

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

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List of documents submitted in support of the Qualifications File

1. Curriculum and Course Content
2. Assessment strategy
3. Industry Validation

SUMMARY

Qualification Title	Fruits and Vegetables Product Manufacturer
Qualification Code	
Nature and purpose of the qualification	Short term Certificate Course To become wage employed in Fruits and vegetables product manufacturing plant or self-employed i.e. entrepreneurs in Fruits and vegetables product manufacturing sectors
Body/bodies which will award the qualification	West Bengal State Council of Technical & Vocational Education and Skill Development
Body which will accredit providers to offer courses leading to the qualification	Committee on Recognition under the West Bengal State Council of Technical & Vocational Education and Skill Development
Body/bodies which will carry out assessment of learners	Board of Examination under the West Bengal State Council of Technical & Vocational Education and Skill Development
Occupation(s) to which the qualification gives access	Basic Fruits and vegetables Production/Processing line operator
Licensing requirements	No
Level of the qualification in the NSQF	Level 3
Anticipated volume of training/learning required to complete the qualification	650 hours
Entry requirements and/or recommendations	Class VIII pass
Progression from the qualification	<u>Wage Employment:</u> Basic Fruits and vegetables Production/Processing line operator → Senior Fruits and vegetables Production/Processing line operator → Production Supervisor

(In large Fruits and vegetables product manufacturing plant).				
Entrepreneur: Basic Fruits and vegetables product manufacturer → Senior Fruits and vegetables product manufacturer → Advisor in Fruits and vegetables product manufacturer				
Planned arrangements for the Recognition of Prior learning (RPL)	<p>RPL will consist of four stages</p> <ol style="list-style-type: none"> 1. Counselling- To inform, advise and guide the candidates regarding RPL 2. Pre-Assessment- To assess the current competencies of the candidates and identifying the gap between the full qualification and current competencies. 3. Orientation & Bridge Training- To train the candidates for bridging the gap. 4. Final assessment & Certification- To assess the candidate for full qualification and certify. 			
International comparability where known	N/A			
Date of planned review of the qualification.	Every 3 years (Next Feb 2021)			
Formal structure of the qualification				
<p>After completion of this training the participant would be able to develop proficiency skill in producing different processed fruits & vegetables food products, Operating & maintenance the modern Equipments & machineries, Make different processed fruits and vegetable products with quality assurance, Process of Packaging, Storing & marketing</p>				
Title of component and identification code.		Mandatory/Optional	Estimated size (learning hours)	Level
<u>I. Theory</u>		Mandatory	100	
1	Identify and select fresh fruits and vegetables with the help of checklist	Mandatory	5	3
2	Identify the spoilage in fruits and vegetables and state the reason for the spoilage	Mandatory	5	3
3	Identify spices and food additives by visual inspection.	Mandatory	5	3
4	Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions.	Mandatory	5	3

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.	Mandatory	5	3
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.	Mandatory	10	3
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.	Mandatory	10	3
8	Prepare, dry and storage fruits and vegetables like Potato, Carrot with appropriate methods such as drying, cabinet drying and solar drying with safety precautions and determine the moisture.	Mandatory	10	3
9	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.	Mandatory	10	3
10	Prepare canned fruits and vegetables and Identify defects by physical observation & its causes in canned foods and explain food safety standards.	Mandatory	10	3
11	Prepare fruits/vegetables pickles with oil/salt/vinegar/spices, determine acidity content.	Mandatory	10	3
12	Demonstrate Knowledge on Food safety Standards: HACCP, ISO 22000, GMP, and FSSAI. Importance of personal Hygiene, Cleaning & Sanitary standards in Fruits and Vegetable preservation. Good Handling Processes (GHP), Traceability aspects of processed product.	Mandatory	10	3
13	Understand various types of containers like Glass, Tin. Merits and demerits of each-scope for new types of containers/ packaging materials, such as plastic pouches, tetra pack, PET bottle and cartons. Understanding the label its importance, and labelling requirements	Mandatory	5	3
	<u>II. Practical</u>	Mandatory	450	3
1	Identify the Spoilage of fruits and vegetables	Mandatory	10	3

2	Identifications of Fruits and vegetables.	Mandatory	10	3
3	Identification of spices and food additives used in fruits and vegetable processing.	Mandatory	10	3
4	Demonstration of common food processing equipments such as pulper, sealers, juice extracting machines, autoclaves, corking machines etc.	Mandatory	30	3
5	Refrigeration and other methods for storing perishables	Mandatory	10	3
6	Preparation of Fruit Juice. Preservation of fruits juices with addition of preservative.	Mandatory	50	3
8	Preparation of common fruit beverages. Determination of Acids in fruits and vegetable products	Mandatory	50	3
9	Preparation of tomato juices, puree, sauces, ketchups, soup, paste, chutney etc	Mandatory	50	3
10	Various methods of drying: sundrying, cabinet drying and solar drying.	Mandatory	50	3
11	Preparation of Jam, jelly and marmalades	Mandatory	50	3
12	Preparation of preserves, candies, crystallized and glazed and fruit bars.	Mandatory	20	3
13	Demonstration of Canning process in fruits and vegetable canning industry. Identification of defective cans, Precautions while consuming the canned foods.	Mandatory	30	3
14	Freezing demonstration on market sample of frozen fruits and vegetables	Mandatory	20	3
15	Preparations of different types of pickles from fruits and vegetables	Mandatory	30	3
16	Examination of processed products. Cleaning and maintenance of the equipments. Detection of benzoic acid, sulphur dioxide and KMS in fruits and vegetable products.	Mandatory	20	3
17	Practical demonstration of sealing pouching machine. Examination of the tetra pack	Mandatory	10	3
Employability Skills				
1	Employability Skills component of the course is to impart Soft skills which include Communication	Mandatory	100	3

Skills, Behaviour, IT literacy, Entrepreneurship Skills, Safety, Hygiene etc.	ory		
Total (I+II+III)		650	

Curriculum Document is attached in Annexure-1.

Assessment Strategy Component wise distribution of marks is given in the Annexure No. 2

MoM attached in Annexure-3

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SECTION 1 **ASSESSMENT**

Body/Bodies which will carry out assessment:

Board of Examination under West Bengal State Council of Technical & Vocational Education & Skill Development, constituted under the ACT XXVI of 2013 under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.

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

RPL will consist of four stages

1. Counselling- To inform, advise and guide the candidates regarding RPL
2. Pre-Assessment- To assess the current competencies of the candidates and identifying the gap between the full qualification and current competencies.
3. Orientation & Bridge Training- To train the candidates for bridging the gap.
4. Final assessment & Certification- To assess the candidate for full qualification and certify.

RPL assessment will be managed by PBSSD (PaschimBanga Society for Skill Development) under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.

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.

Assessment will be carried out by Board of Examination under West Bengal State Council of Technical & Vocational Education & Skill Development, under Department of Technical Education, Training & Skill Development, Govt. of West Bengal.

The Council has all necessary infrastructure and pool of qualified Assessors/ Examiners to carry out such assessments. Presently the Council is conducting all examinations for all courses which includes Diploma Courses, Vocational Courses in VIII+ level and X+2 level & other Short term Courses. Council also conducts all State Level Entrance tests like JEXPO for admission to Diploma Courses in Polytechnics, VOCLET for lateral entry to Diploma Courses in Polytechnics and CET (Common Entrance Test) for admission to NCVT courses in ITIs.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of 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:

Outcomes to be assessed	Assessment criteria for the outcome
Identify and select fresh fruits and vegetables with the help of checklist.	<ul style="list-style-type: none"> Identify fruits and vegetables Prepare selection criteria check list for fruits and vegetables. Select fresh fruits and vegetables
Identify the spoilage in fruits and vegetables and state the reason for the spoilage.	<ul style="list-style-type: none"> Observe the spoiled fruits and vegetables and its products Identify and record the cause of spoilage.
Identify spices and food additives by visual inspection.	<ul style="list-style-type: none"> Identify spices Identify food additives
Prepare and pack perishables for storage and then store under refrigerated conditions with safety precautions.	<ul style="list-style-type: none"> Prepare fruits/vegetables for Refrigeration Fill and seal the fruits/vegetables into packaging material. Store under refrigerated condition
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.	<ul style="list-style-type: none"> Maintain the perfect hygiene standard Select perfect fruits Prepare fruits juice Measure juice Determine TSS and acidity Fill the preserved fruit juices in sterilized bottles, Cork and crown the bottles
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	<ul style="list-style-type: none"> Maintain perfect hygiene standard select perfect fruits prepare fruits for juice extraction prepare fruit juice measure fresh fruit juice determine TSS and Acidity perform calculations for Squashes, RTS, Nectar, Cordial, Crush and Syrup preparation and mixing of ingredients

<p>the acidity and TSS content.</p>	<ul style="list-style-type: none"> • Fill beverage into sterilized bottles • cork and crown the bottles •
<p>Prepare and preserve Tomato products by 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"> • Maintain perfect hygiene standard • 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 and acidity •
<p>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.</p>	<ul style="list-style-type: none"> • 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
<p>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.</p>	<ul style="list-style-type: none"> • Maintain perfect hygiene standard • Select fruits • prepare fruit • prepare fruit juice for fruit jelly • Pectin test of fruit juice • prepare jam/jelly/marmalades • Determine the end point for jam/jelly/marmalades. • Identify the consistency for jam/jelly/marmalades. • Preserve and store jam/jelly/marmalades.
<p>Canning process of fruits and vegetables and Identify defects by physical observation & its causes in canned foods and explain food safety standards.</p>	<ul style="list-style-type: none"> • Explain process of canning, causes of defects in canned foods. • State the food safety standards.
<p>Prepare fruits/vegetables pickles with oil/salt/vinegar/spices, determine acidity content.</p>	<ul style="list-style-type: none"> • 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

<p>Understand and practice soft skills</p>	<ul style="list-style-type: none"> Assessor will rate the trainee on his ability to practice soft skills, including clear and concise communication, in day to day work with team and with higher authority
<p>Demonstrate knowledge of concept and principles of basic arithmetic and financial calculation, and apply knowledge of specific area to perform practical operations.</p>	<ul style="list-style-type: none"> Apply basic arithmetic calculations for arriving dimensional parameters as per drawing. Apply basic financial calculation to understand cost of materials & labour and basic concepts of profit/loss, Engage in basic banking transactions as customer
<p>Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & social growth.</p>	<ul style="list-style-type: none"> Ascertain appropriate time for the assigned task. Execute the assigned task within time frame. Manage own work within specified time. Explain importance & factors affect the development of entrepreneurship. Identify service providers for developing entrepreneur/business establishment.
<p>Means of assessment 1 There will be two types of Assessments viz. Formative and Summative. The Formative Assessment will be carried out continuously during the conduct of course and Summative Assessment will be carried out at the end of the course. Details are mentioned under means of Assessment-2. Written test, Practical examination/ Skill test & Viva voce</p>	
<p>Means of assessment 2</p> <p>I. Means of Formative Assessment (Total marks allotted- 300)</p> <p>i) Assignments for each module of Theory component</p> <p>ii) Assignments for each module of Employability Skills component</p> <p>iii) Continuous evaluation of each module of Practical component</p> <p>II. Means of Summative Assessment (Total marks allotted- 700)</p> <p>i) Written test for Theory component</p> <p>ii) Written test for Employability Skills component</p> <p>iii) Practical Test & Viva-voce for Practical Component.</p> <p>Component wise distribution of marks is given in the Annexure 2</p>	
<p>Pass/Fail</p> <p>Pass/Fail</p> <p>Passing criteria is based on marks obtained in Formative and Summative Assessment taken together as mentioned in Annexure No-1</p> <p>i) Minimum Marks to pass Theory component– 60%</p> <p>ii) Minimum Marks to pass Employability Skills component– 60%</p> <p>iii) Minimum Marks to pass practical component– 70%</p> <p>iv) Minimum attendance required to appear in the final examination- 75%</p>	



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SECTION 2
EVIDENCE OF LEVEL
OPTION A

Title/Name of qualification/component: Fruits and Vegetables Product Manufacturer Level: 3			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	<ul style="list-style-type: none"> Identify, select, use and store tools, equipment and materials used in Food Preservation in a safe manner. Preserve seasonal fruits and Vegetables using drying process 	<ul style="list-style-type: none"> The job holder will understand and comply with Food safety practices while undertaking fruits and Vegetables works. The job holder also require to preserve seasonal fruits and Vegetables to make jam, jelly, fruit juice, pickle and Tomato product and analyse the components of fruits and vegetables. Both the responsibilities, the job holder needs to carry out a job which may require limited range of activities routine and predictable. Hence the Qualification may be placed at level 3 	3
Professional knowledge	<ul style="list-style-type: none"> Identify the spoilage in fruits and vegetables and state the reason for the spoilage. Produce pickles, Jam, Jelly, Murabbas, Syrups, Squash, Sauces, Chutneys and vinegar 	<ul style="list-style-type: none"> The job holder will needs to have an understanding of basic principles and knowledge about the preparation of pickles, Jam, Jelly, Murabbas, Syrups, Squash, Sauces, Chutneys and canned foods. Hence the Qualification may be placed at level 3 	3
Professional	<ul style="list-style-type: none"> Ability to prepare different fruit vegetable 	<ul style="list-style-type: none"> The job holder will demonstrate practical 	

Title/Name of qualification/component: Fruits and Vegetables Product Manufacturer			Level: 3
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
skill	product like pickles, Jam, Jelly, Murabbas, Syrups, Squash, Sauces, Chutneys and canned foods.	skill on preparation of pickles, Jam, Jelly, Murabbas, Syrups, Squash, Sauces, Chutneys and Canned foods using appropriate equipment and machineries. All of these activities are routine and repetitive in nature with narrow range of application. Hence the Qualification may be placed at level 3	3
Core skill	<ul style="list-style-type: none"> • Ability to start and run fruits and vegetable product manufacturing plant on scientific lines in profitable manner. • Communicate effectively with subordinates/co-workers and convey and share work related information clearly using appropriate language. • Fundament knowledge of computer and basic understanding personal banking 	<ul style="list-style-type: none"> • The job holder will be able to communicate clearly, both in writing and orally, with co-workers, supervisors and customers. The job holder also need to use basic arithmetic calculations for their work (to calculate the basic time of production, labour cost etc.). <p>Hence the Qualification may be placed at level 3</p>	3
Responsibility	<ul style="list-style-type: none"> • Since this training leads to self-employment as well, responsibility for won work and learning is to be present and demonstrated • Check-up procedures to ensure that project objectives are finished within 	The job holder will be able to prepare various types of fruits vegetable products like pickles, Jam, Jelly, Murabbas, Syrups, Squash, Sauces, Chutneys and canned foods independently and under	3

Title/Name of qualification/component: Fruits and Vegetables Product Manufacturer			Level: 3
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
	<p>specified time frames are developed.</p> <ul style="list-style-type: none"> • Read circulars/notifications issued by appropriate authority or concerned agency on information related to work. • Comply with occupational health and safety requirements relevant to worker. • Assess possible risks and hazards in the work environment and exercise safety. • Precautions to minimize injury to self and others comply with relevant safety practices while handling sharp tools and equipment 	<p>supervision for large production. Hence, he/she needs to take some responsibility for own work within defined limit. So the Qualification may be placed at level 3</p>	

SECTION 3 **EVIDENCE OF NEED**

What evidence is there that the qualification is needed?

After completion of this training the participant would be able to develop proficiency skill in producing different processed fruits & vegetables food products, Operating & maintenance the modern Equipments & machineries, Make different processed fruits and vegetable products with quality assurance, Process of Packaging, Storing & marketing. There is a huge opportunity for self-employment of the skilled persons in fruits and vegetables product manufacturing sector. West Bengal has a major agro based economy for which this qualification is extremely relevant.

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

The estimated uptake of the qualification in the state of West Bengal as on date is around 4000 per year. This would grow exponentially from a nation-wide perspective. These estimates have been arrived at after detailed consultation with domain experts. Industries, Employers, Associations have validated need and estimated requirement of the qualification in a meeting organised by the Council.

What steps were taken to ensure that the qualification does not duplicate already existing or planned qualifications in the NSQF?

This qualification is being conducted under the West Bengal State Council of Technical & Vocational Education & Skill Development under Department of Technical Education, Training and Skill Development since the academic year 2005 in Vocational Training Centres spread all over West Bengal for class- VIII+ pass dropout youths. In the state of West Bengal the Council is affiliating and awarding body for this qualification. Thus there is no other existing or planned qualification (Short term courses) in the state aligned with NSQF. The National Qualification Register has also been referred to avoid any duplication of qualifications.

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 council has three well defined sub-committees namely Board of Studies and Skilling, Board of Examination and Recognition Committee. These committees monitor and review the progress of all qualifications under its purview on a regular basis.

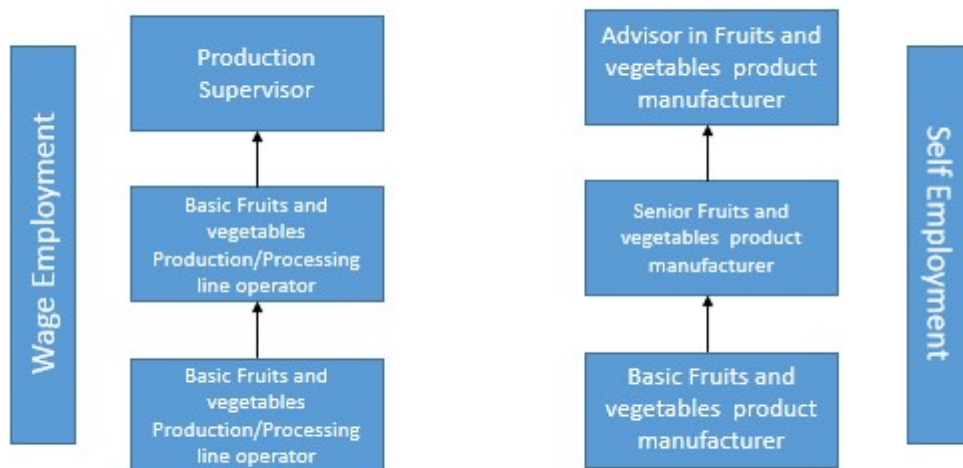
This qualification will be reviewed and revised at an interval of three years on the basis of the outcome of the trainees, placement and self-employment data and feedback from concerned industries/employers.

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?

The trainee on completion of the course can work as a fruits and vegetable product manufacturer and after gaining filed knowledge he/she can work as an independent authority. Thereafter, he becomes eligible to work as a Senior fruits and vegetable product manufacturer. He/ she can become either an employee of an organization or become self-employed. In case of employment under an employer, he can progress to various level-wise designations, based on either experience or on obtaining subsequent qualifications. This is as shown below.

Production Supervisor



Wage Employment Entrepreneur