

QUALIFICATION FILE – Micro Credentials

<Basics of Risk Analysis and Accident Prevention methods>

Public Private

Upskilling Dual/Flexi Qualification For ToT For ToA

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

NCrF/NSQF Level: 4

Submitted By:

< SAFETY SKILL DEVELOPMENT FOUNDATION >

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Section 1: Basic Details

1.	Micro Credential-Qualification Name	BASICS OF RISK ANALYSIS & ACCIDENT PREVENTION METHODS										
2.	Sector/s	All sectors										
3.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval.)</i>	NM-04-CO-03005-2024-V1-SSDF	4. NCrf/NSQF Level: 4									
5.	Brief Description of the Micro Credential	<p>The MC on Basics of Risk Analysis & Accident Prevention Methods describes the numerous measures considered as relevant for accident prevention, e.g. design and use of more safe equipment and technologies or replacing dangerous equipment and products by non-dangerous or less dangerous ones, improvement of working environment, use and maintenance of personal protective equipment, management and staff training, improvement of communication</p>										
6.	Eligibility Criteria for Entry for Students/Trainee/Learner/Employee	<p>a. Entry Qualification & Relevant Experience</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <thead> <tr> <th style="width: 10%; text-align: center;">S. No.</th> <th style="width: 60%; text-align: center;">Academic/Skill Qualification (with specialization- if applicable)</th> <th style="width: 30%; text-align: center;">Relevant Experience (with specialization- if applicable)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>12th grade pass or equivalent</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Pursuing 12th class</td> <td style="text-align: center;">-</td> </tr> </tbody> </table> <p>b. Age: 16</p>		S. No.	Academic/Skill Qualification (with specialization- if applicable)	Relevant Experience (with specialization- if applicable)	1	12th grade pass or equivalent	-	2	Pursuing 12th class	-
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1	12th grade pass or equivalent	-										
2	Pursuing 12th class	-										
7.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	0.5	8. Common Cost Norm Category (I/II/III) <i>(wherever applicable): I</i>									
9.	Any Licensing Requirements/ Prerequisites for Undertaking Training <i>(wherever applicable)</i>	NA										
10.	Expected Outcomes of the Micro Credential	Terminal learning outcomes are:										

		<ul style="list-style-type: none"> Understanding Hazards & Risks Carrying Hazard and Operability Analysis (HAZOP). Performing Hazard Identification and Risk Assessment (HIRA). Fault Tree analysis & Event Tree Analysis Failure modes and effect analysis. 												
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>)	<p><input checked="" type="checkbox"/> Offline Only <input type="checkbox"/> Online Only <input type="checkbox"/> Blended</p> <table border="1"> <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>8</td> <td>7</td> <td>15</td> </tr> <tr> <td>Online</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>(Refer Blended Learning Annexure for Details)</p>	Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)	Classroom (offline)	8	7	15	Online	-	-	-
Training Delivery Mode	Theory (Hours)	Practical (Hours)	Total (Hours)											
Classroom (offline)	8	7	15											
Online	-	-	-											
12.	Assessment Criteria	<table border="1"> <thead> <tr> <th>Theory (Marks)</th> <th>Practical (Marks)</th> <th>Project (Marks)</th> <th>Viva (Marks)</th> <th>Total (Marks)</th> <th>Passing %age</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>50</td> <td>-</td> <td>-</td> <td>100</td> <td>50</td> </tr> </tbody> </table>	Theory (Marks)	Practical (Marks)	Project (Marks)	Viva (Marks)	Total (Marks)	Passing %age	50	50	-	-	100	50
Theory (Marks)	Practical (Marks)	Project (Marks)	Viva (Marks)	Total (Marks)	Passing %age									
50	50	-	-	100	50									
13.	Is the Qualification Amenable to Persons with Disability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," specify applicable type of Disability:												
14.	How will participation of women be encouraged?	Women will be encouraged to join												
15.	Other Indian Languages in which the Micro Credential will be implemented.	English and Hindi												
16.	Is similar Micro Credential Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:												

17.	Name and Contact Details Submitting / Awarding Body SPOC	Name: Anand Kumar Singh Email: aksingh@ssdfindia.org Contact No.: +91-8505955506 Website: www.ssdfindia.org	
18.	NSQC Approval Date: 27-08-2024	19. Validity Duration: 3 Years	20. Next Review Date: 27-08-2027

Section 2: Training Related

1.	Trainer's Qualification and experience in relevant sector (in years) (as per requirement and NCVET guidelines)	Completed UG/PG in relevant fields with 2 years' experience. Completed UG in any discipline / Diploma in relevant fields with 4 years' experience. Completed ITI/12TH with 8 years' experience.
2.	Master Trainer's Qualification and experience in relevant sector (in years) (as per requirement and NCVET guidelines)	Completed UG/PG in relevant fields with 3 years' experience. Completed UG in any discipline / Diploma in relevant fields with 5 years' experience. Completed ITI/12TH with 9 years' experience.
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes," details to be provided in Annexure).

Section 3: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per requirement and NCVET guidelines)	Completed UG/PG in relevant fields with 2 years' experience. Completed UG in any discipline / Diploma in relevant fields with 4 years' experience. Completed ITI/12TH with 8 years' experience.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per requirement and NCVET guidelines)	Completed UG/PG in relevant fields with 1 years' experience. Completed UG in any discipline / Diploma in relevant fields with 3 years' experience. Completed ITI/12TH with 7 years' experience.

3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) <i>(as per requirement and NCVET guidelines)</i>	Completed UG/PG in relevant fields with 3 years' experience. Completed UG in any discipline / Diploma in relevant fields with 5 years' experience. Completed ITI/12TH with 9 years' experience.
4.	Assessment Mode <i>(Specify the assessment mode)</i>	<input checked="" type="checkbox"/> Offline Only <input checked="" type="checkbox"/> Online Only <input type="checkbox"/> Blended
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 4: Evidence of Need of the Micro Credential

As per the NCVET Guidelines for evidence of need, provide the required Annexure/Supporting documents.

1.	Government /Industry initiatives/ requirement (Yes/No): No
2.	Number of Industry validation provided: 5
3.	Estimated number of people to be trained: 34,700

Section 5: Annexure CheckList

Specify Annexure Number and Name.

1.	Annexure: NCrf/NSQF level justification based on NCrf Level/NSQF descriptors <i>(Mandatory)</i>	Yes
2.	Annexure: Learning Outcomes and Assessment Criteria <i>(Mandatory)</i>	Yes
3.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Yes

4.	Annexure: List of tools and equipment relevant for qualification (<i>Mandatory – Except in case of online course</i>)	Yes
5.	Annexure: Blended Learning (<i>Mandatory in case selected mode of delivery is “Blended Learning”</i>)	No
6.	Annexure: Acronym and Glossary (<i>Optional</i>)	Yes

Annexure: Evidence of Level

NCrF/NSQF Descriptors	Level	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 Knowledge/Process	Theoretical	<ul style="list-style-type: none"> • Ability to systematically identify potential hazards in the workplace, including physical, chemical, biological, ergonomic, and psychosocial hazards. • Skills to conduct qualitative and quantitative risk assessments to evaluate the severity and likelihood of identified hazards. • Ability to design and implement effective safety protocols and preventive measures. • Familiarity with relevant occupational health and safety regulations and standards (e.g., OSHA, ISO 45001). • Skills to conduct thorough investigations of workplace incidents to identify root causes • Ability to develop and implement emergency response plans and 	At Level 4 of the NCrF/NSQF, microcredential programs in risk analysis and accident prevention methods delve deeper into theoretical frameworks and process understanding. This includes advanced concepts in risk assessment methodologies, statistical analysis of risks, and the application of theoretical models to real-world scenarios.	4.0

	conduct regular drills and training sessions.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ul style="list-style-type: none"> Ability to systematically identify potential hazards using various tools and techniques, such as checklists, job safety analysis (JSA), and hazard and operability studies (HAZOP). Proficiency in risk assessment methodologies such as Failure Mode and Effects Analysis (FMEA), Fault Tree Analysis (FTA), and risk matrices. Designing and implementing effective accident prevention measures based on the hierarchy of controls (elimination, substitution, engineering controls, administrative controls, and personal protective equipment). Deep understanding of legal requirements and standards, and the ability to interpret and apply them in the workplace. 	Learners should be equipped to tackle complex risk management issues, use analytical tools to assess risks, and implement prevention measure.The microcredential should prepare individuals to independently manage risk analysis projects and be accountable for implementing safety measures.	4.0
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Ability to develop innovative risk management solutions and safety practices.Evaluating business risks and developing strategies to manage them.Leading initiatives for risk management and safety improvements.	The microcredential should ensure that learners understand industry regulations, safety standards, and best practices in risk management. This knowledge prepares them to meet industry expectations and comply with relevant standards.	4.0
Broad Learning Outcomes/Core Skill	Learners will be able to conduct thorough and advanced risk assessments using established methodologies and tools.Learners will develop and implement effective accident prevention	Learners should be able to perform complex risk assessments with a thorough understanding of methodologies and tools, reflecting a deep knowledge of the	4.0

	strategies tailored to various environments and situations.	field.Learners should develop and execute sophisticated prevention strategies, demonstrating the ability to handle complex safety challenges autonomously.	
Responsibility	<ul style="list-style-type: none"> ● Equipping Learners: With the skills to perform comprehensive risk assessments and develop effective prevention strategies. ● Ensuring Compliance: By providing knowledge of relevant regulations and standards. ● Preparing for Emergencies: Through effective emergency response planning and coordination. ● Data Management: By teaching data analysis and reporting techniques. ● Effective Communication: By training learners to communicate and train others on safety practices. ● Fostering Innovation: By encouraging continuous improvement and the application of new technologies. ● Promoting Lifelong Learning: By supporting ongoing professional development and staying current with industry trends. 	Equip learners to conduct thorough risk assessments by identifying hazards, evaluating risks, and prioritizing them based on severity and likelihood.Teach learners how to design and implement effective accident prevention strategies tailored to specific environments and scenarios.	4.0



Annexure: Learning Outcomes and Assessment Criteria

Detailed learning outcomes and assessment criteria for the qualification are as follows:

S. No.	Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
1.	PC-1 : Understand basic definitions- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss.	5	5	-	-
2.	PC-2 : Understand “Hazard Identification and risk assessment.”	5	5	-	-
3.	PC-3 : Understand and carry out “HAZOP- Hazard, operability analysis” and “Job safety analysis.”	5	5	-	-
4.	PC-4 : Understand theories of accident causation- Heinrich’s Domino theory,“Heinrich 300-29-1 model, “Ferrell’s Human Factor Model”, “Petersen’s Accident/Incident Model” and Reason’s Swiss Cheese Model”.	5	5	-	-
5.	PC-5 : Calculate “Frequency rate & Incident rate.” Calculate “Lost time case rate”	5	5	-	-
6.	PC-6 : Calculate “DART rate” & “Severity rate”	5	5	-	-
7.	PC-7 : Understand “Fault tree analysis” and “Event tree analysis.	5	5	-	-
8.	PC-8 : Learn the hierarchy of controls, Importance of hierarchy of control & steps in hierarchy of control	5	5	-	-
9.	PC-9 : Understand Maslow’s theory of Hierarchical Needs, Herzberg’s two-factor theory and McClelland’s theory of needs	5	5	-	-
10.	PC-10 : Vroom’s Theory of Expectancy, McGregor’s theory X and theory Y and Alderfer’s ERG theory	5	5	-	-
Total Marks		50	50	-	-

Annexure: 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 assessment agencies for conducting the assessment on SIP/Portal or email.
- Assessment agencies send the assessment confirmation to VTP/TC looping Awarding Body(AB)
- Assessment agency deploys the ToA certified Assessor for executing the assessment.
- AB ensures the assessment process & records.

2. Testing Environment:

- Check the assessment location, date, and time.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the AA/Subject Matter Experts (SME) and verified by the other SME.
- Questions are mapped to the specified assessment criteria.
- Assessor will be ToA certified & trainer will be ToT Certified

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Center photographs with signboards and scheme specific branding

5. Method of verification or validation:

- Surprise visit to the assessment location.
- Method for assessment documentation, archiving, and access
- Soft/Hard copies of the documents are stored.

On the Job:

1. The candidate works for all modules.
2. The candidate must score 50% in assessment to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills, understanding needs & requirements.
 - Report prepared by trainees during OJT.
4. Assessment of task ensure that the candidate can perform all tasks of the job role required:

Annexure: Tools and Equipment

List of Tools and Equipment

Batch Size: 30

S.No	Tools/Equipment Name	Specifications	Quantity for specified Batch size
•	Safety goggles	Nos	2
•	Full face shield	Nos	1
•	Leather gloves	Nos	2
•	Puncture resistant gloves	Nos	2
•	Chemical resistant gloves	Nos	2
•	Electrically insulated latex gloves	Nos	2
•	Safety helmets/hard hats	Nos	2
•	Ear plugs	Nos	2
•	Safety shoes	Nos	2
•	Safety gumboots	Nos	2
•	High visibility jackets	Nos	2
•	N95 masks	Nos	2
•	Double filter half face mask	Nos	2

•	Double filter full face mask	Nos	2
•	SCBA – Self-contained breathing apparatus	Nos	1
•	Safety harness	Nos	1
•	Lanyard	Nos	1
•	Fall arrestor	Nos	1
•	CO2 Fire extinguisher	Nos	1
•	Dry Chemical Powder Fire extinguisher	Nos	1
•	Fire hydrant system	Nos	1
•	Multiple gas detector	Nos	1
•	TDS Meter	Nos	1

Classroom Aids:

The aids required to conduct sessions in the classroom are:

1. Black/White board
2. Marker
3. Projector
4. Computer with relevant software

Annexure: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	Shapoorji Pallonji and Co. Pvt Ltd	Mr. Nitin Bansal	Manager QA QC	SP Centre, 41/44, Minoo Desai Marg, Colaba, Mumbai - 400005 Maharashtra, India Tel: +91-22-67490000	8130090463	nitin.bansal@shapoorji.com	-
2	Tata Advanced Systems	Asheesh Singhal	Deputy Manager	Plot no.C-01, 401, 4th Floor, World Trade Tower Sector sixteen, Noida Uttar Pradesh-201301 India Tel +91 120 4847450 -7555 I Fax 91 11 43602735	7290014317	apkumar@taadvancedsystems.com	-
3	SIMPLEX Infrastructures Limited	Tarak Bhaumik	General Manager (HR & Admin)	Simplex House 27, Shakespeare Sara, Kolkata -700 017 Tel: (91 33) 2301 1600 Fax: (91 33) 2283 5966/65/64	-	-	-

4	TECHNOCULTURE Building Center Pvt Ltd	Anurag Tiwari	Manager	Konark Shree Apartment, RBI Road, 301/302, Brajkishore Path, Ali Nagar Colony, Salimpur Ahra, Dujra Diara, Patna, Bihar 800001	9006506858	vastu.skills@gmail.com	-
5	Urja Building Services Consultants Pvt Ltd	Sheetal Bhilkar	Mandar Managing Director	648,649, Laxmi Plaza, Laxmi Industrial Estate, Suresh Nagar, Andheri West, Mumbai, Maharashtra 400053	9819819212	sheetalbhilkar@urjagroup.in	-

Annexure: Training Details

Training Projections:

Year	Estimated Training # Total Candidates		Estimated Training # of Women		Estimated Training # People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2024	800	800	120	120	250	250
2025	1400	1400	200	200	450	450
2026	1400	1400	200	100	450	450

Data to be provided year-wise for the next 3 years.

Annexure: 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
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
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.