		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>relevant to food processing unit, standards and procedures followed in the organisation for cleaning process and to disinfect equipment/ tools , job responsibilities/duties to maintain hygiene standards dress code to be followed , whom to approach for support in order to obtain work related instructions, clarifications and support , relevant people and their responsibilities within the work area.</p> <p>Importance of following hygiene, safety and quality standards and the impact of not following the standards.</p>	<p>expected to have knowledge of how to check quality of finished products, manually weigh the finished products, how to check and ensure all process machineries are in good mechanical condition. H/she is also expected to have knowledge of varieties of milk for production of cottage cheese, production process, and process parameters for production of cottage cheese, food laws and regulations, methods to record and maintain records on observations related to raw materials, process and finished products.</p> <p>Since all the above mentioned areas are related to factual knowledge of field of knowledge, the role qualifies for Level 4.</p> <p>The job holder is expected to know more than basic facts and principles, such as he/she is expected to be familiar with the supplier instructions/manuals in order to ensure periodic maintenance of all machines and equipments. He/she is expected to check the working and performance of all machineries and tools used for production of cottage cheese such as filter, homogenizer, pasteurizer, cheese vat, paneer press, paneer cutter, packaging machines etc., since this role requires factual knowledge of field of knowledge or study, it cannot be pegged at level 3.</p>	
<b>Professional skill</b>	The job holder is required to have professional skills required for performing the job which includes:	The job holder is expected to carry out routine and repetitive activities in a narrow range of application, using	<b>4</b>

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Title/Name of qualification/component: Cottage cheese maker			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>decision making, planning and organising, customer centricity, analytical thinking, critical thinking and problem solving. For example the job holder is expected to analyse critical points in day to day tasks through experience and observation, handle issues in case the supervisor is not available, support supervisor in solving problems by detailing out problems, apply domain information about maintenance processes and technical knowledge about tools and equipment.</p>	<p>appropriate rule and tool. For instance, the job holder has to receive milk from the raw material storage area/warehouse/holding tanks, set and control metering devices to allow measured volume of milk for processing; open valves to transfer pasteurized milk into cheese vat and start agitator to stir milk in vat, place packed and labelled products in cartons and transfer to storage area and store maintaining storage conditions following SOP.</p> <p>All these activities are mostly repetitive and have a narrow range of application, hence qualifying the role for a Level 4.</p> <p>As this job requires a lot of experience and observation skills ,For Example, the job holder is expected foranalysing critical points in day to day tasks through experience and observation , planning and organizing the work and jobs , organizing raw materials and packaging materials required for all products , planning to utilise time and equipment's effectively,and identify control measures to solve the issue,etc.</p> <p>Therefore, it cannot be pegged at level 3.</p>	
<b>Core skill</b>	The job holder is required to have core skills for performing the job which includes: writing skills,	The job holder is expected to communicate with clarity, have basic arithmetic skills and a basic understanding of	<b>4</b>

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Title/Name of qualification/component: Cottage cheese maker		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>reading skills, and oral and communication skills (listening and speaking skills). For example the job holder is expected to note the information communicated by the supervisor, read and interpret the process required for producing various types of products, discuss task lists, schedules, and activities with the supervisor, effectively communicate with team members, read equipment manuals and process documents to understand the equipment's operation and process requirements.</p>	<p>political and natural environment. For instance, s/he should be able to note the information communicated, note the readings of process parameters, such as document and maintain records of cottage cheese produced, maintain records of production plan with details such as product details, equipments and machinery details, efficiency and capacity utilization of equipments, write information documents to internal departments/ internal teams, read and interpret the process flow chart for products produced, effectively communicate with team members and cross department teams on the issues faced during process.</p> <p>Hence, this role qualifies for Level 4.</p> <p>As this job requires having direct communication with the supervisor for the discussion about the tasks and schedules, For Example, the job holder is expected to discuss task lists, schedules and activities with the supervisor, read and interpret the process required for producing various types of products, effectively communicate with team members, communicate clearly with the supervisor and cross department teams on the issues faced during the process, question the supervisor in order to understand the nature of the problem and to clarify queries. Therefore, it cannot be pegged at level 3.</p>	

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Title/Name of qualification/component: Cottage cheese maker		Level: 4	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
<b>Responsibility</b>	<p>Responsibility for own working and learning.</p> <p>A cottage cheese (Paneer) maker is responsible for production of cottage cheese from milk through the process of filtration, homogenization, pasteurization, heating, cooling, coagulation, separation, compression by operating various machineries following specifications and standards of the organization.</p>	<p>The job holder is responsible for only own work and learning. S/he is a skilled worker who carries out activities after reading and understanding the production order, refer to the process chart/ production flow chart/ formulation chart for production of cottage cheese and assemble fittings, valves, and other parts to prepare for the operation, attend to minor repairs/faults of all components and machines as and when required.</p> <p>Hence, this role qualifies for Level 4. It does not comprise of any supervisory activities.</p> <p>Since , the job holder is expected to be responsible for own working and learning and is not under any supervision , For Example, the job holder is responsible for Preparing machineries for production, Produce cottage cheese (Paneer) and Carry out post production cleaning and regular maintenance of equipments. Therefore, this role cannot be pegged at level 3.</p>	<b>4</b>

## India-EU Skills Development project: Qualification File

### SECTION 3 EVIDENCE OF NEED

#### **What evidence is there that the qualification is needed?**

During the industry interactions carried out while creating occupational maps and prioritization of job roles for Qualification Pack development, the mentioned qualification was indicated as a key requirement by the industry. Governing Council of FICSI shared the final approval for the development of the role. The qualification has also been validated and its need endorsed by some of the leading industry players such as Shiv Health foods, Vijaykant Dairy and Food Products, Panchmahal District Cooperative Milk Producers Union Ltd, Haryana Dairy Development Cooperation Federation Ltd.

In addition, the NSDC Human Resource and Skill Requirement study has indicated a strong growth for the dairy products segment considering that India ranks first in the world in production of milk. The same was endorsed through multiple meetings with key stakeholders in this segment and a workshop.

Milk and milk products account for a significant 17 percent of India's total expenditure on food. The major growth drivers of the milk and milk products sector are increasing per capita income, increasing population and high per capita consumption of milk, which leads to greater demand for high-value dairy products, such as cottage cheese and yogurt.

Evidence of the qualification is also supported by validations. The complete list of validating companies has been enclosed as an annexure to the Q file.

Industry validation documents will be attached separately.

#### **What is the estimated uptake of this qualification and what is the basis of this estimate?**

As per the NSDC Human Resource and Skill Requirement study, the projected size of Dairy Products till the year 2022 is Rs. 2597 billion (CAGR of 11.4%). The incremental human resource requirement in Dairy Products is expected to be 68,000 with demand in the organized sector being 12,000 (annual).

#### **What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?**

The qualification discussed above is checked for any duplication across sectors. Given the qualification is niche to Food Processing sector, there is no duplication or pre-existing similar qualifications.

The QP for this role has been compared with NCVT courses and it has been found that NCVT does not have any specific course pertaining to cottage cheese making, it has a generic course and provides training on milk and milk products as a whole, whereas FICSI has a separate qualification pack for "Cottage cheese maker." NCVT course duration/training is 1 year. NCVT entry qualification for the course is 10th Class pass, (examination with science and mathematics) and entry requirements for this job role of cottage cheese maker is preferably Class 10 and a desirable 0-1 year experience in a milk processing unit. There is a separate NOS on "Ensure food safety, hygiene and sanitation for processing food products", whereas, NCVT has included this aspect only briefly. There is ample focus in the QP which is given on documentation and therefore

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a separate NOS "Complete documentation and record keeping related to production of cottage cheese" has been included in the QP.

This QP has been developed keeping in mind the industry requirements

**What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?**

The qualification packs will be reviewed and checked for relevance and currency as per industry standards, after a period of 3 years. Also, there will be a sustainability plan in place to maintain relevance of the final QP.

This QP is set to be revised post January 2019.

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

- List of QP NOS validating companies- Annexure 3
- NSDC Human Resource and Skill Requirement study – Annexure 4

## **SECTION 4**

### **EVIDENCE OF PROGRESSION**

**What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**

1. Discussing the growth trajectory within each occupation after studying organisational charts of various industry players across small, medium and large scale organizations.
2. Exploring various lateral career opportunities for the discussed qualification
3. Ensuring that there is a clear role up in terms of performance criteria qualification experience and skill requirement from lower NSQF Level to higher levels in the hierarchy.

Please refer to the career path as per Annexure 1 which clearly defines the career path.

Please attach any documents giving further information about any of the topics above.

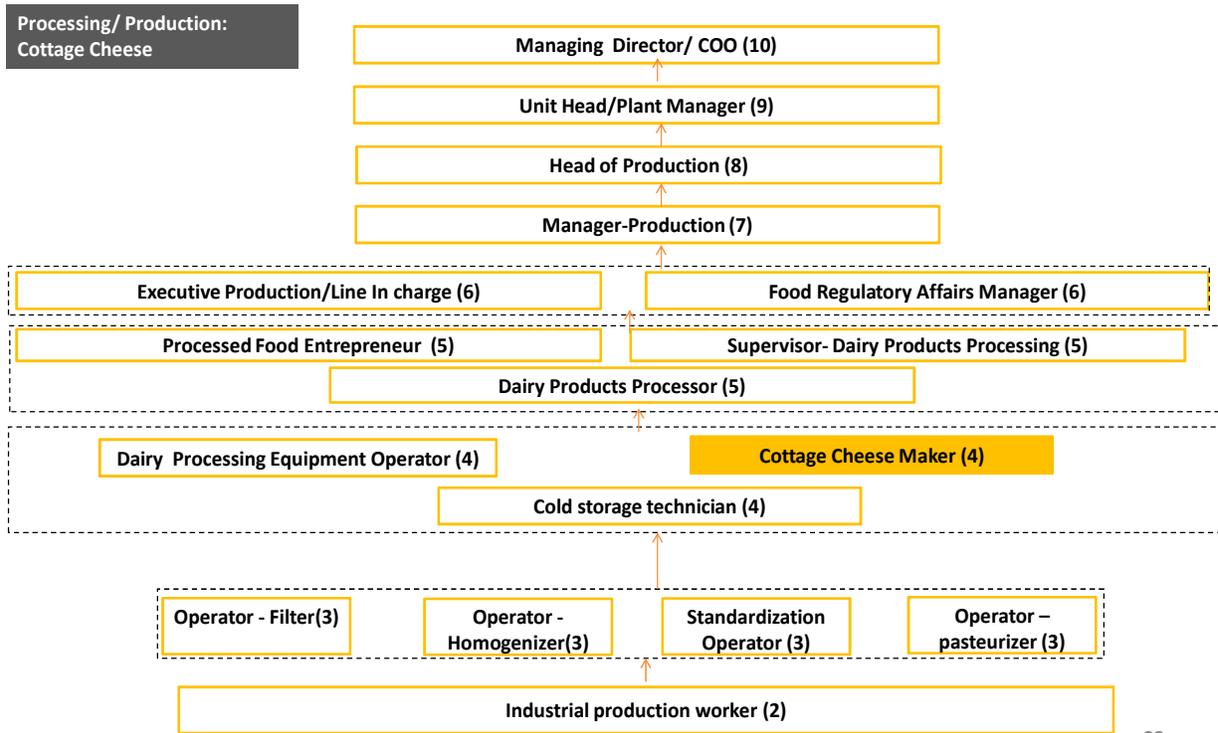
Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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## Annexure 1: Career Map of Cottage cheese maker



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Annexure 2: Qualification Pack of Cottage cheese maker (separate file)

Annexure 3: List of QP/NOS validating companies (separate file)

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## ANNEX A

### NSQF LEVEL DESCRIPTORS

LEVEL	Process required	Professional knowledge	Professional skill	Core skill	Responsibility
<b>1</b>	Prepares person to/carry out process that are repetitive on regular basis require no previous practice,	Familiar with common trade terminology, instructional words, meanings and understanding.	Routine and repetitive, takes safety and security measures.	Reading and writing; addition, subtraction; personal financing; familiarity with social and religious diversity, hygiene and environment.	No responsibility; always works under continuous instruction and close supervision.
<b>2</b>	Prepares person to/carry out processes that are repetitive, on a regular basis, with little application of understanding, more of practice.	Material, tools and applications in a limited context, understands context of work and quality.	Limited service skills used in limited context; select and apply tools; assist in professional works with no variables; differentiate good and bad quality.	Receive and transmit written and oral messages, basic arithmetic, personal financing, understanding of social, political, and religious diversity, hygiene and environment.	No responsibility; works under instruction and close supervision.
<b>3</b>	Person may carry out a job which may require limited range of activities routine and predictable.	Basic facts, process and principle applied in trade of employment.	Recall and demonstrate practical skill, routine and repetitive in narrow range of application	Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment.	Under close supervision. Some responsibility for own work within defined limit.

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LEVEL	Process required	Professional knowledge	Professional skill	Core skill	Responsibility
4	Work in familiar, predictable, routine, situation of clear choice.	Factual knowledge of field of knowledge or study.	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts.	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	Responsibility for own work and learning.
5	Job that requires well developed skill, with clear choice of procedures in familiar context.	Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.	Desired mathematical skill; understanding of social, political; and some skill of collecting and organising information, communication.	Responsibility for own work and learning and some responsibility for others' works and learning.
6	Demands a wide range of specialised technical skill, clarity of knowledge and practice in broad range of activity involving standard and non-standard practices.	Factual and theoretical knowledge in broad contexts within a field of work or study.	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Reasonable good in mathematical calculation, understanding of social, political and reasonably good in data collecting organising information, and logical communication.	Responsibility for own work and learning and full responsibility for other's works and learning.
7	Requires a command of wide-ranging specialised theoretical and practical skills, involving	Wide-ranging factual and theoretical knowledge in broad contexts within a field of work or	Wide range of cognitive and practical skills required to generate solutions to specific	Good logical and mathematical skill understanding of social political and natural environment and organising	Full responsibility for output of group and development.

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LEVEL	Process required	Professional knowledge	Professional skill	Core skill	Responsibility
	variable routine and non-routine contexts.	study.	problems in a field of work of study.	information, communication and presentation skill.	
<b>8</b>	Comprehensive, cognitive, theoretical knowledge and practical skills to develop creative solutions to abstract problems. Undertakes self-study; demonstrates intellectual independence, analytical rigour and good communication.			Exercise management and supervision in the context of work/study having unpredictable changes; responsible for the work of others.	
<b>9</b>	Advanced knowledge and skill. Critical understanding of the subject, demonstrating mastery and innovation, completion of substantial research and dissertation.			Responsible for decision making in complex technical activities involving unpredictable work/study situations.	
<b>10</b>	Highly specialised knowledge and problem solving skill to provide original contribution to knowledge through research and scholarship.			Responsible for strategic decisions in unpredictable complex situations of work/study.	

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## ANNEX B

### NSQF LEVEL OUTLINES

#### NSQF levels related to the labour market

**Level 1:** Work requiring knowledge, skills and aptitudes at level 1 will be routine, repetitive, and focused on limited tasks carried out under close supervision. In some sectors, people carrying out these job roles may be described as “helpers”.

Individuals in jobs which require level 1 qualifications **may** be expected to be able to read, write, add and subtract, but will not normally be required to have any previous knowledge or skills relating to the work<sup>1</sup>.

When employed, they will be instructed in their tasks and expected to learn and use the common terminology of the trade and acquire the basic skills necessary for the work.

Job holders at this level will be expected to carry out the tasks they are given safely and securely and to use hygienic and environmentally friendly practices. This means that they will be expected to take some responsibility for their own health and safety and that of fellow workers.

In working with others, they will be expected to respect the different social and religious backgrounds of their fellow workers.

**Level 2:** Work requiring knowledge, skills and aptitudes at level 2 will also be routine and repetitive, and tasks will be carried out under close supervision. The individuals will not be expected to deal independently with variables which affect the carrying out of the work. People carrying out these work roles may be described as “assistants” and the range of tasks they carry out will be limited.

Individuals in jobs which require level 2 qualifications will normally be expected to be able to read and write, add and subtract. Their work may involve taking and passing on messages.

They may also be expected to have some previous experience, knowledge and skills in the occupation. When employed, they will be instructed in their tasks and expected to acquire the practical skills necessary to assist skilled workers and/or give a limited service to customers. They will learn about, and use, the materials, tools and applications required to carry out basic tasks in an occupation. They may have to select the appropriate materials, tools and/or applications to carry out tasks.

They will be expected to understand what constitutes quality in their job role and distinguish between good and bad quality in the context of the tasks they are given. Job holders at this level will be expected to carry out the tasks they are given safely and securely and to use hygienic and environmentally friendly practices. This means that they will be expected to take some responsibility for their own health and safety and that of fellow workers and, where appropriate, customers.

In working with others, they will be expected to respect the different social and religious backgrounds of their fellow workers, but their contribution to team work may be limited.

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<sup>1</sup> In practice many workers at this level will have limited literacy and NOS and qualifications at this levels should reflect this – eg in relation to assessment.

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**Level 3:** Work requiring knowledge, skills and aptitudes at level 3 will be routine and predictable. Job holders will be responsible for carrying out a limited range of jobs under close supervision. Their work may require the completion of a number of related tasks. People carrying out these job roles may be described as “partly-skilled workers”.

Individuals in jobs which require level 3 qualifications will normally be expected to be able to communicate clearly in speech and writing and may be required to use arithmetic and algebraic processes. They will be expected to have previous knowledge and skills in the occupation and should know the basic facts, processes and principles applied in the trade for which they are qualified and be able to apply the basic skills of the trade to a limited range of straightforward jobs in the occupation.

They will be expected to understand what constitutes quality in their job role and more widely in the sector or sub-sector and to distinguish between good and bad quality in the context of the jobs they are given. Job holders at this level will be expected to carry out the jobs they are given safely and securely. They will work hygienically and in ways which show an understanding of environmental issues. This means that they will be expected to take responsibility for their own health and safety and that of fellow workers and, where appropriate, customers and/or clients.

In working with others, they will be expected to conduct themselves in ways which show a basic understanding of the social environment. They should be able to make a good contribution to team work.

**Level 4:** Work requiring knowledge, skills and aptitudes at level 4 will be carried out in familiar, predictable and routine situations. Job holders will be responsible for carrying out a range of jobs, some of which will require them to make choices about the approaches they adopt. They will be expected to learn and improve their practice on the job. People carrying out these jobs may be described as “skilled workers”.

Individuals in jobs which require level 4 qualifications should be able to communicate clearly in speech and writing and may be required to use arithmetic and algebraic processes. They will be expected to have previous knowledge and skills in the occupation in which they are employed, to appreciate the nature of the occupation and to understand and apply the rules which govern good practice. They will be able to make choices about the best way to carry out routine jobs where the choices are clear.

They will be expected to understand what constitutes quality in the occupation and will distinguish between good and bad quality in the context of their job roles. Job holders at this level will be expected to carry out their work safely and securely and take full account of the health and safety on colleagues and customers. They will work hygienically and in ways which show an understanding of environmental issues.

In working with others, they will be expected to conduct themselves in ways which show a basic understanding of the social and political environment. They should be able to guide or lead teams on work within their capability.

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**Level 5:** Work requiring knowledge, skills and aptitudes at level 5 will also be carried out in familiar situations, but also ones where problems may arise. Job holders will be able to make choices about the best procedures to adopt to address problems where the choices are clear.

Individuals in jobs which require level 5 qualifications will normally be responsible for the completion of their own work and expected to learn and improve their performance on the job. They will require well developed practical and cognitive skills to complete their work. They may also have some responsibility for others' work and learning. People carrying out these jobs may be described as "fully skilled workers" or "supervisors".

Individuals employed to carry out these jobs will be expected to be able to communicate clearly in speech and writing and may be required to apply mathematical processes. They should also be able to collect and organise information to communicate about the work. They will solve problems by selecting and applying methods, tools, materials and information.

They will be expected to have previous knowledge and skills in the occupation, and to know and apply facts, principles, processes and general concepts in the occupation.

They will be expected to understand what constitutes quality in the occupation and will distinguish between good and bad quality in the context of their work. They will be expected to operate hygienically and in ways which show an understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out or supervise.

In working with others, they will be expected to conduct themselves in ways which show an understanding of the social and political environment.

**Level 6:** Work requiring knowledge, skills and aptitudes at level 6 will require the use of both standard and non-standard practices. Job holders will carry out a broad range of work which will require a wide range of specialised technical skills backed by clear factual and theoretical knowledge.

Individuals in jobs which require level 6 qualifications will normally be responsible for the completion of their own work and expected to learn and improve their performance on the job. They are likely to have full responsibility for others' work and learning. People carrying out these jobs may be described as "master technicians" and "trainers".

Individuals employed to carry out these job roles will be expected to be able to communicate clearly in speech and writing and may be required to carry out mathematical calculations. They should also be able to collect data, organise information, and communicate logically about the work. They will solve problems by selecting and applying methods, tools, materials and information.

They will be expected to have broad factual and theoretical knowledge applying to practice within the occupation, and a range of practical and cognitive skills. They will be able to generate solutions to problems which arise in their practice.

They will be expected to understand what constitutes quality in the occupation and to distinguish between good and bad quality in the context of all aspects of their work. They will be expected to work in ways which show an understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out or manage.

In working with others, they will be expected to conduct themselves in ways which show an understanding of the social and political environment.

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**Level 7:** Work requiring knowledge, skills and aptitudes at level 7 will take place in contexts which combine the routine and the non-routine and are subject to variations. Job holders will carry out a broad range of work which requires wide-ranging specialised theoretical and practical skills.

Individuals in jobs which require level 7 qualifications will normally be responsible for the output and development of a work group within an organisation. People carrying out these job roles are likely to be graduates. They may be described as “managers” or “senior technicians”.

Individuals employed to carry out these job roles will be expected to be able to communicate clearly in speech and writing and are likely to be required to carry out mathematical calculations as part of their work. They should also be skilful in collecting and organising information to communicate logically about the work.

They will be expected to have wide-ranging factual and theoretical knowledge of practice within the occupation, and a wide range of specialised practical and cognitive skills. They will be able to generate solutions to problems which arise in their work.

They will be expected to understand what constitutes quality in the occupation and distinguish between good and bad quality in all aspects of their work. They will be expected to work in ways which show a good understanding of environmental issues. They will take account of health and safety issues as they affect the work they carry out and manage.

In working with others, they will be expected to conduct themselves in ways which show a good understanding of the social and political environment.

**Level 8:** Individuals in jobs which require level 8 qualifications will normally be responsible for managing the work of a team and developing the team. The work will involve dealing with unpredictable circumstances affecting the work.

Their work will require the use of comprehensive knowledge and understanding of the occupational field and a commitment to self-development.

They will normally need an ability to develop creative solutions to problems requiring abstract thought. They will be required to show intellectual independence and a rigorous analytical ability. They will need to be good communicators.

**Level 9:** Individuals in jobs which require level 9 qualifications will normally be responsible for complex decision-making in unpredictable contexts.

They will have to exercise senior responsibility in an organisation and show mastery of the issues in the occupation and the ability to innovate.

Their work will require the use of advanced knowledge and skill. They may make contributions to knowledge in their field through research.

**Level 10:** Job Individuals in jobs which require level 10 qualifications will normally be responsible for strategic decision-making. The context of their work will be complex and unpredictable.

They are likely to be responsible for an organisation or a significant division of an organisation. They will have to provide leadership.

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Their work will require highly specialised knowledge and problem-solving skills. They may make original contributions to knowledge in their field through research, scholarship or innovative practice.