

QUALIFICATION FILE

Cloud Engineer

☒ 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: 6.5

Submitted By:

IT-ITeS Sector Skills Council NASSCOM (SSC NASSCOM)

Plot No. – 7, 8, 9 & 10

Sector – 126, Noida, Uttar Pradesh - 201303

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Section 1: Basic Details

1.	Qualification Name	Cloud Engineer																
2.	Sector/s	IT/ITeS																
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: 2022/ITES/ITSSC/06153 & v3.0	Qualification Name of existing/previous version: Cloud Engineer															
4.	a. OEM Name b. Qualification Name (Wherever applicable)																	
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-6.5-IT-045912025-V2-NASSCOM. V4.0	6. NCrf/NSQF Level: 6.5															
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	A Cloud Engineer is responsible for designing, maintaining, and evaluating secure, scalable Cloud Engineerures aligned with business goals. The individual develops enterprise policies and governance frameworks for cloud adoption, supports the validation of customer proposals and project plans, and assesses the suitability of cloud vendors and third-party service providers to ensure optimal performance, compliance, and cost-efficiency.																
9.	Eligibility Criteria for Entry for 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>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Completed 1-year PG*</td> <td></td> </tr> <tr> <td>2.</td> <td>Completed 4-year UG*</td> <td>1.5-year relevant experience</td> </tr> <tr> <td>3.</td> <td>Previous relevant Qualification of NSQF Level 6.0</td> <td>1.5-year relevant experience</td> </tr> <tr> <td>4.</td> <td>Previous relevant Qualification of NSQF Level 5.5</td> <td>3-year relevant experience</td> </tr> </tbody> </table> *UG/PG in Computer Science/ Information Technology/ Electrical and Electronics Engineering. **Relevant Experience in cloud application development or DevOps		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	Completed 1-year PG*		2.	Completed 4-year UG*	1.5-year relevant experience	3.	Previous relevant Qualification of NSQF Level 6.0	1.5-year relevant experience	4.	Previous relevant Qualification of NSQF Level 5.5	3-year relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																
1.	Completed 1-year PG*																	
2.	Completed 4-year UG*	1.5-year relevant experience																
3.	Previous relevant Qualification of NSQF Level 6.0	1.5-year relevant experience																
4.	Previous relevant Qualification of NSQF Level 5.5	3-year relevant experience																
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrf))	23	11. Common Cost Norm Category (I/II/III) (wherever applicable): II															

12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	NA																					
13.	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 ☐ Online ☒ 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>204</td> <td>336</td> <td>150</td> <td></td> <td rowspan="2">690</td> </tr> <tr> <td>Online</td> <td>204</td> <td>336</td> <td>150</td> <td></td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	204	336	150		690	Online	204	336	150	
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																		
Classroom (offline)	204	336	150		690																		
Online	204	336	150																				
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/NIL																					
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Senior Cloud Architect																					
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	☐ Yes ☒ No URLs of similar Qualifications:																					
18.	Is the Job Role Amenable to Persons with Disability	☒ Yes ☐ No If "Yes", specify applicable type of Disability: <i>Locomotor Disability</i>																					
19.	How Participation of Women will be Encouraged	To encourage women to pursue careers in cloud computing, it is essential to provide targeted education, mentorship, and upskilling opportunities focused on cloud technologies. Training programs, industry certifications, and access to professional networks can help build both confidence and expertise. Flexible work arrangements and the visibility of successful women in cloud computing can serve as powerful motivation. Furthermore, fostering a culture of inclusion and diversity—through equitable policies on work-life balance, equal pay, promotion opportunities, and a safe, respectful workplace—can help women feel supported, valued, and empowered in the cloud computing industry.																					
20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	☒ Yes ☐ No (Covered in DGT/VSQ/N0102)																					
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☐ Yes ☒ No Colleges ☒ Yes ☐ No																					
22.	Name and Contact Details of Submitting / Awarding Body SPOC <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	Name: Namrata Kapur Email: standards@nasscom.in Contact No.: 0120-4990111 Website: https://www.sscnasscom.com/																					
23.	Final Approval Date by NSQC: 07/10/2025	24. Validity Duration: 3 Years			25. Next Review Date: 07/10/2028																		

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

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 Training **Man.**-Mandatory **Rec.**-Recommended **Proj.**-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NS QF 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.	Assist in creating proposals and cost models for implementing cloud solutions	SSC/N8312, v3.0	Core	6.5	2	30	30	-	-	60	30	50	-	20	100	10
2.	Validate project plans, costs, and resources required for implementing cloud solutions	SSC/N8311, v3.0	Core	6.5	2	15	45	-	-	60	30	50	-	20	100	10
3.	Define parameters and tools to monitor and manage cloud services	SSC/N8310, v3.0	Core	6.5	2	15	15	30	-	60	30	50	-	20	100	10
4.	Ensure cloud platforms and services are scalable, resilient, and fault-tolerant	SSC/N8309, v3.0	Core	6.5	2	15	15	30	-	60	30	50	-	20	100	10
5.	Design and maintain strong security architecture	SSC/N8308, v3.0	Core	6.5	3	30	30	30	-	90	30	50	-	20	100	10
6.	Analyze, design, and maintain Cloud Engineerure that meets business requirements	SSC/N8307, v3.0	Core	6.5	3	15	45	30	-	90	30	50	-	20	100	10
7.	Translate business-level use cases into technical	SSC/N8306, v3.0	Core	6.5	3	15	45	30	-	90	30	50	-	20	100	10

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NS QF 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)
	requirements and specifications															
8.	Define enterprise cloud guidelines and implement regulatory compliances	SSC/N8305, v3.0	Core	6.5	2	15	45	-	-	60	30	50	-	20	100	10
9.	Assess and screen cloud vendors and third-party service providers	SSC/N8304, v3.0	Core	6.5	2	30	30	-	-	60	30	50	-	20	100	10
10.	Employability Skills (60 Hours)	DGT/VSQ/N 0102, v1.0	Non-Core	4.0	2	24	36	-	-	60	20	30	-	-	50	10
Duration (in Hours) / Total Marks					23	204	336	150		690	290	480	-	180	950	100

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

Minimum Pass Percentage – Aggregate at qualification level: 70 % (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

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.)

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Engineering/Technology/ Statistics/ Mathematics/Computer Science. Industry & Training Experience: 2 years of industry experience IT/Computer science/Cloud Computing domain. Certification: "Trainer" mapped to the Qualification Pack "MEP/Q2601, v3.0" Minimum accepted score is 80% aggregate.
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Engineering/Technology/ Statistics/ Mathematics/Computer Science. Industry & Training Experience: 4 years of industry experience IT/Computer science/Cloud Computing domain.

		Certification: "Master Trainer" mapped to the Qualification Pack "MEP/Q2602, v3.0" Minimum accepted score is 90% aggregate.
3.	Tools and Equipment Required for Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Engineering/Technology/ Statistics/ Mathematics/Computer Science. Industry & Training Experience: 2 years of industry experience IT/Computer science/Cloud Computing domain. Certification: "Assessor" mapped to the Qualification Pack "MEP/Q2701, v3.0" Minimum accepted score is 80% aggregate.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Engineering/Technology/ Statistics/ Mathematics/Computer Science. Industry & Training Experience: 2 years of industry experience IT/Computer science/Cloud Computing domain. Certification: "Assessor" mapped to the Qualification Pack "MEP/Q2701, v3.0" Minimum accepted score is 80% aggregate.
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Engineering/Technology/ Statistics/ Mathematics/Computer Science. Industry & Training Experience: 4 years of industry experience IT/Computer science/Cloud Computing domain. Certification: "Lead Assessor" mapped to the Qualification Pack "MEP/Q2702, v3.0" Minimum accepted score is 90% aggregate.
4.	Assessment Mode (Specify the assessment mode)	The assessment will consist of a blend of hands-on practical evaluations, viva-voce, and online proctored scenario-based multiple-choice questions ensuring a thorough evaluation of the individual's proficiency in learning outcomes, practical understanding, and real-world application of concepts.
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

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
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2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): NA
3.	Government /Industry initiatives/ requirement (Yes/No): NA
4.	Number of Industry validation provided: 21
5.	Estimated nos. of persons to be trained and employed: 1500
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: <i>In Process</i> 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 1</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Annexure 2</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Annexure 6</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Annexure 7</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is “Blended Learning”)</i>	<i>NA</i>
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	<i>NA</i>
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	<i>Annexure 8</i>
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	<i>Attached</i>
9.	Supporting Document: Career Progression <i>(Mandatory - Public view)</i>	<i>Attached</i>
10.	Supporting Document: Occupational Map <i>(Mandatory)</i>	<i>Attached</i>
11.	Supporting Document: Assessment SOP <i>(Mandatory)</i>	<i>Attached</i>
12.	Any other document you wish to submit:	<i>NO</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
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Professional Theoretical Knowledge/Process	Analyze Business Requirements and Design Cloud Engineerure • Understand business objectives and assess existing IT infrastructure. • Select appropriate cloud models (IaaS, PaaS, SaaS, hybrid, multi-cloud). • Design scalable, secure architectures using industry-standard frameworks. Develop Proposals and Cost Models • Draft project scope, implementation plans, and define KPIs. • Estimate infrastructure, licensing, and support costs using cloud tools. • Recommend billing models and forecast consumption needs. Ensure Performance Monitoring and Optimization • Define KPIs for availability and reliability of cloud services. • Configure tools (e.g., CloudWatch, Prometheus) for monitoring and alerts. • Use AI/ML for anomaly detection and predictive analytics. Enable Scalability, Resilience, and Fault Tolerance • Conduct testing to validate system scalability and recovery. • Implement auto-scaling, load balancing, and orchestration mechanisms. • Perform upgrades to maintain performance and meet evolving demands. Implement and Manage Security Architecture • Identify business-specific and regulatory security requirements. • Maintain incident response, disaster recovery, and audit readiness plans. Establish Enterprise Governance and Compliance • Define organizational cloud policies and architecture standards. • Establish SLAs, monitoring standards, and incident workflows. • Use automated tools for policy enforcement and audit tracking. Evaluate and Manage Cloud Vendors	The job role of a Cloud Engineer involves advanced theoretical knowledge of cloud computing models, system architecture, and security frameworks. It requires critical understanding of emerging technologies such as AI/ML, containerization, and multi-cloud environments. The role also demands continuous self-learning and the application of complex methods, making it consistent with the requirement for advanced theoretical and procedural knowledge outlined at Level 6.5.	6.5
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	- Develop vendor selection criteria based on business and technical needs. - Define and formalize contracts, escalation processes, and continuity plans. Translate Use Cases into Technical Specifications - Gather business requirements and define functional needs. - Convert use cases into detailed technical specifications. - Validate specifications with stakeholders and refine them collaboratively.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	- Knowledge of cloud computing service models such as IaaS, PaaS, SaaS, and deployment types including hybrid and multi-cloud environments. - Know the architecture frameworks and design principles used in building scalable, resilient, and secure cloud solutions. - Understand the integration of AI/ML capabilities within cloud environments to support intelligent automation and predictive performance. - Understanding of enterprise IT infrastructure and how to assess cloud readiness and migration feasibility. - Knowledge of cloud security protocols and compliance standards, including IAM, data encryption, GDPR, ISO/IEC 27001, and NIST frameworks. - Know the cost modelling tools and billing structures offered by major cloud service providers (AWS, Azure, GCP) to optimize resource usage. - Understand the configuration and use of monitoring tools such as CloudWatch, Prometheus, and Azure Monitor for performance tracking. - Understanding of disaster recovery strategies and high availability planning for critical cloud-based applications and services. - Knowledge of risk management and incident response procedures within Cloud Engineerures, including penetration testing and audit readiness. - Know the vendor evaluation criteria and procurement strategies to assess cloud service providers and manage third-party risks.	This job role requires highly specialized skills to design, implement, and manage secure and scalable cloud solutions. It includes the ability to lead cloud migrations, conduct performance optimization, ensure regulatory compliance, and integrate innovative technologies. The role also involves conceptualizing and deploying cloud strategies across departments, showcasing strong technical leadership, problem-solving, and decision-making skills, all of which align with Level 6.5 expectations.	6.5

	- Understand the process of translating business use cases into technical specifications and aligning them with organizational goals. - Understanding of regulatory compliance and data governance policies applicable to cloud infrastructure across industries.		
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	- Demonstrate strategic thinking in designing business-aligned cloud solutions. - Exhibit problem-solving skills to build scalable and cost-effective architectures. - Apply project management skills to lead cross-functional cloud initiatives. - Adapt quickly to emerging technologies and cloud innovations. - Communicate technical ideas clearly to clients and stakeholders. - Use analytical judgment in balancing performance, cost, and security. - Foster an innovation mindset to explore new tools and services. - Show accountability and initiative in end-to-end cloud delivery.	A Cloud Engineer must exhibit advanced professional skills, including strategic thinking, persuasive communication, and cross-functional collaboration. The role requires emotional intelligence, adaptability to technological shifts, and the ability to lead cloud transformation initiatives. With responsibilities that demand innovation, autonomy, and forward-looking ideation, this role reflects the entrepreneurial and leadership qualities expected at Level 6.5.	6.5
Broad Learning Outcomes/Core Skill	- Analyze and translate business requirements into scalable, secure, and cost-effective Cloud Engineerure solutions. - Design, implement, and maintain cloud infrastructures that ensure high availability, resilience, and compliance. - Utilize cloud monitoring and management tools to optimize resource usage, performance, and security. - Assess and manage risks related to cloud adoption, vendor selection, and regulatory compliance. - Demonstrate effective communication, project management, and collaboration skills to lead cloud initiatives successfully.	The role requires the ability to process complex information, analyze diverse data sources, and design solutions that align with business objectives. It includes evaluating performance metrics, synthesizing technical and business needs, and applying critical thinking to optimize Cloud Engineerure. These capabilities represent the blend of theoretical mastery and practical problem-solving that define core skills at Level 6.5.	6.5
Responsibility	The individual in this job role will be responsible for the below-mentioned activities: - Define project scope and implementation plans. - Estimate costs and allocate resources. - Identify stakeholder needs and validate plans. - Assess and manage project risks. - Monitor resource usage and performance. - Conduct testing for functionality and compatibility.	A Cloud Engineer is responsible for designing, maintaining, and evaluating secure, scalable Cloud Engineerures aligned with business goals. The individual develops enterprise policies and governance frameworks for cloud adoption, supports the validation of customer proposals and project plans, and assesses the suitability of cloud vendors and third-party service providers to ensure optimal performance, compliance, and cost-efficiency.	6.5

	• Design and implement secure, scalable architectures. • Develop and enforce cloud standards and policies. • Translate business needs into technical specifications. • Manage vendors and ensure business continuity.		
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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.	Cloud pricing tools (e.g., AWS Pricing Calculator, Azure Pricing Tool, Google Cloud Pricing Calculator)		
2.	Cloud monitoring and observability tools (e.g., Amazon CloudWatch, Prometheus, Datadog, Azure Monitor)		
3.	Security tools (e.g., IAM tools, MFA tools, vulnerability scanners, firewall configurations)		
4.	Container orchestration tools (e.g., Kubernetes, Docker Swarm)		
5.	Cloud vendor platforms (e.g., AWS, Microsoft Azure, Google Cloud Platform)		
6.	Version control and documentation tools (e.g., Git, Confluence)		

*Tools are open source

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
7. Duster

Annexure 3: 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.	Reckitt Benckiser	Sachin Sharma	Demand Manager	Udyog Vihar, Phase V, Gurgaon, Haryana	9758573077	Sachin.Sharma@rb.com	
2.	PwC India	Yatharth Bhatnagar	Software Engineer	Pune	7276325777	yatharth23@gmail.com	
3.	Dell Technologies	Ariba Syed	Software Engineer	Surat		ariba.syed2017@gmail.com	
4.	Movate	Rohit Kumar Sharma	Manager – Development	A-21, sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi,	9927564461	rohit.sharma.movate@gopangea.com	
5.	Nasdaq Inc	Alfiya Khan	Software Engineer	Unit 201 and 203, Akruti Center Point, MIDC Road, Andheri (East) Mumbai: 400-093, India.	8109690056	alfiya.Khan@Nasdaq.com	
6.	Getronics Solutions India Private Limited	Devendra Prasad	Team Lead - Quality & Performance	Gurgaon	9711592810	devprasad83@gmail.com	
7.	Nagarro	Firoz Zaidi	Senior Developer	Noida	8218191014	firoz@nagarro.com	
8.	Tata Consultancy Services	Ankit Garg	Assistant Consultant	Gurgaon	9808254808	ankit.garg8@tcs.com	
9.	T-Systems ICT India Pvt Ltd	Monica Sharma	Sr. Consultant	Pune	7389777739	monica.sharma@t-systems.com	
10.	Michelin India Private Ltd.	Himanshu Sharma	Business Analyst/Product Owner	Pune		sharmaaz.himanshu@gmail.com	
11.	Siemens Digital Industries Software	Snehal Pandey	Software Engineer	Pune	7387151993	snehalpande93@gmail.com	
12.	Deloitte Support Services Private Limited	Shreya Sharma	Senior Analyst (PMO)	Hyderabad Deloitte Towers, MindSPACE Road, P Janardhan Reddy Nagar, Gachibowli, Hyderabad, Telangana 500032	8999530108	shreyasharma5@deloitte.com	

13.	PwC India	Ruchita Panchal	Senior Consultant	Gurgaon	7354047944	ruchita.panchal@pwc@gmail.com	
14.	Conduent	Prince Jain	Sr. Business Analyst	Noida	9013 241797	prince.jain@conduent.com	
15.	Tata Consultancy Services	Sheepra Kaushik	Associate Consultant	Mumbai, India	8433595090	sheepra.sharma@tcs.com	
16.	Infosys Ltd.	Yash Kumawat	Senior product engineer	Bengaluru	8319749784	yash120997@gmail.com	
17.	Capgemini	Shruti Gupta	Manager	Chennai, Tamil Nadu, India	9004343572	shrutivijendra@gmail.com	
18.	Protiviti Global Business Consulting	Sakshi Samtani	Senior Manager	Mumbai	8080536463	sakshi3192@gmail.com	
19.	HCL Tech	Sheeloo Sachan	Technical Specialist	Plot No 3A, Sector 126, Noida, Uttar Pradesh 201301	9717036547	sachan.sheeloo@gmail.com	
20.	Infosys Ltd	Shraddha Sethiya	Technology Analyst	No. 44 & 97/A, Infosys Avenue, Next SBI Bank, Hosur Road, Electronic City- Bengaluru 560100, Karnataka, India	99267854201	shraddha.sethiya@infosys.com	
21.	Sycamore Informatics	Rahul Kumar Kaushik	Product Manager	No. 6, 2nd Floor, 2nd Main, Arekere, Off Bannerghatta Road, Bangalore 560076	8859885973	rahul.kaushik@sycamoreinformatics.com	

Annexure 4: 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
2024	500	100	100	100	50	15
2025	500	200	150	100	50	35
2026	500	200	150	100	50	35

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

V3.0	2024												
V3.0	2023												
V3.0	2022												

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.
2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available: English and Hindi

Annexure 5: 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	☒ Theory/ Lectures - Imparting theoretical and conceptual knowledge	- Books/ e-books - Presentations - Reference Material - Audio / Video Modules	
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	- Self-Learning Videos (optional) - Broadcasts (optional) - Mobile Learning - Curated Digital content (optional)	
3	☒ Showing Practical Demonstrations to the learners	- Video Content (optional) - E-Resource library (optional)	
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	- Training tools (tools list attached) - Video Play - Presentations	
5	☒ Tutorials/ Assignments/ Drill/ Practice	- Online Question Bank - MCQ based tests	
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	- Assessment engine for Essays (optional) - Mock test sessions	
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	- Online tests - Offline assessments	

Annexure 6: Detailed Assessment Criteria

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

Proctor online assessment and case study base questions are included.

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
SSC/N8312: Assist in creating proposals and cost	<i>Define project scope</i>	10	14	-	6
	PC1. support in compiling technical specifications and solution requirements for the proposal	3	4	-	2

models for implementing cloud solutions	PC2. verify that user and business requirements are accurately documented in the proposal	3	4	-	2
	PC3. support in drafting a detailed scope of work and project boundaries for the cloud implementation	2	3	-	1
	PC4. support in compiling technical specifications and solution requirements for the proposal	2	3	-	1
	<i>Plan cloud project implementation</i>	12	20	-	9
	PC5. assist in preparing an implementation plan with clear timelines and milestones	3	4	-	2
	PC6. identify key drivers influencing project execution such as time, cost, and performance	3	4	-	2
	PC7. provide inputs on billing models and consumption tracking for different cloud providers	3	4	-	2
	PC8. compile a checklist of implementation activities and dependencies	2	4	-	2
	PC9. document resource and licensing requirements necessary for project execution	1	4	-	1
	<i>Estimate project costs</i>	2	4	-	1
	PC10. estimate project costs including labor, licenses, infrastructure, and support services	2	4	-	1
	<i>Drive project implementation</i>	6	12	-	4
	PC11. define Key Performance Indicators (KPIs) to measure project success	2	4	-	1
	PC12. forecast business and IT consumption levels to inform capacity planning	2	4	-	2
	PC13. assess technical implications of the cloud solution and its compatibility with existing infrastructure	2	4	-	1
	Total Marks	30	50	-	20
SSC/N8311: Validate project plans, costs, and resources required for implementing cloud solutions	<i>Identify and prioritize stakeholder requirements</i>	6	9	-	3
	PC1. identify key stakeholders involved in cloud solution implementation, including internal teams, external partners, and end users	3	5	-	2
	PC2. document and prioritize stakeholder expectations and business goals related to the cloud initiative	3	4	-	1
	<i>Validate project plan, cost, and resource distribution</i>	20	32	-	14
	PC3. evaluate the feasibility of deliverables in the project plan with respect to scope, timeline, and resource availability	3	5	-	2
	PC4. validate timelines and milestone schedules based on task complexity, resource capacity, and organizational goals	3	5	-	2
	PC5. review SLAs for cloud services to ensure alignment with defined business and operational objectives	3	5	-	2
	PC6. define and confirm human and technical resource requirements for each phase of the cloud project	3	4	-	2
	PC7. validate detailed cost estimations including cloud infrastructure, software licenses, operational overhead, and contingency costs	3	5	-	2
	PC8. confirm overall project schedule, dependencies, and implementation sequencing across multi-cloud or hybrid platforms	3	4	-	2

	PC9. seek approval for the validated project plan from key stakeholders and incorporate feedback received	2	4	-	2
	<i>Assess and manage risks related to the cloud project lifecycle</i>	4	9	-	3
	PC10. conduct a detailed risk analysis including technical, financial, and compliance risks, and recommend mitigation strategies	2	5	-	2
	PC11. create a risk register and validate the risk management framework with appropriate stakeholders	2	4	-	1
	Total Marks	30	50	-	20
SSC/N8310: Define parameters and tools to monitor and manage cloud services	<i>Analyze current and projected cloud resource utilization patterns</i>	7	15	-	6
	PC1. review historical and real-time utilization data to identify trends in consumption of compute, storage, and network resources	3	5	-	2
	PC2. interpret cloud resource deployment schemas such as auto-scaling groups, containers, and serverless functions for monitoring scope definition	3	5	-	2
	PC3. classify services based on usage patterns to identify underutilized, overutilized, or idle resources	3	5	-	2
	<i>Implement performance monitoring parameters and reporting methods</i>	21	35	-	14
	PC4. define Key Performance Indicators (KPIs) for monitoring performance, availability, and reliability of cloud-hosted applications and services	3	5	-	2
	PC5. select and configure appropriate tools (e.g., CloudWatch, Azure Monitor, Datadog, Prometheus) for monitoring based on cloud platform and service architecture	3	5	-	2
	PC6. develop a monitoring plan that includes thresholds, alerts, and automated actions for performance degradation or resource breaches	3	5	-	2
	PC7. establish methods to track application-level and infrastructure-level metrics using logs, traces, and telemetry data	3	5	-	2
	PC8. create dashboards and reports for usage analytics and present insights to technical and business stakeholders	3	5	-	2
	PC9. integrate Artificial Intelligence (AI)/Machine Learning (ML) tools into the monitoring ecosystem to enable predictive analytics and intelligent alerting	3	5	-	2
	PC10. configure automated anomaly detection using AI/ML algorithms to improve incident response time	3	5	-	2
	Total Marks	30	50	-	20
SSC/N8309: Ensure cloud platforms and services are scalable, resilient, and fault-tolerant	<i>Conduct functional and non-functional testing</i>	6	10	-	4
	PC1. define key performance metrics for measuring the functionality, scalability, latency, and reliability of cloud-based systems and applications	2	3	-	2
	PC2. perform systematic testing of cloud platforms and services to validate responsiveness, scalability, fault recovery, and performance thresholds	2	2	-	1
	PC3. identify performance bottlenecks and root causes affecting scalability, reliability, and availability	2	5	-	1
	<i>Conduct interoperability and compatibility testing</i>	4	7	-	3
	PC4. evaluate the adaptability and modifiability of the cloud solution architecture to accommodate changing requirements	2	4	-	1

	PC5. assess portability of the cloud solution across multiple environments (hybrid, multi-cloud) to ensure cross-platform compatibility	2	3	-	2
	<i>Ensure solution security</i>	6	10	-	3
	PC6. identify and assess potential internal and external security threats to cloud systems and data	2	3	-	1
	PC7. integrate essential security mechanisms such as IAM, encryption, and authentication protocols in cloud infrastructure	2	5	-	1
	PC8. develop and implement disaster recovery and incident response plans to ensure business continuity	2	2	-	1
	<i>Ensure scalability of the cloud environment</i>	10	17	-	7
	PC9. integrate cloud-native frameworks and patterns (e.g., microservices, containerization) to design scalable cloud solutions	2	3	-	2
	PC10. identify and implement auto-scaling, load balancing, and orchestration services for dynamic demand management	2	3	-	2
	PC11. utilize analytics and monitoring tools to analyze performance data and inform capacity planning decisions	2	3	-	1
	PC12. apply AI-based scaling strategies by using predictive analytics for workload forecasting and dynamic provisioning	2	4	-	1
	PC13. validate fault-tolerance using AI-simulated stress tests and scenario-based modeling	2	4	-	1
	<i>Perform system upgrades to meet evolving requirements</i>	4	6	-	3
	PC14. schedule and execute periodic system and platform upgrades in line with organizational and technological advancements	2	3	-	2
	PC15. validate that upgrades enhance or maintain required levels of security, performance, and scalability	2	3	-	1
	Total Marks	30	50	-	20
SSC/N8308: Design and maintain strong security architecture	<i>Define security requirements</i>	4	6	-	2
	PC1. identify and analyze security requirements based on business needs, customer specifications, and organizational standards	2	3	-	1
	PC2. determine and document security needs related to compliance, data privacy, and regulatory standards for cloud solutions	2	3	-	1
	<i>Design and implement security architecture</i>	18	31	-	13
	PC3. plan and design robust security architectures that fulfill the identified security requirements, considering all aspects of cloud computing	2	5	-	2
	PC4. identify and implement recognized security standards, such as ISO/IEC 27017, ISO/IEC 27018, and other relevant protocols, for the cloud solution	2	5	-	2
	PC5. implement security measures across all layers of the cloud solution (e.g., compute, network, storage, identity, etc.)	2	4	-	2
	PC6. integrate critical security safeguards such as routers, firewalls, intrusion detection/prevention systems (IDS/IPS), Identity and Access Management (IAM) tools, and encryption to protect cloud assets	2	4	-	2
	PC7. ensure the security architecture enforces strong authentication and access controls, allowing only authorized users to access sensitive cloud resources	2	3	-	1

	PC8. maintain and continuously improve the security architecture by updating it in response to emerging threats and technological advancements	2	2	-	1
	PC9. enforce and monitor compliance with organizational security policies, standards, and best practices	2	3	-	1
	PC10. ensure that the architecture supports ongoing security operations, including threat and vulnerability management, incident response, and audit processes	2	2	-	1
	PC11. develop and implement incident response procedures and monitoring processes to detect, respond to, and recover from security and privacy incidents	2	3	-	1
	<i>Monitor and ensure the efficacy of security safeguards</i>	8	13	-	5
	PC12. conduct security tests, such as vulnerability scanning, penetration testing, and risk assessments, to ensure the security architecture meets all requirements and behaves as expected under different scenarios	2	4	-	1
	PC13. validate that security controls and safeguards are correctly implemented and operational across the solution architecture	2	3	-	2
	PC14. identify and mitigate any security gaps found through testing or regular monitoring	2	3	-	1
	PC15. document findings and recommend actions for improving the security posture based on test results and audits	2	3	-	1
	Total Marks	30	50	-	20
	<i>Analyze business and technical requirements</i>	6	10	-	4
SSC/N8307: Analyze, design, and maintain Cloud Engineerure that meets business requirements	PC1. assess organizational goals, existing IT infrastructure, and business requirements for the cloud solution	1	3	-	1
	PC2. identify a suitable cloud delivery model (e.g., IaaS, PaaS, SaaS, hybrid, multi-cloud) for the solution	2	2	-	1
	PC3. conduct feasibility and impact analysis of potential architecture options	2	3	-	1
	PC4. define RAID (Risks, Assumptions, Issues, Dependencies) catalog aligned with project objectives	1	2	-	1
	<i>Design and implement cloud solution architecture</i>	12	17	-	7
	PC5. select and apply relevant Cloud Engineerure frameworks (e.g., Cloud Native Computing Foundation, AWS Well-Architected Framework)	2	5	-	1
	PC6. design architecture that aligns with business and network requirements across all cloud layers	2	3	-	1
	PC7. define deployment schemas for cloud resources and applications	2	2	-	1
	PC8. design AI-ready Cloud Engineerures that support GPU/TPU-based computing, scalable storage, and high-throughput networking	2	2	-	1
	PC9. incorporate AI-driven services (e.g., image recognition, predictive analytics, NLP) to meet business use cases	2	2	-	1
	PC10. incorporate cloud-native principles, scalability, and resilience into the architecture	1	1	-	1

	PC11. define and document disaster recovery strategies and high availability plans	1	2	-	1
	<i>Secure the cloud solution architecture</i>	7	12	-	5
	PC12. establish cloud security policies, standards, and best practices	2	2	-	1
	PC13. assess security capabilities of selected cloud service providers	1	3	-	1
	PC14. conduct security risk assessments and implement a risk mitigation strategy	1	2	-	1
	PC15. define Identity and Access Management (IAM) and role-based access control (RBAC) policies	2	3	-	1
	PC16. implement necessary security controls across the solution architecture	1	2	-	1
	<i>Review and maintain the solution architecture</i>	5	11	-	4
	PC17. document and maintain architecture components and design decisions	1	2	-	1
	PC18. review solution design periodically to ensure performance, scalability, and compliance	1	3	-	1
	PC19. monitor industry trends and changes in cloud technology standards	1	2	-	1
	PC20. update solution architecture accordingly and communicate changes to relevant stakeholders	1	2	-	1
	PC21. define and manage a framework for architecture monitoring, evaluation, and reporting	1	2	-	
	Total Marks	30	50	-	20
SSC/N8306: Translate business-level use cases into technical requirements and specifications	<i>Gather and define business requirements</i>	12	19	-	7
	PC1. identify and define functional and non-functional requirements from clients, internal departments, or organizational needs	4	7	-	3
	PC2. document business requirements using standard tools, templates, and formats	4	7	-	2
	PC3. collaborate with business stakeholders to ensure clarity, completeness, and accuracy of use cases and requirements	4	5	-	2
	<i>Translate requirements into technical specifications</i>	7	13	-	5
	PC4. convert business requirements into detailed technical and IT specifications, including data, application, and integration needs	4	7	-	3
	PC5. ensure alignment of technical specifications with organizational architecture, systems, and standards	3	6	-	2
	<i>Validate and finalize requirements</i>	11	18	-	8
	PC6. validate functional and technical requirements with relevant internal and external stakeholders	4	6	-	3
	PC7. refine and update requirements based on feedback from business analysts, developers, and clients	4	6	-	3
	PC8. finalize and communicate approved requirements to relevant technical teams and stakeholders	3	6	-	2

	Total Marks	30	50	-	20
SSC/N8305: Define enterprise cloud guidelines and implement regulatory compliances	<i>Determine business and technology requirements</i>	9	14	-	5
	PC1. analyze organizational business strategies, goals, and IT infrastructure requirements to determine cloud adoption needs	3	5	-	2
	PC2. identify and classify all cloud-deployed and on-premise assets based on sensitivity, criticality, and compliance impact	3	4	-	1
	PC3. assess integration and interoperability of hybrid/multi-cloud and on-premise environments with a focus on data flow, latency, and security	3	5	-	2
	<i>Develop Cloud Engineer standards and enterprise policies</i>	15	23	-	10
	PC4. define programming, infrastructure, and design standards for developing, deploying, and maintaining scalable and secure cloud solutions	3	5	-	2
	PC5. establish enterprise-wide standards for provisioning, scaling, and decommissioning of cloud resources	3	5	-	2
	PC6. develop role-based access control (RBAC) policies and identity management frameworks for cloud environments	3	4	-	2
	PC7. design performance monitoring standards, incident management workflows, and SLAs for cloud infrastructure	3	5	-	2
	PC8. create guidelines for contributing to and managing open-source software, as relevant to the enterprise's cloud operations	3	4	-	2
	<i>Ensure compliance with relevant legal, regulatory, and industry standards</i>	6	13	-	5
	PC9. identify applicable legal, regulatory, and industry-specific standards (e.g., PCI DSS, HIPAA, ISO 27001, GDPR, SOC 2)	2	4	-	2
	PC10. implement governance frameworks and internal controls to ensure compliance with defined policies and regulatory standards	2	5	-	2
	PC11. monitor, audit, and continuously improve compliance adherence using automated tools and manual checkpoints	2	4	-	1
	Total Marks	30	50	-	20
SSC/N8304: Assess and screen cloud vendors and third-party service providers	<i>Drive vendor profiling and assessment</i>	12	19	-	7
	PC1. develop criteria and methods for shortlisting potential cloud vendors based on business and technical requirements	3	5	-	2
	PC2. gather, analyze, and compare service offerings, including pricing, performance benchmarks, SLAs, and support models	3	4	-	1
	PC3. evaluate the performance history, SLA compliance, market reputation, and customer feedback of cloud vendors	3	5	-	2
	PC4. design and apply a structured framework to assess and periodically review existing cloud vendors and service providers	3	5	-	2
	<i>Evaluate security, compliance, and operational risks</i>	9	14	-	6
	PC5. assess vendor lock-in risks and long-term dependencies to ensure operational flexibility and business continuity	3	5	-	2

	PC6. evaluate security risks, data privacy implications, and compliance posture of vendors against required standards (e.g., GDPR, ISO/IEC 27001, HIPAA)	3	4	-	2
	PC7. identify financial, legal, and operational risks associated with third-party cloud partnerships	3	5	-	2
	<i>Define business continuity and contingency plans</i>	5	8	-	4
	PC8. evaluate and align vendor business continuity and disaster recovery plans with organizational needs	3	4	-	2
	PC9. develop contingency strategies including backup vendors, exit plans, and data migration procedures in case of vendor failure or non-compliance	2	4	-	2
	<i>Build, formalize, and manage vendor partnerships</i>	4	9	-	3
	PC10. define and formalize partnership models, SLAs, operational procedures, and legal contracts for vendor collaboration	2	5	-	2
	PC11. create a multi-vendor cloud ecosystem that ensures resilience, interoperability, and risk mitigation	2	4	-	1
	Total Marks	30	50	-	20
DGT/VSQ/N0102: Employability Skills (60 Hours)	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. identify employability skills required for jobs in various industries	-	-	-	-
	PC2. identify and explore learning and employability portals	-	-	-	-
	<i>Constitutional values – Citizenship</i>	1	1	-	-
	PC3. 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.	-	-	-	-
	PC4. follow environmentally sustainable practices	-	-	-	-
	<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
	PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
	PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
	<i>Basic English Skills</i>	2	3	-	-
	PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
	PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
	PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
	<i>Career Development & Goal Setting</i>	1	2	-	-
	PC10. understand the difference between job and career	-	-	-	-

PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc.	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-

	PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
	PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
	PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
	PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
	PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
	Total Marks	30	50	-	20
Grand Total		290	480	-	180

Annexure 7: 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.

For the Schemes offered on SIDH, batches are created on the SIDH portal by the TP/TC; assessment requests are made through SIDH portal. For Off-SID schemes, assessment requests are received electronically and/or through SSM (State Skill Mission) portals. If it is not a Scheme offered on SIDH or offered on SSM, then assessments requests are made via email.

Upon receiving the request, the batches are aligned for assessments to the Assessment Agency basis the assessment readiness for that particular job role/Qualification, Nano credential/Micro-credential/Standalone NOS.

Following this, an email is sent out to the TP/TC to get the confirmation on the assessment date looping IT-ITeS SSC. Once the confirmation is received, the Assessment Agency assigns a TOA certified assessor or the Proctor for conducting/facilitating the assessments as the case may be. The details of the candidates are verified and recorded at the assessment location for future reference.

QA mechanism is implemented ensuring undertaking from the TC, regular feedback is collected from the TP/TC, geo-tagged photographs of the assessment location and PC wise result analysis to enhance the quality of the assessment blueprint and assessment process thereof.

Testing Environment:

This entire process related to the testing environment is managed by the Assessment Agency in conjunction with the guidelines from NCVET.

Assessment Quality Assurance levels/Framework:

IT-ITeS SSC/NASSCOM is responsible for the development and periodic review of the question bank developed for a specific job role/Qualification, Nano credential/Micro-credential/Standalone NOS. We publish a sample question papers on our website for all stakeholders. The quality of the item bank created by the assessment designer is validated by a minimum of 2 reviewers on the following parameters:

Appropriateness of the question bank in terms of facts, data and information required w.r.t the outcome of the Performance Criteria.

Checks for grammar, spellings, scripting and formatting.

The information provided should be specific enough to remove any ambiguity in answers/solutions to the question.

- Relevance – assessing the topic well w.r.t. the job role.

- Check if the difficulty level of each question is as per the matrix.
- Check if the images used in the question are clear and relevant.
- All variables, symbols and abbreviations used must be declared.
- The correct answer option should be unique, and the options should not be overlapping.

Types of evidence or evidence-gathering protocol:

The time stamped and geotagged photographs of the assessment locations are collected by Proctor/Assessor during the assessment process.

Method of verification or validation:

Monitoring of batches is done as per the due process. Surprise visits are conducted at TC location during the training and assessments.

Method for assessment documentation, archiving, and access.

All assessments conducted by IT-ITeS SSC/NASSCOM, excluding those for schools, are conducted online (browser-based tests with face-to-face proctoring/online proctoring/remote auto proctoring). IT-ITeS SSC/NASSCOM stores the digital repository of the attendance sheets, photographs of assessment centres, result sheets for all assessments except school assessments which are usually available in hard copies along with all relevant artifacts.

Annexure 8: 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
NASSCOM	National Association of Software and Service Companies
IT-ITeS	Information Technology and Information Technology Enabled Services
IAM	Identity and Access Management
RBAC	Role-Based Access Control
ABAC	Attribute-Based Access Control
IDS/IPS	Intrusion Detection System / Intrusion Prevention System
SLA	Service Level Agreement
KPI	Key Performance Indicator
TCO	Total Cost of Ownership
RAID	Risks, Assumptions, Issues, and Dependencies
SOP	Standard Operating Procedure
CI/CD	Continuous Integration / Continuous Deployment
GDPR	General Data Protection Regulation
HIPAA	Health Insurance Portability and Accountability Act
ISO	International Organization for Standardization
IEC	International Electrotechnical Commission
NIST	National Institute of Standards and Technology
PCI DSS	Payment Card Industry Data Security Standard
SOC	System and Organization Controls
MFA	Multi-Factor Authentication
PwD	Persons with Disabilities
AI/ML	Artificial Intelligence / Machine Learning
AIOps	Artificial Intelligence for IT Operations

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.
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

NSQC Approved