



सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
DEVELOPMENT COMMISSIONER
MINISTRY OF MICRO, SMALL & MEDIUM
ENTERPRISES

MSME TECHNOLOGY CENTRE



QUALIFICATION FILE

TECHNICIAN -AROMA PROCESS

☐ Short Term Training (STT) ☒ Long Term Training (LTT) ☐ Apprenticeship

☐ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA
☐ General ☒ Multi-skill (MS) ☒ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level: 4.5

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

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Section 1: Basic Details

1.	Qualification Name	TECHNICIAN -AROMA PROCESS																												
2.	Sector/s	Beauty & Wellness																												
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: QG-4.5-BW-02393-2024-V1-MSME			Qualification Name of existing/previous version: Certificate Course in Aroma Process Assistant																									
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA -																												
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-4.5-BW-02393-2024-V1-MSME			6. NCrF/NSQF Level: 4.5																									
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate																												
8.	Brief Description of the Qualification	<p>The qualification containing different modules which is required for the job role Aroma Process Assistant, this qualification ultimately helps learner in the following:</p> <ul style="list-style-type: none"> • To be expertise in the area of Fragrance & Flavor. • To get an employment in Multi sectoral industries. • To become an entrepreneur 																												
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	<p>a. Entry Qualification & Relevant Experience: 12th grade pass</p> <p>b. Age: 17 years</p>																												
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	60			11. Common Cost Norm Category (I/II/III) (wherever applicable): II																									
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																												
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<input type="checkbox"/> Offline <input type="checkbox"/> Online <input checked="" type="checkbox"/> Blended																												
		<table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>330</td> <td>1260</td> <td>-</td> <td>-</td> <td>1590</td> </tr> <tr> <td>Online</td> <td>210</td> <td>-</td> <td>-</td> <td>-</td> <td>210</td> </tr> <tr> <td>Total</td> <td>540</td> <td>1260</td> <td></td> <td></td> <td>1800</td> </tr> </tbody> </table>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	330	1260	-	-	1590	Online	210	-	-	-	210	Total	540	1260			1800
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																									
Classroom (offline)	330	1260	-	-	1590																									
Online	210	-	-	-	210																									
Total	540	1260			1800																									
		(Refer Blended Learning Annexure for details)																												

14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	6115 Medicinal and Aromatic Plant Cultivators (NCO List 2015)
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Professional / Career progression: Supervisor Aroma Process
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:
18.	Is the Job Role Amenable to Persons with Disability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: As Per Government Norms
19.	How Participation of Women will be Encouraged	Seats are reserved as per the Govt. Norms
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The said aspect is covered in the module/ NOS name Commercial Cultivation of Aromatic crops
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
22.	Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Sh. Vijay Mahipatrao Bankar Contact No. +0755 3501078 Email-msmetcab@gmail.com
23.	Final Approval Date by NSQC: 30.04.2024	24. Validity Duration: 3years
		25. Next Review Date : 30.04.2027

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

TECHNICIAN -AROMA PROCESS

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended Proj.-Project

Semester-I

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Pr oj.	Viva	Total	Weightage (%) (if applicable)
01.	Commercial Cultivation of Aromatic crops	MSME/APA /01	core	4.5	6	60	120	-	-	180	100	100	-	-	200	
02.	Production of Fragrant Raw Materials level-I	MSME/APA /02	core	4.5	6	60	120	-	-	180	100	100	-	-	200	
03.	Quality Assessment of fragrant raw materials Level-I	MSME/APA /03	core	4.5	6	60	120	-	-	180	100	100	-	-	200	
04.	OJT		core	4.5	2			60		60				100	100	
	Duration (in Hours) / Total Credit / Marks				20	180	360	60	-	600	300	300	-	100	700	

Semester-II

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Pr oj.	Viva	Total	Weight age (%) (if applicable)
01.	Fragrance & Flavor Creation	MSME/APA/04	core	4.5	6	60	120	-	-	180	100	100	-	-	200	
02.	Agro & Aroma based products	MSME/APA/05	core	4.5	6	60	120	-	-	180	100	100	-	-	200	
03.	Employability Skill	MSME/ES/03	core	4.5	4	120	-	-	-	120	100	-	-	-	100	
04.	OJT		core	4.5	4			120		120				100	100	
Duration (in Hours) / Total Credit / Marks					20	240	240	120	-	600	300	200	-	100	600	

Semester-III

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
01.	Production of Fragrant Raw Materials & its value addition level-II	MSME/APA/06	core	4.5	7	60	150	-	-	210	100	100	-	-	200	
02.	Quality Assessment of fragrant raw materials Level-II	MSME/APA/07	core	4.5	7	60	150	-	-	210	100	100	-	-	200	

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
03.	Project work		Core	4.5	4	-	120	-	-	120	-	-	100	-	100	
04.	OJT		Core	4.5	2			60		60				100	100	
Duration (in Hours) / Total Marks					20	120	480	60	-	600	200	200	100	100	600	

Elective NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.																
Duration (in Hours) / Total Marks																

Optional NOS/s:

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.																
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying PercentagePlease specify **any one** of the following:

Minimum Pass Percentage – Aggregate at qualification level: % (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Minimum Pass Percentage – NOS/Module-wise: (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Diploma/ Degree in Science or Equivalent with Practical skills and knowledge required in the relevant job role at least one level higher i.e., level 5.0 and above in related field and minimum 2 years of experience in Aroma Technology in MSME TC or any reputed industry will become a trainer, or in accordance with the TOT guideline of NCVET
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Degree in Science or equivalent with 3 to 5 years of experience in Production/ Processing/ Training/ Quality Assessment/ Fragrance & Flavour creation from Aroma Technology in MSME TC or any reputed industry will become as a Master Trainer, Or in accordance with the TOT guideline of NCVET.
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	Yes

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Degree in Science / Technical/ Applied stream or equivalent with 3 years of experience in Production/ Training/ Quality Assessment/ Fragrance & Flavour creation from Aroma Technology in MSME TC or any reputed industry. Only (TOA) certified assessors will be able to conduct the assessments.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Degree in Science / Technical/ Applied stream or equivalent with 5 years of experience in Production/ Training/ Quality Assessment/ Fragrance & Flavour creation from Aroma Technology in MSME TC or any reputed industry.

3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Post Graduate in the relevant discipline with minimum 5 years of experience in Production/ Training/ Quality Assessment/ Fragrance & Flavour creation from Aroma Technology in MSME TC or any reputed industry.
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Blended Type (Online + Offline)
5.	Tools and Equipment Required for Assessment	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes Skill Gap Study for the Beauty & Wellness Sector of India 2023-2030 www.bwssc.in/wp-content/uploads/2023/04/B&W-Skill-gap-Final-Designed-Abridged-v4.pdf
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): No Growth Of The Cosmetic Industry In India (Dec-2023) https://www.ibef.org/research/case-study/growth-of-the-cosmetic-industry-in-india
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 13
5.	Estimated nos. of persons to be trained and employed: Approx. 60 Nos. Per Year
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors <i>(Mandatory)</i>	<i>Annexure-I</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Annexure-II</i>
3.	Annexure: Industry Validations Summary	<i>Annexure-III</i>
4.	Annexure: Training & Employment Details	<i>Annexure-IV</i>

5.	Annexure: Blended Learning (<i>Mandatory, in case selected Mode of delivery is “Blended Learning”</i>)	<i>Annexure-V</i>
6.	Annexure: Detailed Assessment Criteria (<i>Mandatory</i>)	<i>Annexure-VI</i>
7.	Annexure: Assessment Strategy (<i>Mandatory</i>)	<i>Annexure-VII</i>
8.	Annexure: Acronym and Glossary (<i>Optional</i>)	<i>Annexure- VIII</i>
9.	Annexure: Multiple Entry-Exit Details (<i>Mandatory, in case qualification has multiple Entry-Exit</i>)	<i>NA</i>
10.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	<i>Annexure- IX</i>
11.	Supporting Document: Career Progression (<i>Mandatory - Public view</i>)	<i>This aspect mentioned in point no. 15</i>
12.	Supporting Document: Occupational Map (<i>Mandatory</i>)	<i>Annexure-X</i>
13.	Supporting Document: Assessment SOP (<i>Mandatory</i>)	<i>Annexure- XI</i>
14.	Any other document you wish to submit:	<i>NA</i>

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	Learners able to select and cultivate Aromatic crops as per the climatic condition and can produce essential oil by using different techniques and know the quality assessment of essential oil and basic knowledge of fragrance & Flavour	<ul style="list-style-type: none"> The Job holder must know the correct procedures to address problems commonly encountered during the cultivation of aromatic crops, processing, and value addition of fragrant raw material, Agro based product and quality assessment of essential oil. Identify the raw material which will be used for cultivation of aromatic crops, production of agro based product, processing of essential oil and quality assessment of essential oil. skill to basic arithmetic and algebraic principles, basic understanding of social and natural environment Language to communicate written or oral, with required clarity with farmer and industries. 	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ul style="list-style-type: none"> Concept of Production specifically cultivation, processing, Quality assessment and basic Knowledge 	<ul style="list-style-type: none"> Selection of aromatic crops as per the climatic condition. Distillation and value addition of essential oil. 	4.5

	<p>of perfumery and handling machinery such as FDU, Steam Distillation, Solvent extraction, Fractionation, GLC, refract meter, polar meter etc.</p> <ul style="list-style-type: none"> Learners have the basic knowledge about soil types and required plant nutrients application, value addition, maintenance of plant & machinery. 	<ul style="list-style-type: none"> Production of agro based product Quality assessment of fragrant raw material. Knowledge of Analysis of Soil, Plant characteristics and handling Tools and equipment Factual knowledge of operational and safety maintenance of process plant 	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	<p>knowledge of enterprise establishment</p> <p>Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</p>	<ul style="list-style-type: none"> Learner can develop communication competence, report writing skills & preparation of Resumes or Curriculum Vitae, Learner can be able to interact effectively with co-workers and can apply the Engineering Ethics and Human Values at workplace. Learner can understand the basic process of becoming an entrepreneur & start up and can get benefits from various government schemes applicable. 	4.5
Broad Learning Outcomes/Core Skill	<ul style="list-style-type: none"> Acquire skills to calculate processing parameters of cultivation of aromatic crops, processing of fragrant raw material and agro based product, and quality assessment of fragrant raw material Aware about the social as well as environmental situations during working. 	<ul style="list-style-type: none"> Learner will have wide range of numerical and computational abilities for different machining process Learner will have the broad knowledge of communications, health & safety norms. Learner Should be able to listen and understand the complex information in a clear and concise manner Learner will also can read & interpret plant and machinery drawing and documentation requirement as per organizational norms Learners will have the knowledge of evaluating the components with the standards process parameter for the given job. Learners can take decision for the quality output and productivity enhancement 	4.5

Responsibility	<ul style="list-style-type: none"> Responsible for cultivation of aromatic crops, Extraction of essential oil, Value addition & quality assessment of fragrant raw material, & Agro aroma-based product development. Responsible for achieving tangible outcomes, managing change, building teams, and mentoring the Co-workers and subordinates. 	<ul style="list-style-type: none"> Learners are expected to perform the work as technical Supervisor and Manages processes and procedures within broad parameters for defined activities. Supervises the routine work of co-worker and subordinates, takes the required responsibility for the evaluation and improvement of work, and constantly motivates, guides, mentors to their subordinates /Team members Taking responsibility of proper execution of the program generated and its actions for the operation, quality, and accuracy of the work. 	4.5
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Annexure II: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment **Batch Size:** 20

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Glass Distillation Unit	Glass distillation Assemble with cohobating system along with the heating mental Cap. 5-10 Kg per batch.	02 Nos.
2.	Field Distillation Unit	SS Vessel cap. 500 Kg, SS Condenser with connecting tube along with Receiver	01 Nos.
3.	Fractional distillation Unit	Glass/SS Vessel Cap. 10 kg with glass/SS condenser & tube setup and vacuum pump.	01 Nos.
4.	Agri –equipment, like Grass cutter, pruner, sprayer, Khurpee e.tc	Agri equipment's for specific purpose	10 Nos.
5.	Deg-Bhapka Unit	Copper vessels & Bamboo Pipeline Cap. 50-100 Kg per batch	01
6.	Agarbatti Making Machine	Automatic machine cap. 8-10 Kg per Hours	01
7.	Solvent Extraction Unit	SS Vessel pilot scale with all setups.	01
8.	Soxhlet Apparatus	Glass vessels with heating mantle cap. 5-10 Kg per batch	02

9.	Rotatory evaporator	Glass unit with heating mantle	01
10.	Gas Liquid Chromatography	Unit setup with auto sampler, desktop & Printer	01
11.	Aroma blender	SS blender with rotatory system	01
12.	Weighing balance	Balance of different capacity	04
13.	Projector with computer setup	Classroom Aids	01
14.	General Equipment for Classroom: White Board, Furniture, Smart Board, Duster, Marker, Multimedia /LCD Projector, Audio Video Aids, Pen drive and Practice exercise etc.,	Standard	1 set

Annexure III: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1.	M/s Fragrances Flavours Association of India	Sh. Rishabh. C Kothari	President	Mumbai	9122-22090184	mail@fafai.org	
2.	M/s Norex Flavour (P) Ltd.	Sh. Vaibhav Agrawal	CEO	Dhanaura, Amroha, Uttar Pradesh	8048985096	norex@norex.in	
3.	M/s Rakesh sandal Industry	Sh. Yogesh Dubey	CEO	Kanpur-U.P	7388233330	info@rakeshin.com	
4.	M/s Prakash Chemicals	Sh. Prateesh Gupta	Owner	Badaun -U.P	9557290056	prkchem@prchecal.s.com	
5.	Paras Handicrafts	Sh. Shazad	Owner	House No 131719 Mohalla, Mutriban, Saharanpur 247001	9084278642		
6.	Hasan & Sons	Mohammad Hasan	Owner	Ahamadi Tolla, Kannauj 209125 UP	9696350012		
7.	M/ Sanjib Bhai & Co.	Mr. Sanjiv	Owner / Pertner	Kannauj 209725 UP	9415146825	Sanjivbhai_111@yahoo.com	

8.	S.A. Essential Oils PVT Ltd.	Ashish Kumar	Director	Plot no A-2, Industrial Estate, Markand Nagar, Kannauj 209726 UP	9450691004		
9.	NEO Fragrance	Mr. Kumar	Proprieter	Katra Bhadur Kannauj - 209725	9415146809		
10.	Fragma Perfumes	Mr. Faizal	Partner	Bazariya Sekhana Kannauj 209725	7985624198	fragmaperfumes@gmail.com	
11.	Rolex International	Mr. Anuj	Owner	105/177 chaman ganj Kanpur	9389011540		
12.	Natural Fragrance & Flavour	Mr. Priyanshu	Owner	House No 29 street katra bahadur akannauj UP 209725	9889978557	Naturalfragrance&flavors@yahoo.com	
13.	A.S. Traders	Mr. Mustafizur	Owner	Ahmadi Tola Kannuj, 209725	9454322476		

Annexure IV: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2023-24	60	48	6	5	-	-
2024-25	75	60	8	7	-	-
2025-26	100	80	10	8	-	-

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
1.0	2019-20	10	7	7	7	2	2	2	2	-	-	-	-
1.0	2020-21	15	13	5	4	4	2	-	-	-	-	-	-
1.0	2021-22	6	6	6	5	1	1	1	-	-	-	-	-

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

1. Fee based Training Program under the Ministry of MSME.

Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☒ Digital Content ☒ Qualification Handbook ☐ Any Other:

Languages in which Content is available: English

Annexure V: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

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

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education.%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline [[: Online Ratio
1	<input checked="" type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	Books/ e-books, Presentations, Reference Material, Audio / Video Modules with 2D and 3D animation Self-Learning Videos /Broadcasts /Mobile Learning /Curated Digital content	60%:40%
2	<input checked="" type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Self-Learning Videos, Broadcasts, Mobile Learning, Curated Digital content	60%:40%
3	<input checked="" type="checkbox"/> Showing Practical Demonstrations to the learners	Cultivation of Aromatic crops, Distillation& Processing of Essential oil, Quality Assessment of essential oils and Fragrance & Flavour creation & its application.	100%:00%
4	<input checked="" type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Deg/ Bhopka, FDU, Steam Distillation unit, Fractional Distillation reaction Unit, Solvent extraction unit and its accessory, GLC, GCMS, Refractometer, Polarimeter etc.	100%:00%

5	<input checked="" type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice	Online Question Bank, Mobile Quick test app, MCQ based tests, Practical Test on Cultivation of Aromatic crops, Distillation& Processing of Essential oil, Quality Assessment of essential oils and Fragrance & Flavour creation & its application.	60%:40%
6	<input checked="" type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Cultivation, processing, quality assessment and Fragrance & Flavour creation Assessment or Essays, Up-loadable file examinations, Mock test sessions	50%:50%
7	<input checked="" type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	Live Project on Cultivation of aromatic crops, Processing of Essential oil, Quality Assessment of essential oils and Fragrance & Flavour creation & its application.	60%:40%

Annexure VI: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

Semester-I

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
MSME/APA/01 Commercial Cultivation of Aromatic Crops	PC1 Describe the classification & taxonomical portion of aromatic crops in plant kingdom. PC2 Describe different Agro-climatic zones & suitability of aromatic crops. PC3 Explain some important aroma bearing crops grown in India. PC4 Describe the Agro practice of the Lemongrass PC5 Describe the Agro practice of the Citronella PC6 Describe the Agro practice of the Palmarosa PC7 Describe the Agro practice of the Basil PC8 Describe the Agro practice of the Mint PC9 Describe the Agro practice of the Vetiver PC10 Describe the Agro practice of the Monarda PC11 Describe the Agro practice of the Patchouli	100	100	-	-

	PC12 Describe the Agro practice of the Nagarmotha PC13 Describe the Agro practice of the Sandalwood PC14 Describe the Agro practice of the Rose PC15 Describe the Agro practice of the Jasmine PC16 Describe the Agro practice of the Marigold PC17 Describe the Agro practice of the Kewra PC18 Describe the Agro practice of the Chamomile PC19 Explain the technology of land preparation & Nursery raising techniques PC20 Describe good Agro-practice of common aromatic crops PC21 Describe importance of cultivation of aromatic crops PC22 Explain intercropping of aromatic crops PC23 Describe crop rotation in aromatic crops PC24 Describe Post-harvest management in aromatic crops PC25 To perform the preparation of land for cultivation PC26 To perform the preparation of Nursery of different aromatic crops PC27 To perform the transplantation PC28 Harvesting & estimation of herbage yield in different crops. PC29 To perform cultivation practices of aromatic crops.				
MSME/APA/02 Production of Fragrant Raw Materials & its value addition level-I	PC.1 Describe the Techniques for Selection of raw materials. PC.2 Explain the Principles & Methodology of water distillation techniques PC.3 Explain the Principles & Methodology of water Steam distillation techniques PC.4 Explain the Principles & Methodology of Steam distillation techniques PC.5 Describe the Extraction Methodology To Determination of Essential oil content by Clevenger apparatus PC.6 Explain the Distillation Techniques for Separation of fragrant materials PC.7 Explain the Principle/operation/maintenance of accessories (Steam generator, cooling tower, softener plants & etc.)	100	100	-	-

	<p>PC.8 Describe the Design, Installation, Maintenance, Safety precaution for Distillation/Extraction Units</p> <p>PC.9 Explain various type Attar Manufacturing Process</p> <p>PC.10 To Perform Distillation at Laboratory/FDU/Pilot scale</p> <p>PC.11 To perform determination of essential oil content in Grassy aromatic crops like Lemon grass, Mint, citronella, Palmarosa & Basil etc.</p> <p>PC.12 To perform determination of essential oil content in Aromatic Flowers like Marigold, rose, Chamomile, Jasmine etc.</p> <p>PC.13 To perform determination of essential oil content in Aromatic Woods like Cardamom, Coriander, Clove, Turmeric, Vetiver root, Nagarmotha etc.</p>				
MSME/APA/03 Quality Assessment of fragrant raw materials Level-I	<p>PC.1 Explain the Introduction to organic chemistry of fragrant material</p> <p>PC.2 Describe the Structure & Nomenclature of common aromatic compound.</p> <p>PC.3 Describe the Isoprene rule</p> <p>PC.4 Describe the Terpenoid Chemistry</p> <p>PC.5 Describe the Aliphatic Compound</p> <p>PC.6 Describe the Benzoides compound</p> <p>PC.7 Describe the Phenolic compounds,</p> <p>PC.8 Describe the Heterocyclic compounds</p> <p>PC.9 To perform the Sampling techniques of the fragrant raw materials</p> <p>PC.10 To perform the Preparation techniques of different solutions for analysis of essential oil in lab.</p> <p>PC.11 To perform the Dehydration techniques of essential oil.</p>	100	100	-	-

	Total Marks	300	300	-	-
				-	-

Semester-II

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
MSME/APA/04 Fragrance & Flavor creation and its application-level-I	PC.1 Global Scenario of Essential oil fragrance & Flavour. PC.2 Explain the Olfaction, classification and differentiation of Odour and taste. PC.3 Describe the Odour quality evaluation of fragrance & Flavour. PC.4 Explain the Memorization of Odour and taste PC.5 Describe the Basics of creation of fragrance & Flavour & its application. PC.6 Explain the Terminology of technical terms used in fragrance, Flavour, and essential oil industry PC.7 To perform the Olfaction of natural aroma chemicals. PC.8 To perform the Olfaction of synthetic aroma chemicals. PC.9 To perform the Evaluation of aroma chemicals with time & dilution	100	100	-	-
MSME/APA/05	PC.1 Explain principles & methodology of production of Agro aroma-based products.	100	100	-	-

Agro aroma-based product	<p>PC.2 Describe raw materials & formulations of Agarbatti, Dhoopbatti, & Hawan Samgri</p> <p>PC.3 Describe Manufacturing techniques, operation & maintenance of Agarbatti, Dhoopbatti & Hawan Samgri</p> <p>PC.4 Explain raw materials & manufacturing of Rose water.</p> <p>PC.5 Describe economics of finished products</p> <p>PC.6 Explain storage & packaging of finished products.</p> <p>PC.7 To perform identification of raw material & testing.</p> <p>PC.8 To perform manufacturing of Agarbatti, Dhoopbatti & Hawansamagri.</p> <p>PC.9 To perform manufacturing of Rose water.</p> <p>PC.10 To perform packaging of finished products.</p>				
MSME/ES&E/03 Employability Skill and Entrepreneurship	<p>PC.1 Explain occupational health and Safety.</p> <p>PC.2 Explain about safety rules.</p> <p>PC.3 State the name and location of people responsible for health and safety in the workplace</p> <p>PC.4 Identify employability skills required for jobs in various industries. & Identify and explore learning and employability portals</p> <p>PC.5 Recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.</p> <p>PC.6 Follow environmentally sustainable practices. & Recognize the significance of 21st Century Skills for employment</p> <p>PC.7 Practice the 21st Century Skills such as Self-Awareness, Behavior Skills, time management, critical and adaptive thinking,</p>	100	-	-	-

	<p>problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life</p> <p>PC.8 Use basic English for everyday conversation in different contexts, in person and over the telephone.</p> <p>PC.9 How to Minimize the team conflicts & Explain Ethics & values</p> <p>PC.10 Read and understand routine information, notes, instructions, mails, letters etc. written in English</p> <p>PC.11 Write short messages, notes, letters, e-mails etc. in English & Understand the difference between job and career</p> <p>PC.12 Prepare a career development plan with short- and long-term goals, based on aptitude & discuss the main types of electronic funds transfers</p> <p>PC.13 Follow verbal and non-verbal communication etiquette and active listening techniques in various settings & work collaboratively with others in a team</p> <p>PC.14 Communicate and behave appropriately with all genders and PwD & escalate any issues related to sexual harassment at workplace according to POSH Act.</p> <p>PC.15 Select financial institutions, products and services as per requirement & carry out offline and online financial transactions, safely and securely.</p> <p>PC.16 Identify common components of salary and compute income, expenses, taxes, investments etc. & identify relevant rights and laws and use legal aids to fight against legal exploitation</p>				
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	<p>PC.17 Operate digital devices and carry out basic internet operations securely and safely & use e- mail and social media platforms and virtual collaboration tools to work effectively</p> <p>PC.18 Use basic features of word processor, spreadsheets, and presentations.</p> <p>PC.19 Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research & develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion.</p> <p>PC.20 Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity</p> <p>PC.21 Identify different types of customers & identify and respond to customer requests and needs in a professional manner.</p> <p>PC.22 Follow appropriate hygiene and grooming standards</p> <p>PC.23 Create a professional Curriculum vitae (Résumé) & search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively</p> <p>PC.24 Apply to identified job openings using offline /online methods as per requirement & answer questions politely, with clarity and confidence, during recruitment and selection</p> <p>PC.25 identify apprenticeship opportunities and register for it as per guidelines and requirements</p>				
	Total Marks	300	200	-	-

Semester-III

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
MSME/APA/06 Production of Fragrant Raw Materials & its value addition level-II	PC.1 Explain the Technology involved in Fractional distillation for processing of Essential oils. PC.2 Explain Parts of Solvent extraction & fractional distillation unit and its Safety & maintenance PC.3 Describe the Accessories of Solvent Extraction & fractional distillation units etc. PC.4 Explain the Routine maintenance of Solvent Extraction, fractionation Unit and Reaction etc. PC.5 Explain the Principles & Techniques of Rectification of fragrant raw materials PC.6 Explain the Principle & Techniques of Hydrogenation in fragrant	100	100	-	-

	<p>materials.</p> <p>PC.7 Describe the Design, Installation, Maintenance, Safety precaution of related plant & machineries related to processing of Essential oil.</p> <p>PC.8 To perform the Lab/pilot scale reaction and fractionation of essential oils -Citronella oil, Lemongrass, Basil and Palmarosa etc.</p> <p>PC.9 To perform the Determination of oil % by Soxhlet apparatus of – Ginger, Clove, Cardamom, Cumin etc.</p> <p>PC.10 To perform the manufacturing process of Concrete-Rose, Tuberose & Jasmine etc. at Lab/pilot scale.</p> <p>PC.11 To perform manufacturing process of absolute of Rose, Tuberose & jasmine etc. at Lab/pilot scale.</p> <p>PC.12 To perform the manufacturing process of Resinoides of Nagarmotha, Sandalwood, Kapoor Kacheri etc. at Lab/pilot scale.</p> <p>PC.13 To perform the manufacturing process of oleoresin of Cardamom, Capsicum, Cumin, Coriander, Ginger etc.</p> <p>PC.14 Explain the value addition of palmarosa, citronella, basil, mint, lemongrass etc. by using deferent techniques.</p>				
<p>MSME/APA/07</p> <p>Quality Assessment of fragrant raw materials Level-II</p>	<p>PC.1 Explain the Principles & Techniques of analysis for fragrant raw materials</p> <p>PC.2 Write notes on Physical analysis of fragrant raw materials (specific Gravity, Optical Rotation, Solubility, Refractive index, PH value, Congealing point etc.)</p> <p>PC.3 Write notes on Chemical analysis of fragrant raw materials (Acid Value, Saponification value, Ester Value, Ester value after acetylation, carbonyl value, Alcohol & phenol value)</p> <p>PC.4 Explain the Principles & Techniques of Gas Liquid Chromatography (GLC) and Thin Layer Chromatography (TLC)</p> <p>PC.5 To perform the Optical Rotation of by using instruments for Optical rotation of Mint, Vetiver, Sandalwood, Nagarmotha etc.</p>	100	100	-	-

	<p>PC.6 To perform the specific gravity of Mint, Vetiver, Sandalwood, Nagarmotha etc.</p> <p>PC.7 To perform the Refractive index Mint, Vetiver, Sandalwood, Nagarmotha etc.</p> <p>PC.8 To perform the Solubility of Mint, Vetiver, Sandalwood, Nagarmotha etc.</p> <p>PC.9 To perform the Congealing point of Mint.</p> <p>PC.10 To perform the Chemical Analysis of essential oil for Acid Value, Saponification value, Ester Value, Ester value after acetylation, carbonyl value, Alcohol & phenol value of Essential oil like Nagarmotha, Sandalwood & Vetiver etc.</p> <p>PC.11 To perform the Analysis of Essential oil By Thin Layer Chromatography (TLC)</p> <p>PC.12 To perform the Analysis of Essential oil By Using Gas Liquid Chromatography (GLC) like Mint, Lemongrass, Sandalwood, Palmarosa, Citronella, Basil, Nagarmotha. Etc.</p>				
MSME/APA/08 OJT/ Project work	<p>PC.1 PC.1 Project / OJT Report: Mentioning the process and procedure carried by the trainee for completing the assign task duly endorsed by the authorized personnel and The report must contain:</p> <ul style="list-style-type: none"> • Details of Department/ Organization • Brief Job description & work activity • Specific problem face if any with the solution. • Technical Books referred during the OJT • Conclusion 	-	100	-	-
	Total Marks	200	300	-	-

Annexure VII: 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.

Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:

- Batches are assigned to the MSME NSQF Assessment Agency via email for the assessment.
- MSME NSQF Assessment Agency sends the assessment confirmation to respective TC.
- MSME NSQF Assessment Agency deploys the certified Assessor for executing the assessment at respective TC via online / offline mode.
- MSME NSQF Assessment Agency & respective TC Internal Assessment cell monitors the assessment process & records.

2. Testing Environment:

- MSME NSQF Assessment Agency confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- MSME NSQF Assessment Agency & respective assessor confirms that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Each TC Submits the Question Bank for the individual subject Theory & Practice separately, submits to MSME NSQF Assessment Agency and it is verified by the MSME NSQF Assessment Agency Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are well qualified & trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.
- Assessment Photographs are shared with the MSME NSQF Assessment Agency & are also with the respective TC.

5. Method of verification or validation:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.

6. Method for assessment documentation, archiving, and access:

- The Assessment records are shared with MSME NSQF Assessment Agency & also stored at respective TC.
- Assessor fills the assessment report and shares with the MSME NSQF Assessment Agency.

On the Job:

1. Each module will be assessed separately.
2. The candidate must score 60% marks to successfully complete the OJT.
3. Learner will be assessed on the basis of OJT report followed by Viva
4. Assessment will ensure that the Learner is able to:
 - ✓ Effective engagement with the customers / Subordinates and team
 - ✓ Understand the working of various tools and equipment
 - ✓ Understand the working environment of the industry

Annexure: VIII Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training
FDU	Field Distillation Unit
F&F	Fragrance & Flavor
QAL	Quality Assessment Lab

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 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 based on their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf