

NSDA Code 2020/FI/DGT/03702
--

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Directorate General of Training (DGT)
Government of India, Ministry of Skill Development and Entrepreneurship,
1st and 2nd Floor, CIRTES Building
Next to Pusa ITI, Pusa Campus
New Delhi – 110012.

Name and address of submitting body:

Directorate General of Training (DGT)
Government of India, Ministry of Skill Development and Entrepreneurship,
1st and 2nd Floor, CIRTES Building
Next to Pusa ITI, Pusa Campus
New Delhi – 110012.

Name and contact details of individual dealing with the submission

Name: Shri Deepankar Mallick

Position in the organisation: Deputy Director General (C & P)

Address if different from above:

Tel number(s): 011-25847035

E-mail address: deepankar.mallick60@nic.in

List of documents submitted in support of the Qualifications File

1. Competency-based curriculum with following details:

Model Curriculum to be added which will include the following:

- a) Indicative list of tools/equipment to conduct the training: Enclosed with curriculum
- b) Trainers qualification: Indicated in the curriculum
- c) Lesson Plan: All DGT curricula are designed indicating specific practical to be carried out during training along with details of trade theory. Based on this the concerned instructor prepares the Lesson Plan and Demonstration Plan with support of IMPs developed by NIMI,DGT.

- d) Distribution of training duration into theory/practical/OJT component: Indicated in the curriculum.
- 2. Curriculum for Core Skill (Employability Skill).

NSQC Approved

SUMMARY

1	Qualification Title	‘FRUITS AND VEGETABLES PROCESSING’
2	Qualification Code, if any	DGT/1041
3	NCO code and occupation	7514.9900 – Fruits, Vegetables and Related Preservers, Others
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	Prepare skilled Craftsmen to perform variety of routine food processing tasks viz. preparing, packaging and preserving different food products and beverages made mainly of fruits and vegetables maintaining their quality parameters. It is long term qualification.
5	Body/bodies which will award the qualification	Directorate General of Training (DGT).
6	Body which will accredit providers to offer courses leading to the qualification	Directorate General of Training (DGT) accredits the Training providers (ITIs/ NSTIs/ MSTIs/ BTCs/ BTPs / Industries / Establishments).
7	Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)	Yes. The accreditation/ affiliation norms and any amendments made from time to time are available on DGT web portal.
8	Occupation(s) to which the qualification gives access	<ul style="list-style-type: none"> 7514.9900 – Fruits, Vegetables and Related Preservers, Others
9	Job description of the occupation	The individual performs variety of routine food processing tasks viz. preparing, packaging and preserving different food products and beverages made mainly of fruits and vegetables maintaining their quality parameters.
10	Licensing requirements	NOT REQUIRED
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	NOT APPLICABLE
12	Level of the qualification in the NSQF	Level 4

13	Anticipated volume of training/learning required to complete the qualification	Sl. No.	Course Element	Notional Training Hours
		1	Professional Skill (Trade Practical)	1200
		2	Professional Knowledge (Trade Theory)	240
		3	Employability Skills	160
			Total	1600
14	Indicative list of training tools required to deliver this qualification	As per Annexure-I of curriculum.		
15	Entry requirements and/or recommendations and minimum age	Passed 10th Class examination with Science and Mathematics or its equivalent. Minimum age 14years as on first day of academic session.		
16	Progression from the qualification (Please show Professional and academic progression)	An Individual can proceed for:		
		Professional <ul style="list-style-type: none"> • Craftsman • Senior Craftsman • Supervisor • Manager • Entrepreneur 	Technical / Academic <div style="margin-left: 20px;"> <pre> graph TD A[Technical / Academic] --> B[ATS] A --> C[Diploma/ Advance Diploma (Vocational)] </pre> </div>	
17	Arrangements for the Recognition of Prior learning (RPL)	<ul style="list-style-type: none"> • Yes (For more details refer "Guidelines for Private candidate" in DGT website MIS portal). 		
18	International comparability where known (research evidence to be provided)	-		
19	Date of planned review of the qualification.	5 Yrs. from the Date of Approval		

20	Formal structure of the qualification			
	Mandatory components			
	Title of component and identification code/NOSs/ Learning Outcomes	Estimated size (learning hours)		Level
Skills		Knowledge		
TRADE SPECIFIC				
(i)	Identify the spoilage in fruits and vegetables and state the reason for the spoilage following safety precautions.	60	12	3
(ii)	Identify and select fresh fruits and vegetables with the help of checklist.	30	6	3
(iii)	Identify spices and food additives by visual inspection.	60	12	3
(iv)	Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions.	60	12	4
(v)	Prepare fruit juices with juice extracting machines with safety precautions and preserve fruit juices with addition of preservatives and determine the acidity and TSS content.	60	12	4
(vi)	Prepare and package fruit beverages such as Squashes, RTS, Nectar, Cordial, Crush and Syrup by using appropriate machines such as pulper, juice extractor, autoclave, and corking machine with safety precautions, determine the acidity and TSS content.	60	12	4
(vii)	Prepare and preserve Tomato products by using appropriate machines such as pulper, autoclave, and corking machine with safety precautions, determine acidity and TSS content.	60	12	4
(viii)	Prepare, dry and storage fruits and vegetables with appropriate methods such as drying, cabinet drying and solar drying with safety precautions and determine the	60	12	4

	moisture.			
(ix)	Prepare, preserve and store jam, jelly and marmalades by using appropriate machines such as pulper, autoclave & sealer with safety precautions, determine acidity and TSS content, pectin test.	60	12	4
(x)	Examine the tetra pack w.r.t to the materials of construction & dimension and its type.	60	12	4
(xi)	Prepare preserve (murabba), candy, crystallized and fruit bar by using appropriate machines/Tools such as solar drier, cabinet drier, weighing balance and refractometer with safety precautions and determine the TSS contents.	300	60	4
(xii)	Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types.	60	12	4
(xiii)	Explain and understand the process of wine preparation and canning process of fruits and vegetables and Identify defects by physical observation & its causes in canned foods and explain food safety standards.	150	30	4
(xiv)	Prepare fruits/ vegetables pickles with oil/ salt/ vinegar/ spices, determine acidity content.	60	12	4
(xv)	Check physical quality parameters in frozen market samples of frozen fruits and vegetables.	60	12	4
CORE SKILL				
EMPLOYABILITY SKILLS				
(i)	Apply safe working practices.	-	20	4
(ii)	Comply with environment regulation and housekeeping.	-	20	3
(iii)	Interpret & use formal and technical communication.	-	20	4
(iv)	Apply the concept in productivity & quality	-	20	4

	management in day to day work to improve productivity & quality.			
(v)	List and interpret various acts of labour welfare legislation.	-	20	3
(vi)	Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.	-	20	3
(vii)	Explain personnel finance, entrepreneurship and manage/organize related task in day to day work for personal & societal growth.	-	20	3
(viii)	Utilize basic computer applications and internet to take benefit of IT developments in the industry.	-	20	4
	Total		1600	-

SECTION 1
ASSESSMENT

21	<p>Body/Bodies which will carry out assessment: Controller of Examinations, DGT</p>
22	<p>How will RPL assessment be managed and who will carry it out? DGT will carry out the RPL assessment following the below mentioned eligibility criteria for Trainee:</p> <p>Applicants aspiring to appear as Private Candidates in the AITT under CTS for award of NTC, have been categorized based on their educational background and experience. Subsequently 'Private Candidates' may be admitted under one of the following categories. Category wise 'eligibility criteria' for appearing as 'Private Candidate' in AITT under CTS has been listed below:</p> <p>Category I: Ex-trainees (successful pass-outs) of ITI</p> <p>A. Ex-trainees of ITI who already possess NTC in one of the trades under CTS, are eligible for applying as Private candidate for an allied trade, provided he/ she fulfils all the conditions regarding educational qualification etc. prescribed for that allied trade. (Refer Annexure III for list of allied trades)</p> <p>B. In addition, the applicant should possess minimum of 1 year experience (as on date of submission of application) post the date of AITT result declaration in the desired allied trade in establishments implementing Apprenticeship Training Scheme (ATS)/ establishments registered under the Apprenticeship portal or registered MSMEs or Entities registered with any government/local authorities / shops covered under Factories Act 1948 and Shops and Establishments Act applicable for the concerned State. II.</p> <p>Category II: 'Ex-trainees (successful pass-outs) and current trainees under CoE scheme</p> <p>A. The applicant should have the minimum prescribed entry qualification and should fulfil eligibility criteria for the desired trade under CTS, in which he/she intends to appear for AITT as Private Candidate. Mapping of CoE trades, with that of regular CTS trades is provided in Annexure IV. CoE candidates must register as 'Private Candidate' under CTS in the relevant/mapped CTS trade only.</p> <p>B. There should be a minimum gap of 1 year between successful completions of CoE training i.e. from the date of result declaration to the date of submission of application for 'Private Candidate' certification.</p> <p>C. During this gap of 1 year, the candidate must have undergone Industry training or gained experience in desired trade in establishments implementing Apprenticeship Training Scheme (ATS)/ establishments registered under the Apprenticeship portal or registered MSMEs or Entities</p>

	<p>registered with any government/local authorities / shops covered under Factories Act 1948 and Shops and Establishments Act applicable for the concerned State.</p> <p>Category III: SCVT Candidates (admitted till August 2018 session)</p> <p>A. No special provisions have been made for SCVT Trainees to enrol as 'Private Candidate'. Going forward, SCVT trainees have been granted equivalence vide G.S.R 186(E) dated 2nd March 2017 for undergoing apprenticeship training under the Apprentices Act 1961 to obtain 'NAC' (Refer Annexure V).</p> <p>B. Only for SCVT trainees admitted till August 2018 batch, provision has been made for obtaining NTC by appearing in AITT under 'Private Candidate'. Such trainees will continue to be governed by old guidelines for 'Private Candidate'.</p> <p>Category IV: Other Candidates (candidate not falling in any of the above 3 categories, including SCVT trainees enrolled from admission session 2019 onwards)</p> <p>A. The applicant should have the minimum prescribed entry qualification and should fulfil eligibility criteria for the relevant trade under CTS, in which he/she desires to appear for AITT as Private Candidate.</p> <p>B. Applicant should be minimum 21 years of age on the date of submission of application. There is no upper age limit.</p> <p>C. The applicant should possess minimum of 3 years' experience (on the date of submission of application) in the relevant trade in establishments implementing Apprenticeship Training Scheme (ATS)/ establishments registered under the Apprenticeship portal or registered MSMEs or Entities registered with any government/local authorities / shops covered under Factories Act 1948 and Shops and Establishments Act applicable for the concerned State.</p> <p>For updated information please refer to DGT web portal.</p>
<p>23</p>	<p>Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.</p> <p>(1) Assessment process: The assessment for the qualification is carried out by conducting formative assessments, and end of year examinations (Summative). The formative assessments in respect of each Learning Outcome for practical and related theory are conducted by the concerned instructors for evaluating the knowledge and skill acquired by trainees and the behavioural</p>

transformation of the trainees. This formative assessment is primarily carried out by collecting evidence of competence gained by the trainees by evaluating them at work based on assessment criteria, asking questions and initiating formative discussions to assess understanding and by evaluating records and reports. Summative assessment is carried out by All India Trade Test on Trade Theory, Trade practical and Employability Skills. The question papers for the theory Examinations contain objective type questions.

The marking pattern and distribution of marks for the qualification are as under:

Sl. No.	Type of assessment	Subject for the trade test	Marks
1	Summative Assessment	Practical	250
2		Trade Theory	100
5		Employability Skills	50
6	Formative assessment based on Learning Outcomes		200
TOTAL:			600

(2) Minimum pass marks:

The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%. There will be no Grace marks.

Testing and certifications for the course:

Controller of examinations, DGT carries out the assessment and issues National Trade Certificate (NTC) following the norms and guidelines issued by the Directorate from time to time.

Overall assessment strategy:

Assessment of the qualification evaluates trainees to show that they can integrate knowledge, skills and values for carrying out relevant tasks as per

	<p>the defined learning outcomes and assessment criteria. The trainees may choose the preferred language for assessment. The underlying principle of assessment is fairness and transparency. While assessing the trainee, assessor is directed to assess as per the defined assessment criteria against the learning outcomes. The evidence of the competence acquired by the trainees can be obtained by conducting theory and practical examinations, observing the trainees at work, asking questions and initiating discussions to assess, understand and evaluate records and reports. The ultimate objective of the assessment is to assess the candidates as per the defined assessment criteria for the learning outcomes.</p> <p>Specific Arrangements for assessment:</p> <ul style="list-style-type: none"> • Assessment is outcome-based. • There are formative and summative assessments in Theory and Practical. • Assessment is carried out in Trade theory, Trade Practical and Employability Skills. • While Trade Theory and Trade Practical are used for assessing Trade-related jobs and Employability skills is used to test the communication, professional language, leadership, entrepreneurship and team-work abilities of the trainee. • In addition to demonstration of theory and practical knowledge, trainees get a chance to present total personality. <p>Quality assurance activities: Question papers are set by external paper setters/ software generated. Evaluation of Theory Examinations in Trade and Employability Skill is done by third-party agency. Trade Practical is examined by External Examiner.</p>
--	---

24. Assessment evidences

Title of Component: Formative Assessment Breakup

(on half yearly average of the learning assessment covered)

Means of assessment		
Assessment will be evidence based comprising the following for each Learning Outcome:		
Serial No.	Terminal Competency	Maximum Weightage (%)
1	Safety consciousness	15

NSQF QUALIFICATION FILEApproved in 24th NSQC, dated: 27th Feb, 2020**Fruits and Vegetables Processing**

	2	Workplace hygiene	5
	3	Attendance/ Punctuality	10
	4	Ability to follow Manuals/ Written instructions	5
	5	Application of Knowledge	10
	6	Skills to handle tools / equipment/ Instruments/ Devices	10
	7	Economical use of materials	5
	8	Working Strategy	10
	9	Quality in workmanship/ Performance	15
	10	VIVA	15
		Total Maximum Weightage (%)	100

Pass/Fail

The minimum pass percentage is 60% marks for formative assessment.

LEARNING OUTCOME WITH ASSESSMENT CRITERIA:

LEARNING OUTCOME (TRADE SPECIFIC)	
LEARNING OUTCOME	ASSESSMENT CRITERIA
1. Identify the spoilage in fruits and vegetables and state the reason for the spoilage following safety precautions.	Observe the spoiled fruits and vegetables and its products.
	Identify and record the cause of spoilage.
	State general principle and methods of food preservations.
2. Identify and select fresh fruits and vegetables with the help of checklist.	Identify fruits and vegetables.
	Prepare selection criteria check list for fruits and vegetables.
	Select fresh fruits and vegetables
3. Identify spices and food additives by visual inspection.	Identify spices.
	Identify food additives.
4. Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions.	Prepare fruits/vegetables for Refrigeration
	Fill and seal the fruits/vegetables into packaging material.
	Store under refrigerated condition.
5. Prepare fruit juices with juice extracting machines with safety precautions and preserve fruit juices with addition of preservatives and determine the acidity and TSS content.	Maintain the perfect hygiene standard.
	Select perfect fruits.
	Prepare fruits for juice.
	Wash fruits.
	Prepare fruits juice.
	Measure juice.
	Determine TSS content.
	Determine acidity.
	Perform calculation.
	Fill the preserved fruit juices in sterilized bottles.
	Cork and crown the bottles.
	Sterilize the bottles.
Label the bottles.	
Maintain safety.	

6. Prepare and package fruit beverages such as Squashes, RTS, Nectar, Cordial, Crush and Syrup by using appropriate machines such as pulper, juice extractor, autoclave, and corking machine with safety precautions, determine the acidity and TSS content.	Maintain perfect hygiene standard.
	Select perfect fruits.
	Prepare fruits for juice extraction.
	Prepare fruit juice.
	Measure fresh fruit juice.
	Determine TSS content.
	Determine Acidity.
	Perform calculations for Squashes, RTS, Nectar, Cordial, Crush and Syrup preparation and mixing of ingredients.
	Fill beverage into sterilized bottles.
	Cork and crown the bottles.
	Label the bottle.
Maintain safety.	
7. Prepare and preserve Tomato products by using appropriate machines such as pulper, autoclave, and corking machine with safety precautions, determine acidity and TSS content.	Maintain perfect hygiene standard.
	Prepare tomatoes.
	Prepare tomato juice/ tomato puree/tomato paste/ tomato sauce/tomato ketchup/tomato chutney/tomato soup.
	Preserve and store tomato juice/ tomato puree/tomato paste/ tomato sauce/tomato ketchup/tomato chutney/tomato soup.
	Determine TSS.
	Determine acidity.
	Maintain safety
8. Prepare, dry and storage fruits and vegetables with appropriate methods such as drying, cabinet drying and solar drying with safety precautions and determine the moisture.	Maintain perfect hygiene standard.
	Select fruits/vegetables for drying.
	Prepare fruits/vegetables for drying.
	Dry the fruits/vegetables by sun drying/ cabinet drying /solar drying.
	Determine the moisture content.
	Pack and store.
	Maintain safety.
9. Prepare, preserve and store jam, jelly and marmalades by using appropriate machines such as pulper, autoclave & sealer with	Maintain perfect hygiene standard.
	Select fruits.
	Prepare fruit.
	Prepare fruit juice for fruit jelly.
	Pectin test of fruit juice.
	Prepare jam/jelly/marmalades.

safety precautions, determine acidity and TSS content, pectin test.	Determine the end point for jam/jelly/marmalades.
	Identify the consistency for jam /jelly /marmalades.
10. Examine the tetra pack w.r.t to the materials of construction & dimension and its type.	Identify the material used in tetra pack layers.
	Check the weight of various types of tetra pack.
	Measure the thickness of tetra pack.
	Check the dimension of tetra pack.
	Identify the types of tetra pack.
	Maintain safety.
11. Explain and understand the process of wine preparation and canning process of fruits and vegetables and Identify defects by physical observation & its causes in canned foods and explain food safety standards.	Express the understanding of the defects such as pin holes, color defects, swell defects, coating defect, can-end-defect, handling defects and seam defects in cans.
	Explain process of canning, wine preparation, causes of defects in canned foods.
	State the food safety standards.
12. Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types.	Maintain perfect hygiene standard.
	Prepare synthetic vinegar.
	Test and adjust pH and titrable Acidity of vinegar.
	Bottle the synthetic vinegar.
	Maintain safety.
13. Prepare preserve (murabba), candy, crystallized and fruit bar by using appropriate machines/Tools such as solar drier, cabinet drier, weighing balance and refractometer with safety precautions and determine the TSS	Maintain perfect hygiene standard.
	Select fruits/vegetables.
	Prepare fruit/vegetables.
	Prepare syrup.
	Test and adjust TSS content of syrup.
	Dry fruits/vegetables for candy.
	Crystallized.
	Pack and store.
Maintain safety.	

contents.	
14. Prepare fruits/vegetables pickles with oil/ salt/ vinegar/ spices, determine acidity content.	Maintain perfect hygiene standard. Select fruits/vegetables. Wash fruits/vegetables. Prepare fruit/vegetables. Prepare spices for pickle. Prepare pickles with oil/salt/vinegar. Test titrable Acidity in pickle. Pack and store. Maintain safety.
15. Check physical quality parameters in frozen market samples of frozen fruits and vegetables.	State blanching and freezing of fruits/ vegetables. Check the physical parameter of market sample of frozen fruits/vegetables and enter data in record sheet. Prepare solution for blanching test. Check peroxidase activity in frozen vegetable market sample.

LEARNING OUTCOME (CORE SKILL)	
LEARNING OUTCOME	ASSESSMENT CRITERIA
EMPLOYABILITY SKILLS	
1. Apply safe working practices	Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements and according to site policy. Recognize and report all unsafe situations according to site policy. Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures. Identify, handle and store / dispose of dangerous goods and substances according to site policy and procedures following safety regulations and requirements. Identify and observe site policies and procedures in regard to illness or accident.

	Identify safety alarms accurately.
	Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to site accident/injury procedures.
	Identify and observe site evacuation procedures according to site policy.
	Identify Personal Protective Equipment (PPE) and use the same as per related working environment.
	Identify basic first aid and use them under different circumstances.
	Identify different fire extinguisher and use the same as per requirement.
2. Comply with environment regulation and housekeeping	Identify environmental pollution & contribute to the avoidance of instances of environmental pollution.
	Deploy environmental protection legislation & regulations
	Take opportunities to use energy and materials in an environmentally friendly manner.
	Avoid waste and dispose waste as per procedure
	Recognize different components of 5S and apply the same in the working environment.
3. Interpret & use formal and technical communication.	Obtain sources of information and recognize information.
	Use and draw up technical drawings and documents.
	Use documents and technical regulations and occupationally related provisions.
	Conduct appropriate and target oriented discussions with higher authority and within the team.
	Present facts and circumstances, possible solutions & use English special terminology.
	Resolve disputes within the team.
	Conduct written communication.
4. Apply the concept in productivity & quality management in day to day work to improve productivity & quality.	Explain the concept of productivity and apply during execution of job.
	Explain the concept of quality tools and apply during execution of job.
5. List and interpret various acts of labour welfare legislation.	Explain basic concept of labour welfare legislation, adhere to responsibilities and remain sensitive towards such laws.
	Knows benefits guaranteed under various acts.

6. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.	Explain the concept of energy conservation, global warming, pollution and utilize the available resources optimally & remain sensitive to avoid environment pollution.
	Explain standard procedure for disposal of waste.
7. Explain personnel finance, entrepreneurship and manage/organize related task in day to day work for personal & societal growth.	Explain personnel finance and entrepreneurship.
	Explain role of various schemes and institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non-financing support agencies to familiarize with the policies/ programmes, procedure & the available scheme.
	Prepare a report to become an entrepreneur for submission to financial institutions.
8. Utilize basic computer applications and internet to take benefit of IT developments in the industry.	Explain the basic hardware of personal computer.
	Use common application software viz., word, excel, power point etc., in day to day work.
	Awareness about useful internet websites, search relevant information pertaining to the assigned tasks.

SECTION 2

25. EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: Fruits and Vegetables Processing			Level: 4
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	<p>Familiar, Predictable, Routine Situations of Clear Choice</p> <ul style="list-style-type: none"> Identify and select fresh fruits and vegetables with the help of checklist. Identify spices and food additives by visual inspection. Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions. Prepare and package fruit beverages such as Squashes, RTS, Nectar, Cordial, Crush and Syrup by using appropriate machines such as pulper, juice extractor, autoclave, and corking machine with safety precautions, determine the acidity and TSS content. Examine the tetra pack w.r.t to the materials of construction & dimension and 	<p>In the learning outcomes for example in 'Prepare and package fruit beverages such as Squashes, RTS, Nectar, Cordial, Crush and Syrup by using appropriate machines such as pulper, juice extractor, autoclave, and corking machine with safety precautions, determine the acidity and TSS content', the learner will be required to choose appropriate tools, equipments, procedures as per the requirement of the job. The work will however be done within a familiar, predictable and routine range of situations to achieve the desired output level. Thus, the learner requires to demonstrate ability to work in familiar, predictable, routine, situation of clear choice.</p> <p>Hence the NSQF level as per this descriptor will be 4.</p>	4

NSQF QUALIFICATION FILE

Approved in 24th NSQC, dated: 27th Feb, 2020

Fruits and Vegetables Processing

Title/Name of qualification/component: Fruits and Vegetables Processing			Level: 4
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>its type.</p> <ul style="list-style-type: none"> • Prepare fruits/ vegetables pickles with oil/ salt/ vinegar/ spices, determine acidity content. • Check physical quality parameters in frozen market samples of frozen fruits and vegetables. 		
Professional knowledge	<p>Factual Knowledge of field of Knowledge or study</p> <ul style="list-style-type: none"> • Selection of raw materials including fruits and vegetables for Preparation of various products. • Study of various equipments usage, care/maintenance and precautions. • Storage of fresh fruits and vegetable. • Technology of extraction of juices from different types of fruits. • Canning and bottling. • Study of Food safety Standards: HACCP, ISO22000, GMP, and FSSAI. 	<p>The learner demonstrates factual knowledge of field for "Selection of raw materials including fruits and vegetables for Preparation of various products" and for "Storage of fresh fruits and vegetable".</p> <p>The learner also demonstrates knowledge of Quality control as required as per Food safety Standards: HACCP, ISO22000, GMP and FSSAI etc.</p> <p>Hence NSQF Level is 4 for this Descriptor.</p>	4
Professional	<ul style="list-style-type: none"> • Prepare and preserve Tomato products by 	The learner after the training will be able to work	4

Title/Name of qualification/component: Fruits and Vegetables Processing		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
skill	<p>using appropriate machines such as pulper, autoclave, and corking machine with safety precautions, determine acidity and TSS content.</p> <ul style="list-style-type: none"> • Prepare, preserve and store jam, jelly and marmalades by using appropriate machines such as pulper, autoclave & sealer with safety precautions, determine acidity and TSS content, pectin test. • Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types. • Examine the tetra pack w.r.t to the materials of construction & dimension and its type. • Check physical quality parameters in frozen market samples of frozen fruits and vegetables. 	<p>independently and recall and demonstrate practical skill, routine and repetitive in narrow range of application for the learning outcomessuch as 'Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types' etc. The learning outcomes involve making independent decisions using appropriate procedures, rules and tools and require the learner to perform the tasks assigned as per quality standards using quality concepts. The learner will also be responsible for own quality of work and will have to use quality tools to check own work to ensure conformance to requirements of the job.</p> <p>Hence NSQF Level is 4 for this descriptor.</p>	
Core skill	<p>Language to communicate written or oral, with required clarity</p> <ul style="list-style-type: none"> • Interpret & use formal and technical 	<p>The work of Fruits and Vegetables Processing requires competence in written and oral language with required clarity in order to understand the work and perform the job</p>	4

Title/Name of qualification/component: Fruits and Vegetables Processing			Level: 4
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>communication.</p> <p>Basic understanding of social political and natural environment</p> <ul style="list-style-type: none"> • Explain energy conservation, global warming and pollution. • Comply with environment regulation and housekeeping. 	<p>efficiently and effectively. The learner will also need to have basic understanding of social political and natural environment as mentioned in the learning outcomes for example 'Comply with environment regulation and housekeeping' etc.</p> <p>Hence NSQF Level is 4 for this descriptor.</p>	
Responsibility	<ul style="list-style-type: none"> • Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions. • Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types. • Examine the tetra pack w.r.to the materials of construction & dimension and its type. • Prepare fruits/ vegetables pickles with oil/ salt/ vinegar/ spices, determine acidity content. • Check physical quality parameters in frozen market samples of frozen fruits and 	<p>The role of Fruits and Vegetables Processing is independently responsible to perform the food processing work as per concepts, processes, principles and standards conforming to the quality standards as evident in learning outcomes like 'Prepare synthetic vinegar by using appropriate tools and check the quality and explain other methods of vinegar production and its types', 'Check physical quality parameters in frozen market samples of frozen fruits and vegetables' etc.</p> <p>Hence NSQF Level is 4 for this descriptor.</p>	4

Title/Name of qualification/component: Fruits and Vegetables Processing		Level: 4	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	vegetables.		

NSQC Approved

SECTION 3
EVIDENCE OF NEED

26	<p>What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?</p> <table border="1" data-bbox="331 548 1372 1693"> <thead> <tr> <th data-bbox="331 548 619 689">Basis</th> <th data-bbox="619 548 1372 689">In case of other Awarding Bodies (Institutes under Central Ministries and states departments)</th> </tr> </thead> <tbody> <tr> <td data-bbox="331 689 619 1070">Need of the qualification</td> <td data-bbox="619 689 1372 1070"> <p>Food Industry Sector has a significant presence of organized as well as unorganized skilled manpower requirement. This sector is poised to grow exponentially in the years to come and is highly labour intensive and there are many emerging trends in this sector. Hence the qualification has been designed keeping in view to cater to the ever-increasing demand of skilled manpower in consultation with stakeholders.</p> </td> </tr> <tr> <td data-bbox="331 1070 619 1496">Industry Relevance</td> <td data-bbox="619 1070 1372 1496"> <p>The job role defined for the qualification is as per the National Classification of Occupations 2015 which is developed by Employment Directorate under the ministry of Labour and Employment in collaboration with different industry partners and as per ILO guidelines. Moreover, the training is imparted in ITIs/ NSTIs/ MSTIs/ BTC/ BTPs/ Industries / Establishments etc. where such requirement is available. This justifies the qualification is very much relevant for industry.</p> </td> </tr> <tr> <td data-bbox="331 1496 619 1624">Usage of the qualification</td> <td data-bbox="619 1496 1372 1624"> <p>The Proposed qualification will create skilled Craftsmen for various establishments in different Sectors.</p> </td> </tr> <tr> <td data-bbox="331 1624 619 1693">Estimated uptake</td> <td data-bbox="619 1624 1372 1693"> <p>The present seating capacity is 2964.</p> </td> </tr> </tbody> </table>	Basis	In case of other Awarding Bodies (Institutes under Central Ministries and states departments)	Need of the qualification	<p>Food Industry Sector has a significant presence of organized as well as unorganized skilled manpower requirement. This sector is poised to grow exponentially in the years to come and is highly labour intensive and there are many emerging trends in this sector. Hence the qualification has been designed keeping in view to cater to the ever-increasing demand of skilled manpower in consultation with stakeholders.</p>	Industry Relevance	<p>The job role defined for the qualification is as per the National Classification of Occupations 2015 which is developed by Employment Directorate under the ministry of Labour and Employment in collaboration with different industry partners and as per ILO guidelines. Moreover, the training is imparted in ITIs/ NSTIs/ MSTIs/ BTC/ BTPs/ Industries / Establishments etc. where such requirement is available. This justifies the qualification is very much relevant for industry.</p>	Usage of the qualification	<p>The Proposed qualification will create skilled Craftsmen for various establishments in different Sectors.</p>	Estimated uptake	<p>The present seating capacity is 2964.</p>
Basis	In case of other Awarding Bodies (Institutes under Central Ministries and states departments)										
Need of the qualification	<p>Food Industry Sector has a significant presence of organized as well as unorganized skilled manpower requirement. This sector is poised to grow exponentially in the years to come and is highly labour intensive and there are many emerging trends in this sector. Hence the qualification has been designed keeping in view to cater to the ever-increasing demand of skilled manpower in consultation with stakeholders.</p>										
Industry Relevance	<p>The job role defined for the qualification is as per the National Classification of Occupations 2015 which is developed by Employment Directorate under the ministry of Labour and Employment in collaboration with different industry partners and as per ILO guidelines. Moreover, the training is imparted in ITIs/ NSTIs/ MSTIs/ BTC/ BTPs/ Industries / Establishments etc. where such requirement is available. This justifies the qualification is very much relevant for industry.</p>										
Usage of the qualification	<p>The Proposed qualification will create skilled Craftsmen for various establishments in different Sectors.</p>										
Estimated uptake	<p>The present seating capacity is 2964.</p>										
27	<p>Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences.</p> <p>The qualification, originally designed for Craftsman Training Scheme is in existence for many years and approved by DGT (Regulatory Body) under Ministry of Skill Development and Entrepreneurship, Govt. of India.</p>										
28	<p>What steps were taken to ensure that the qualification(s) does (do)</p>										

	<p>not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</p> <p>The qualification is originally designed and approved by DGT for the Craftsman Training Scheme and is in existence for many years. No such duplicate qualification of same duration and competencies exists.</p>
29	<p>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? Specify the review process here</p> <ul style="list-style-type: none"> • The research wing of CSTARI & DGT reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis by conducting trade committee meetings. • DGT will monitor any duplicity by comparing existing qualifications with upcoming ones in the National Qualifications Register (NQR) and relevant sectors.

SECTION 4
EVIDENCE OF PROGRESSION

30 **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? Show the career map here to reflect the clear progression**

On completion of the training the trainee will have an opportunity to move in vertical/horizontal pathways to promote to higher designations. The learner can further undergo other specialised courses to excel in the relevant field.

```

    graph LR
      A[Craftsman] --> B[Senior Craftsman]
      B --> C[Supervisor]
      C --> D[Manager]
      B --> E[Entrepreneur]
  
```

The diagram illustrates a career progression path. It starts with a box labeled 'Craftsman', followed by 'Senior Craftsman', 'Supervisor', and 'Manager' in a horizontal sequence, connected by right-pointing arrows. From the 'Senior Craftsman' box, a vertical line descends to a horizontal line, which then leads to a downward-pointing arrow to a box labeled 'Entrepreneur'.