



QUALIFICATION FILE – Standalone NOS

Introduction to Jam Processing & Packaging

☒ Horizontal/Generic ☐ Vertical/Specialization

☒ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒ General ☐ Multi-skill (MS) ☐ Cross-Sectoral (CS) ☐ Future Skills

NCrF/NSQF Level: 3

Submitted By:

Food Industry Capacity & Skill Initiative

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Section 1: Basic Details

1.	NOS-Qualification Name	Introduction to Jam Processing & Packaging																
2.	Sector/s	Food Processing																
3.	Type of Qualification ☒ New ☐ Revised	NQR Code & version of the existing /previous qualification: <i>(change to previous, once approved)</i>	Qualification Name of the existing/previous version: <i>(previous, once approved)</i>															
4.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval.)</i>		5. NCrF/NSQF Level: 3.0															
6.	Brief Description of the Standalone NOS	This OS is about processing fruits and vegetables to make jam by receiving, checking raw material quality, sorting, pulping, pasteurizing, cooking, juice extracting, clarifying, filtering, sampling for quality analysis, cooling, packaging and storing.																
7.	Eligibility Criteria for Entry for a Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Relevant Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>10th Grade Pass or Equivalent</td> <td></td> </tr> <tr> <td>2.</td> <td>8th Grade Pass</td> <td>3-year experience in Food Processing Industry</td> </tr> <tr> <td>3.</td> <td>Previous relevant qualification of NSQF Level 2</td> <td>3-year experience in Food Processing Industry</td> </tr> <tr> <td>4.</td> <td>Previous relevant qualification of NSQF Level 2.5</td> <td>1.5 Years of experience in Food Processing Industry</td> </tr> </tbody> </table> b. Age: NA		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Relevant Experience (with Specialization - if applicable)	1.	10th Grade Pass or Equivalent		2.	8th Grade Pass	3-year experience in Food Processing Industry	3.	Previous relevant qualification of NSQF Level 2	3-year experience in Food Processing Industry	4.	Previous relevant qualification of NSQF Level 2.5	1.5 Years of experience in Food Processing Industry
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8.	Credits Assigned to this NOS-Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	3	9. Common Cost Norm Category (I/II/III) <i>(wherever applicable): I</i>															
10.	Any Licensing Requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	NA																

11. Training Duration by Modes of Training Delivery <i>(Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</i>	☒ Offline Only ☐ Online Only ☐ Blended <table border="1" data-bbox="957 305 1604 480"> <thead> <tr> <th>Training Delivery Mode</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>30</td> <td>60</td> <td>90</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>	Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)	Classroom (offline)	30	60	90	Online			
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Theory (Marks)	Practical (Marks)	Project (Marks)	Viva (Marks)	Total (Marks)	Passing %age								
40	50	-	10	100	50%								
13. Is the NOS Amenable to Persons with Disability	☐ Yes ☒ No If “Yes”, specify the applicable type of Disability												
14. Progression Path After Attaining the Qualification, wherever applicable <i>(Please show Professional and Academic progression)</i>													
15. How will women’s participation be encouraged?	An increasing population of educated and working women needs inclusion by formulating policy measures on skilling, job creation, and support services. Women comprise >65% of the laborers among micro, small, and medium enterprises. Opportunities for work that is proximate, childcare facilities, safe transportation, gender acceleration plan, and return to work (women to join the workforce after motherhood) go a long way in increasing the proportion of women in the workforce. Higher attrition among women in employment drives the continuous training support for the industry.												
16. Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi												

17.	Is similar NOS available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:	
18.	Name and Contact Details Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Mr. Sunil K Marwah Email: ceo@ficsi.in Contact No.: 9711260240 Website: https://www.ficsi.in/	
19.	Final Approval Date by NSQC: 18/02/2025	20. Validity Duration: 3 years	21. Next Review Date: 17/02/2028

Section 2: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma /certificate course in Food Technology / Food Engineering /packaging/Home science, or allied sector with 6 years Food processing experience and 1.5 year of Training Experience Or B.Sc or graduate/B.Tech/BE in Food technology or food engineering with 6 years Food processing and 1.5 year of Training Experience Or M.Sc/M.Tech/ME in Food technology or food engineering with 3 years Food processing experience and 1 year of Training Experience
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma /certificate course in Food Technology / Food Engineering /packaging/Home science, or allied sector with 7.5 years Food processing experience and 1.5 years of Training Experience Or B.Sc or graduate/B.Tech/BE in Food technology or food engineering with 6 years Food processing and 1.5 year of Training Experience Or M.Sc/M.Tech/ME in Food technology or food engineering with 3 years Food processing experience and 1.5 year of Training Experience
3.	Tools and Equipment Required for the Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised NOS, details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Diploma /certificate course in Hotel management/ Food Science/ Home Science 3 years of Food processing experience and 1.5 years Food Processing Assessment Training Or B.Sc or graduate/B.Tech/BE in Food technology or food engineering with 3 years Food processing and 1.5 year Food processing Assessment Training Or M.Sc/M.Tech/ME in Food technology or food engineering with 3 years Food processing experience and 1.5 year Food processing Assessment Training
2.	Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines), (wherever applicable)</i>	NA
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	NA
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Blended (only theory)
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

Section 4: Evidence of the Need for the Standalone NOS

Provide Annexure/Supporting documents name.

1.	Government /Industry initiatives/ requirement (Yes/No): Yes
2.	Number of Industry validation provided: 21

3.	Estimated number of people to be trained: Approx. 200
4.	Evidence of Concurrence/Consultation with Line/State Departments (In case of regulated sectors): (Yes/No): Yes

Section 5: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrF/NSQF level justification based on NCrF/NSQF descriptors <i>(Mandatory)</i>	Annexure 1, Evidence of level
2.	Annexure: List of tools and equipment relevant for NOS <i>(Mandatory, except in case of online course)</i>	Annexure 2, Tools and Equipment (lab set-up)
3.	Annexure: Performance and Assessment Criteria <i>(Mandatory)</i>	Annexure 7, Assessment Criteria
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Annexure 8, Assessment Strategy
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is Blended Learning)</i>	Annexure 5, Blended Learning
6.	Annexure: Acronym and Glossary <i>(Optional)</i>	Annexure 9, Acronym and Glossary
7.	Annexure/Supporting Document: Standalone NOS- Performance Criteria Details Annexure/Document with PC-wise detailing as per NOS format (Mandatory- Public view)	Annexure 7, Assessment Criteria
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	Attached

Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process	The job holder is expected to have basic knowledge of the field of knowledge or study. For example, the job holder is expected to know the types and varieties of raw materials (fruits and vegetables) and products produced from each raw material; production process, process parameters and product formulation for the production of various products; quality parameters, storage procedures; procedures for disposal of waste from produce, cleaning procedures like CIP and COP, etc. Since all the above-mentioned areas are related to basic knowledge of the field and processes, the role qualifies for Level 3.	The individual must have basic knowledge of facts processes and principles applied in the field of employment. Refer to the evidence provided in the adjacent column. Hence it falls under Level 3.	3.0
Professional and Technical Skills/ Expertise/ Professional Knowledge	The job holder is expected to carry out routine and repetitive activities in a narrow range of applications. For instance, the job holder has to receive, wash and sort fruits and vegetables; peel, cut, deseed/de-stone fruits and vegetables; pulp fruits and vegetables, extract fruit juice; prepare jam and jelly; prepare ketchup; fill and pack jam, carry out post-production cleaning and maintenances of equipment's, etc. as per defined SOPs. All these activities are mostly repetitive and have a narrow range of applications, hence qualifying the role for a Level 3.	The individual must be able to recall and demonstrate practical skill, routines, and repetitive in a narrow range of applications. Refer to the evidence provided in the adjacent column. Hence, it falls under Level 3.	3.0
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	The job holder is expected to prepare jam by processing fruits and vegetables. This involves working in a familiar, predictable, routine environment that requires limited range of activities such as prioritizing urgent orders, calculating batch size based on production order and machine capacity, receiving, checking conformance of raw material quality to company standards, sorting, pulping, pasteurizing, cooking, juice extracting, clarifying, filtering, sampling for quality analysis, cooling, packaging and storing as per defined SOPs. Hence, it qualifies as a Level 3 role. Since it does not involve several choices to be made even in a familiar context, the role does not qualify for Level 5.	The individual must be able to work in a predictable routine environment that requires a limited range of activities. Hence it falls under Level 3.	3.0

Broad Learning Outcomes/Core Skill	The job holder is expected to carry out routine and repetitive activities in a narrow range of applications. For instance, the job holder has to receive, wash, and sort fruits and vegetables; peel, cut, deseed/de-stone fruits and vegetables; pulp fruits and vegetables, extract fruit juice; prepare jam	The individual must be able to recall and demonstrate practical skill, routine, and repetition in a narrow range of applications. Refer to the evidence provided in the adjacent column. Hence it falls under Level 3.	3.0
Responsibility	The job holder is responsible for only their own work and learning. S/he is a semi-skilled worker working under close supervision. Who carries out activities after reading and understanding the production order, provides support in planning production sequence for jam processing, refers to the process chart/production flow chart/ formulation chart for products to be produced, and ensures working and performance of required machinery and tools. Hence, this role qualifies for Level 3. It does not comprise any supervisory activities. The job holder is expected to communicate with clarity, have basic arithmetic skills, and have a basic understanding of the political and natural environment. For instance, s/he should be able to note the information communicated, note raw materials used for production, write information documents, read and interpret	The individual must be responsible for their own work and learning but within defined limits under close supervision. Refer to the evidence provided in the adjacent column. Hence it falls under Level 3.	3.0

Annexure 2: Tools and Equipment (lab set-up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	S.S.Vessels With Lids		2
2.	Ph Meter (Digital)		1
3.	Thermometer (Digital)		1
4.	Utensils		5
5.	Measuring Flask		6
6.	Brinometer		2
7.	Hydrometer		6
8.	Weighing Balance (Digital)		1
9.	Brix Meter/Refractometer		2
10.	Refrigerator		1
11.	Gas Burner With Cylinder		1
12.	Stainless Steel Mug		2
13.	Cutting Knives And Peeler		4
14.	Electric Mixer		1
15.	Water Tank		1
16.	Fruit Slicing Machine		1
17.	Sealing Machine		1
18.	Weighing Balance (Analogue)		1
19.	Pressure Cooker		1
20.	Coring Knives		4
21.	Pitting Knives		4
22.	Juice Extractor (Screw Type)		1
23.	Lime Juice Extractor & Orange Juice Halving & Burring		1
24.	Crown Corking Machine Hand Operated		1

25.	Pulper Electric		1
26.	Fruit Mill		1
27.	Mechanical Peeler/ Batch Type For Fruit And Vegetable Peeling		1
28.	Steam Jacket Kettle		2
29.	Shredder For Slicing Of Fruit And Vegetable		1
30.	Auto Claves		1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker

Annexure 3: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	Amity Institute of Food Technology	Dr. Alok Saxena	Associate Professor	Amity University Uttar Pradesh I-1 Block, Fourth Floor, Sector-125, Noida 201313, India	9899690717	asaxena3@amity.edu	
2	Ruhi Corporation	Vaibhav Kumar Jain	Chairman	No. 7, Namkeen & Allied Food Cluster, Industrial Park, Karamdi Rd, Ratlam, Madhya Pradesh 457001	7771970097	ruhicorp@gmail.com	

3	Hari Ram Masala Co.	Hemant Saini	Owner	Plot No 8 khewra Bahalgarh Road Sonipat Haryana - 131021	8070605111	Info.hrmfoods@gmail.com	
4	Foodyaari Education & Media Pvt Ltd	Harish Vaishnav	Co-Founder	Plot.No.49; Mahalaxmi Colony Vinayak Nagar; Chahura. BK; Ahmednagar; Maharashtra; 414001	8308516485	harish@foodyaari.co.in	
5	Perfetti Van Melle India Pvt. Ltd.	Saurabh Gupta	Manager Food Regulatory Affairs and Sustainability	47th Milestone Delhi Jaipur Highway Village Manesar Gurgaon 1220050 Haryana	9991123892	saurav.gupta709@gmail.com, saurabh.gupta@perfettivanmelle.com	
6	Freakat Foods Opc Pvt Ltd	Rishabh Mahajan	Director	Plot no.2230, Phase ii, Sector 38, HSIIDC Rai, Industrial area, Sonipat-131029, Haryana	9996290209	freakatfoods@gmail.com	
7	Kayem Foods Ind Pvt.Ltd.	Rajender Kumar Sharma.	GM Operations & R&D	G.T Road Panipat ,132103	7206026011	rajender.sharma@kayemfoods.in	
8	Pravin Masalewale Pvt.Ltd (Suhana Masale)	Hariom Bhargava	Senior Territory Manager	Hadapsar Industrial Estate ,Pune	9358887812	hariom.bhargava@suhana.co.in	
9	DS Group (Dharampal Satyapal Group)	Bikash Jain	Marketing Manager	C6-10 , Dharampal Satyapal DS Road, Sector 67 ,Noida 201309	9999009564	bikash.jain@dsgroup.com	
10	Prahana Products Private Limited	Ms. Archana Devi Vijayaraman	Founder and CEO	Ground floor, Old no 18, new no 2A/6, Thiruvengadam Street, Kasturibai Nagar, Adyar Chennai 600020	9717262377	archana@prahana.in	

11	Sahasra Food Consultancy	CH.Subramanyam	CEO	25-6-79/1, Vijay Nagar Colony, Rahamatnagar, Kazipet, Telangana 506003	9393406062/8884627255	sahasra.chs@gmail.com	https://www.linkedin.com/in/su-bramanyamchinthalapati/
12	Diamond Foods	Anoop Tewari	Director	GF-20 Street 76 , Sector 76 Noida	9971190364	anooptewari14@gmail.com, anooptewari14@rediff.com	
13	Mordip Food Industries	Kunal M.Funde	Proprietor/Technical Head	102,Walani Road ,Asgaon, Tah Pauni District Bhandara-441910	9403373016	kunalfunde94@gmail.com	
14	Auli Services Private Limited	Mohammad Anas	Founder (Director)	Near Caramel School, Mussoorie road Chamba, Uttarakhand	+91-9899877866	dp65800@hotmail.com	
15	Marks and Spencer Reliance India Private Limited	Deepak Shivhare	Head – Quality Assurance	Gurugram, Haryana	+91 98200 56179	deepak.shivhare@gmail.com	
16	Dhenki Foods Pvt. Ltd.	Md. Arifuzzaman	Assistant Manager – Product Development	4th Floor, Monibhandar Building, WEBEL Bhaban Sector V, Salt Lake, Kolkata – 700091	7003490034	md.arifuzzaman@ingreens.in	
17	Shree Sharnam Spices	Aayush Chandaliya	Chairperson & Partner	lalakheda chauraha,ujjain Bypass Road, Jaora, Madhya Pradesh	7000697722	shreesarnamspices@gmail.com	
18	Freshbite India	Manpreet Nagpal	Managing Director	Village kahanpur, Hadbast no. 10, Tehsil Amloh, Distt Fatehgarh Sahib - 147203	9780100128	info@freshbiteindia.com	
19	Divya Multigrains	Banikant Dalai	Director	Bhubaneswar, Odisha	9040270270	dmgrains@gmail.com	
20	Dev Milk Foods	Arun Sharma	Business Development Manager	Mahindra World City, Jaipur, Rajasthan	9602506028	arunsharma.ny@gmail.com	
21	Jiwaji University	Dr. Manoj Sharma	Coordinator	Gwalior 474011, MP	9926294789	juft20@gmail.com	

Annexure 4: Training Details

Training Projections:

Year	Estimated Training # of Total Candidates	Estimated training # of Women	Estimated training # of People with Disability
2025	100	100	00
2026	50	50	00
2027	50	50	00

Data to be provided year-wise for next 4 years.

Annexure 5: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

S. No.	Select the Components of the NOS	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☐ Theory/ Lectures - Imparting theoretical and conceptual knowledge	NA	It can be Online or Offline (any ratio)
2	☐ Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners	NA	It can be Online or Offline (any ratio)
3	☐ Showing Practical Demonstrations to the learners	NA	It can be Online or Offline (any ratio)
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	NA	It can be Online or Offline (any ratio)
5	☐ Tutorials/ Assignments/ Drill/ Practice	NA	It can be Online or Offline (any ratio)
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	NA	It can be Online or Offline (any ratio)
7	☐ On the Job Training (OJT)/ Project Work Internship/ Candidate Training	NA	It can be Online or Offline (any ratio)

Annexure 6: Standalone NOS- Performance Criteria details

1. Description:

This standalone NOS is about processing of jams.

2. Scope

The scope covers the following:

- Prepare for the process
- Processing of jams
- Food safety practices

3. Elements and Performance Criteria

Prepare for the process

To be competent, the user/individual on the job must be able to:

- PC1. estimate manpower and material requirements as per work requirement
- PC2. ensure required quantity of raw materials, packaging materials, equipment, and manpower for production
- PC3. plan capacity utilization of machinery with respect to the processing time, production order, and batch size
- PC4. inspect the tools, equipment, and machinery to ascertain suitability for use
- PC5. organize tools and equipment before starting the process

Processing of jams

To be competent, the user/individual on the job must be able to:

- PC6. wash the fruits and vegetables using appropriate washing methods
- PC7. transfer washed fruits and vegetables to the sorting/inspecting line
- PC8. sort/grade fruits and vegetables according to size, quality etc.
- PC9. feed sorted fruits and vegetables in the peeler or corer
- PC10. transfer the fruits for pulping and Select the appropriate method and equipment for pulping based on the type of produce
- PC11. operate the pulping equipment according to the manufacturer's instructions, ensuring consistent and efficient operation

- PC12. check the quality of fruit pulp/ fruit juice through physical parameters such as appearance, colour, odour, etc. sample and transfer to the quality lab for analysis
- PC13. transfer a measured quantity of fruit pulp for preparing jam
- PC14. set temperature, pressure, stirrer speed, etc. of the cooking kettle/tank, set mixing time, cooking time, cooking temperature, etc,
- PC15. measure ingredients such as sugar, pectin solution, flavour, colour etc for batch referring to the formulation chart and add in sequence into pulp/juice in kettle following sop and continue cooking along with stirring
- PC16. check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to the quality lab for analysis and conformance to standards
- PC17. open valves or start the pump to transfer the hot product into the packaging machine to pack jam
- PC18. load packing materials such as glass bottles, plastic bottles, pouches, etc., and sealing materials such as lids, closures, etc. in packaging machines
- PC19. place the packed and labelled products in cartons and transfer them to the storage area and store maintaining storage conditions following SOP

Food safety practices

- PC20. follow Good Manufacturing Practices (GMP) at the workplace
- PC21. follow Good Hygiene Practices (GHP) at the workplace appropriately
- PC22. ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site
- PC23. ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.
- PC24. follow FSSAI Schedule IV requirements related to pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.
- PC25. report any food safety and GMP issues to the supervisor, if any

Employability Skills

To be competent, the user/individual on the job must be able to:

- PC26. understand the significance of employability skills in meeting job requirements
- PC27. identify constitutional values, civic rights,duties, personal values and ethics, and environmentally sustainable practices
- PC28. explain 21st Century Skills such as Self-awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and culturalawareness, emotional awareness, continuous learning mindset, etc.
- PC29. speak with others using some basic English phrases or sentences

- PC30. follow good manners while communicating with others
- PC31. work with others in a team
- PC32. communicate and behave appropriately with all genders and PwD
- PC33. report any issues related to sexual harassment
- PC34. use various financial products and services safely and securely
- PC35. calculate income, expenses, savings etc.
- PC36. approach the concerned authorities for any exploitation as per legal rights and laws
- PC37. operate digital devices and use their features and applications securely and safely
- PC38. Use the internet and social media platforms securely and safely
- PC39. identify and assess opportunities for potential business
- PC40. identify sources for arranging money and associated financial and legal challenges
- PC41. follow appropriate hygiene and grooming standards
- PC42. create a basic biodata
- PC43. search for suitable jobs and apply
- PC44. identify and register apprenticeship opportunities as per the requirement

4. Knowledge and Understanding (KU):

The individual on the job needs to know and understand:

- KU1. resource management process
- KU2. procedure to estimate manpower and raw material
- KU3. methods to inspect tools, equipment, and machinery
- KU4. Knowledge about drinking water specifications and the relevant standards required for washing fruits and vegetables
- KU5. standard methods used for drying fruits and vegetables after washing
- KU6. how to carry out processes such as peeling and slicing without damaging the fruits and vegetables
- KU7. sorting and grading the fruits and vegetables based on size, shape, color, appearance, etc.
- KU8. inspection techniques to detect spoilages, damaged fruits and vegetables, and procedure followed to discard them appropriately
- KU9. food laws and regulations applicable to the product packaging and labeling and the information to be printed on the packet labels
- KU10. different types of packaging material to be used for packaging of jams
- KU11. Different methods of jam processing

- KU12. organizational procedure for disposal of waste material from the processing area in an environmentally safe manner
- KU13. awareness of layout which would help to demarcate the defined movements of RM, PM, FG, and wastes generated during the processing of goods.
- KU14. Understanding of Schedule IV of FSSAI, Good Manufacturing Practices (GMP), and Good Hygiene Practices successfully and effectively on-site
- KU15. understand the manufacturing process, product parameters, and process control parameters such as CCPs

5. Generic Skills (GS):

User/individual on the job needs to know how to:

- GS1. maintain work-related notes and records
- GS2. read the relevant guides and literature to get the latest information about the field of work
- GS3. communicate clearly and politely
- GS4. perform basic calculations
- GS5. listen attentively to understand the instructions being given
- GS6. identify solutions to work-related issues
- GS7. plan and prioritize tasks to ensure timely completion
- GS8. make quick decisions in case of an emergencies

Annexure 7: Assessment Criteria

Detailed PC-wise assessment criteria and assessment marks for the NOS are as follows:

S. No.	Assessment Criteria for Performance Criteria	Theory Marks	Practical Marks	Project Marks	Viva Marks
	<i>Prepare for the process</i>	10	10	-	03
PC1.	estimate manpower and material requirements as per work requirement	-	-	-	-
PC2.	ensure the required quantity of raw materials, packaging materials, equipment, and manpower for production	-	-	-	-
PC3.	plan capacity utilization of machinery for the processing time, production order, and batch size for	-	-	-	-
PC4.	inspect the tools, equipment, and machinery to ascertain suitability for use	-	-	-	-

PC5.	organize tools and equipment before starting the process	-	-	-	-
	<i>Processing of jams</i>	10	40	-	05
PC6.	wash the fruits and vegetables using appropriate washing methods	-	-	-	-
PC7.	transfer washed fruits and vegetables to the sorting/inspecting line	-	-	-	-
PC8.	sort/grade fruits and vegetables according to size, quality, etc.	-	-	-	-
PC9.	feed sorted fruits and vegetables in the peeler or corer	-	-	-	-
PC10.	transfer the fruits for pulping and select the appropriate method and equipment for pulping based on the type of produce	-	-	-	-
PC11.	operate the pulping equipment according to the manufacturer's instructions, ensuring consistent and efficient operation	-	-	-	-
PC12.	check the quality of fruit pulp/ fruit juice through physical parameters such as appearance, colour, odour, etc. sample and transfer to the quality lab for analysis	-	-	-	-
PC13.	transfer a measured quantity of fruit pulp for preparing jam	-	-	-	-
PC14.	set temperature, pressure, stirrer speed, etc. of the cooking kettle/tank, set mixing time, cooking time, cooking temperature, etc,	-	-	-	-
PC15.	measure ingredients such as sugar, pectin solution, flavour, colour, etc for batch referring to the formulation chart and add in sequence into pulp/juice in kettle following sop and continue cooking along with stirring	-	-	-	-
PC16.	check the quality of cooked product through physical parameters such as colour, appearance, texture, taste, etc., sample and transfer to the quality lab for analysis and conformance to standards	-	-	-	-
PC17.	open valves or start the pump to transfer the hot product into the packaging machine to pack jam	-	-	-	-
PC18.	load packing materials such as glass bottles, plastic bottles, pouches, etc., and sealing materials such as lids, closures, etc. in packaging machines	-	-	-	-
PC19.	place the packed and labelled products in cartons and transfer to the storage area and store maintaining storage conditions following SOP	-	-	-	-
	<i>Food safety practices</i>	05	10	-	02
PC20.	follow Good Manufacturing Practices (GMP) at the workplace	-	-	-	-
PC21.	follow Good Hygiene Practices (GHP) at the workplace appropriately	-	-	-	-
PC22.	ensure to properly tag and number all the equipment, machinery, tools, and other processing aids to keep proper traceability of the product being manufactured and handled at the site	-	-	-	-

PC23.	ensure the record keeping and documentation such as Daily Monitoring Sheets, Batch Traceability Records, machine records, product parameters, process control parameters, etc.	-	-	-	-
PC24.	follow FSSAI Schedule IV requirements related to Pest Control, Cleaning, and Sanitation, Utilities, Waste Disposal, Prevention of Cross-Contamination, allergen management, corrective action, preventive actions, food operation control etc.	-	-	-	-
PC25.	report any food safety and GMP issues to the supervisor, if any	-	-	-	-
	<i>Entrepreneurial Skills</i>	05	00	-	00
PC26.	understand the significance of employability skills in meeting job requirements				
PC27.	identify constitutional values, civic rights,duties, personal values and ethics, and environmentally sustainable practices				
PC28.	explain 21st Century Skills such as Self-awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and culturalawareness, emotional awareness, continuous learning mindset, etc.				
PC29.	speak with others using some basic English phrases or sentences				
PC30.	follow good manners while communicating with others				
PC31.	work with others in a team				
PC32.	communicate and behave appropriately with all genders and PwD				
PC33.	report any issues related to sexual harassment				
PC34.	use various financial products and services safely and securely				
PC35.	calculate income, expenses, savings etc.				
PC36.	approach the concerned authorities for any exploitation as per legal rights and laws				
PC37.	operate digital devices and use their features and applications securely and safely				
PC38.	Use the internet and social media platforms securely and safely				
PC39.	identify and assess opportunities for potential business				
PC40.	identify sources for arranging money and associated financial and legal challenges				
PC41.	follow appropriate hygiene and grooming standards				
PC42.	create a basic biodata				
PC43.	search for suitable jobs and apply				
PC44.	identify and register apprenticeship opportunities as per the requirement				
Total Marks		30	60	-	10

Annexure 8: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Assessment will be based on the concept of independent assessors, who are paneled with assessment agencies and 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 the assessment only at the training centers of the Training Partner or designated testing centers authorized by FICSI.

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

- A. Mid-term assessment
- B. Term/Final Assessment

Each Performance Criterion in the NOS will be assigned marks for theory and/or practical based on the relative importance and criticality of the function.

This will facilitate the preparation of question banks/paper sets for each of the NOS. Each of these paper sets/question banks created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially regarding the practical test and the defined tolerances, finish, accuracy, etc.

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

- i. Written Test: This will consist of
 - (I True/False Statements,
 - (ii) Multiple Choice Questions,
 - (iii) Matching Type Questions. An online system for this will be preferred.
- ii. Practical Test: This will comprise a test job to be prepared as per the project briefing, following the appropriate working steps, using necessary tools, equipment, and instruments. Through observation, it will be possible to ascertain the candidate's aptitude, attention to detail, quality consciousness, etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of their skill achievements.
- iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioral aspects regarding the job role and the specific task at hand.

On the Job:

1. Each module (which covers the job profile of Agar Tree Artificial Inoculation Technician will be assessed separately.
2. The candidate must score 50% in each module to complete the OJT.

4. Tools of Assessment that will be used for assessing whether the candidate has the desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer, and performing Soft Skills effectively:

- Videos of Trainees during OJT
- Answer Sheets of Question Banks
- Assessing the Log Book entries of Trainees at the Employer location
- Employer Performance Feedback.

4. Assessment of each Module will ensure that the candidate can:

- Carry out production of Jam

Annexure 9: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.

