



QUALIFICATION FILE

Software Test 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: 4.0

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	Software Test 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/05251, v3.0	Qualification Name of existing/previous version: Test Engineer-IT Services												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA Software Test Engineer													
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-04-IT-03652-2025-V2-NASSCOM & v4.0	6. NCrf/NSQF Level: 4												
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 Software Test Engineer is responsible for designing, developing, and coordinating test plans to ensure software quality and compatibility across diverse environments, including programs, hardware, operating systems, and networks. This role involves performing both scheduled and ad-hoc testing, conducting detailed software compatibility assessments, and identifying potential defects.													
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>12th Grade Pass*</td> <td></td> </tr> <tr> <td>2.</td> <td>10th Grade Pass</td> <td>1.5-year relevant experience**</td> </tr> <tr> <td>3.</td> <td>Previous Relevant qualification of NSQF level 3</td> <td>3-year relevant experience**</td> </tr> </tbody> </table> *Science, Technology, Engineering, and Mathematics (STEM) **Relevant Experience in Product Development/Software Testing The relevant experience would include work, internship and apprenticeship after completion of relevant educational qualification. b. Age:		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	12th Grade Pass*		2.	10th Grade Pass	1.5-year relevant experience**	3.	Previous Relevant qualification of NSQF level 3	3-year relevant experience**
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)													
1.	12th Grade Pass*														
2.	10th Grade Pass	1.5-year relevant experience**													
3.	Previous Relevant qualification of NSQF level 3	3-year relevant experience**													
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	Minimum: 10 Maximum: 15	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>	Minimum: ☒ 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>120</td> <td>150</td> <td>30</td> <td></td> <td>300</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></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)	120	150	30		300	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)															
Classroom (offline)	120	150	30		300															
Online																				
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/2511.0103																		
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	This entry should refer to one or more of the following: Professional progression: access to other qualifications at the next NSQF level – Team Lead Manual/Automation Testing																		
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>Visual, Hearing or Speech impairment, Locomotor Disability</i>																		
19.	How Participation of Women will be Encouraged	To encourage women to participate Testing and Quality Assurance job roles, it is important to provide education, mentorship, and networking opportunities, as well as training and development programs. Flexible work arrangements and promoting successful women in Testing and Quality Assurance job roles can also inspire and encourage women to pursue careers in this field. Creating a culture of inclusion and diversity can help women feel welcome and valued in Testing and Quality Assurance job roles, through policies and practices that support work-life balance, equal pay and promotion opportunities, and a safe and respectful workplace.																		
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 (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Namrata Kapur Email: standards@nasscom.in Website: https://nasscom.in	Contact No.: 0120-4990111
23.	Final Approval Date by NSQC: 18-02-2025	24. Validity Duration: 3 years	25. Next Review Date: 18-02-2028

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.	Develop Test Plans for Software Products/ Applications/Modules	SSC/N4801, v1.0	Core	4.0	3	30	30	30	-	90	30	50	-	20	100	70
2.	Employability Skills (60 Hours)	DGT/VSQ/N0 102, v1.0	Non-Core	4.0	2	60	-	-	-	60	20	30	-	-	50	10
Duration (in Hours) / Total Marks					5	90	30	30		150	50	80	-	20	150	80

Elective 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

Elective 1: Automation Testing

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.	Perform Automated Testing on Software Products/Applications/Modules	SSC/N4802, v1.0	Core	4.0	5	30	120	-	-	150	30	50	-	20	100	20
Duration (in Hours) / Total Marks					5	30	120	-		150	30	50	-	20	100	20

Elective 2: Manual Testing

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.	Perform Manual Testing on Software Products/Applications/Modules	SSC/N4803, v1.0	Core	4.0	5	30	120	-	-	150	30	50	-	20	100	20
Duration (in Hours) / Total Marks					5	30	120	-	-	150	30	50	-	20	100	20

Assessment - Minimum Qualifying PercentagePlease 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.)**Section 3: Training Related**

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in any discipline. Industry & Training Experience: 2 years of industry experience in IT Service domain
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		Certification: “Trainer” mapped to the Qualification Pack “MEP/Q2601 Minimum accepted score is 80% aggregate.
2.	Master Trainer’s Qualification and experience in the relevant sector (in years) <i>(as per NCVET guidelines)</i>	Educational Qualification: Graduate in any discipline. Industry & Training Experience: 4 years of industry experience in IT Service domain Certification: “Master Trainer” mapped to the Qualification Pack “MEP/Q2602” Minimum accepted score is 90% aggregate.
3.	Tools and Equipment Required for Training	☒ Yes ☐ No <i>(If “Yes”, details to be provided in Annexure)</i>
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) <i>(as per NCVET guidelines)</i>	Educational Qualification: Graduate in any discipline. Industry & Training Experience: 2 years of industry experience in IT Service domain Certification: “Assessor” mapped to the Qualification Pack “MEP/Q2701” Minimum accepted score is 80% aggregate.
2.	Proctor’s Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Educational Qualification: Graduate in any discipline. Industry & Training Experience: 2 years of industry experience in IT Service domain Certification: “Assessor” mapped to the Qualification Pack “MEP/Q2701” Minimum accepted score is 80% aggregate.
3.	Lead Assessor’s/Proctor’s Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Educational Qualification: Graduate in any discipline. Industry & Training Experience: 4 years of industry experience in IT Service domain Certification: “Lead Assessor” mapped to the Qualification Pack “MEP/Q2702” Minimum accepted score is 90% aggregate.
4.	Assessment Mode <i>(Specify the assessment mode)</i>	The assessment shall be conducted through an online proctored format, incorporating scenario-based multiple-choice questions designed to effectively evaluate practical understanding and real-world application of concepts. Additionally, it will include a viva-voce and hands-on practical evaluation to comprehensively assess the individual's proficiency in specific learning outcomes.
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

Section 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
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: 30
5.	Estimated nos. of persons to be trained and employed: 1000
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
Professional Theoretical Knowledge/Process	Possesses specialized operational knowledge and understanding of the work. Conduct Functional Testing (Manual) • Prepare detailed functional test cases based on requirements. • Execute test cases to validate software features and functionalities. • Log defects with clear steps for replication and work with developers to resolve them. Perform Automated Testing • Identify test scenarios suitable for automation and create scripts. • Configure automated testing frameworks and tools. • Execute scripts, analyze results, and update them for system changes. Carry Out Performance Testing • Plan load, stress, and endurance tests using performance testing tools. • Simulate user traffic to measure application response times and stability. • Analyze metrics and create reports with actionable insights. Validate APIs and Integrations • Develop and execute test cases to validate API functionality and data flows. • Use tools like Postman or REST Assured for automated API testing. • Verify integrations between systems, ensuring seamless data exchange. Document and Maintain Test Artifacts • Prepare and update test plans, cases, and defect logs. • Create comprehensive test execution reports with detailed findings.	A Software Test Engineer specializing in automation and manual testing must have a strong understanding of software development methodologies like Agile, Scrum, and Waterfall, and how testing is integrated within these models. The professional should be able to design detailed test cases and establish test environments, selecting suitable tools and frameworks for manual and automated testing. In-depth knowledge of software testing types, such as functional, regression, performance, and security testing, is required to ensure the application's quality. Furthermore, the role requires expertise in identifying defects, tracking bugs, and managing defect lifecycles throughout the testing process. Hence, it falls under NSQF level 4.	4.0

	Archive test results and documentation for future reference and compliance.		
Professional and Technical Skills/ Expertise/ Professional Knowledge	- Understand the fundamentals of software development lifecycle (SDLC) and software testing lifecycle (STLC), including planning, execution, and closure phases. - Understanding of different testing methodologies such as Agile, Waterfall, and V-Model, and their application in various projects. - Know the techniques of test case design like boundary value analysis, equivalence partitioning, and decision table testing for effective coverage. - Knowledge of automation testing tools such as Selenium, Appium, JMeter, or TestNG, and their setup, configuration, and usage. - Understand the principles of defect lifecycle management, including identification, reporting, verification, and closure of defects. - Understanding of performance testing concepts, including load testing, stress testing, and the use of tools like JMeter or LoadRunner. - Know the process of API testing using tools like Postman or REST Assured, including validation of request-response cycles. - Knowledge of version control systems like Git and collaboration platforms such as JIRA for managing code and tasks. - Understand the importance of test environment setup, including database configurations, test data preparation, and deployment of builds. - Understanding of continuous integration and continuous deployment (CI/CD) pipelines and their integration with automated testing processes.	A Software Test Engineer is proficient in various testing tools and scripting languages, including Selenium, Appium, JUnit, Java, Python, and JavaScript. This professional can design and implement automation frameworks, create automated test scripts, and handle various types of tests such as smoke, regression, and integration. Along with automation, manual testing skills are essential, particularly in exploratory testing and creating effective test cases based on user stories and requirements. Expertise in reporting defects, analyzing test results, and collaborating with development teams is crucial for ensuring the software's functionality and quality. Hence, it falls under NSQF level 4.	4.0
Employment Readiness & Entrepreneurship Skills & Mind - set/Professional Skill	- Demonstrate problem-solving skills by analyzing complex issues in software systems and identifying effective solutions during testing. - Exhibit strong communication abilities to convey testing results, defects, and recommendations clearly to developers, managers, and stakeholders.	A Software Test Engineer must possess strong problem-solving and analytical skills to identify defects and risks in software products. The professional should be capable of adapting to changing project requirements and timelines, managing multiple tasks simultaneously, and ensuring that testing efforts align with project goals. The ability to	4.0

	- Adapt to evolving technologies and tools by continuously learning and integrating modern testing frameworks, methodologies, and practices. - Collaborate effectively with cross-functional teams, including developers, product managers, and automation specialists, to ensure software quality. - Manage time efficiently by prioritizing tasks, meeting deadlines, and balancing multiple testing activities in dynamic project environments. - Apply critical thinking skills to evaluate testing strategies, assess risks, and improve processes for better outcomes and enhanced productivity.	collaborate with cross-functional teams, including developers, business analysts, and project managers, is key for ensuring the overall success of the testing process. Effective time management and prioritization are also crucial for meeting project deadlines while maintaining high-quality testing standards. Hence, it falls under NSQF level 4.	
Broad Learning Outcomes/Core Skill	- Develop the ability to design comprehensive test plans and cases for both manual and automated testing. - Gain proficiency in automation tools like Selenium, Appium, and JUnit to optimize testing processes. - Enhance problem-solving skills to identify, debug, and resolve software defects efficiently. - Apply quality assurance principles to ensure software meets functional, usability, and security standards. - Strengthen communication and collaboration skills to effectively interact with development teams and stakeholders.	A Software Test Engineer develops core skills in test design, execution, and reporting, using both manual and automated testing techniques. This professional is skilled in automating repetitive tasks to enhance testing efficiency and ensure extensive test coverage. A key skill is the ability to analyze test results, report defects with clear documentation, and communicate findings with development teams for timely issue resolution. The Software Test Engineer also focuses on continuously updating skills by learning emerging testing tools, techniques, and methodologies to stay competitive in the industry. Hence, it falls under NSQF level 4.	4.0
Responsibility	The individual in this job role will be responsible for the below-mentioned activities: - Analyze Requirements - Define Test Objectives - Design Test Cases - Testing Frameworks and Tools - Develop the Test Plan Document - Review and Validate the Test Plan - Documentation and Reporting - Manage Test Plan Updates - Generative AI in Software Testing - Adhere to Organizational Standards	A Software Test Engineer responsible for designing, developing, and coordinating test plans to ensure software quality and compatibility across diverse environments, including programs, hardware, operating systems, and networks. This role involves performing both scheduled and ad-hoc testing, conducting detailed software compatibility assessments, and identifying potential defects.	4.0

	• Set Up Automated Testing Environment • Develop Automated Test Scripts • Test Preparation and Planning • Execute Automated Tests • Analyze Test Results • Maintain Automated Test Scripts and Environment • Integrate Automated Testing into CI/CD Pipeline • Exploratory and Ad Hoc Testing • API and Microservices Testing • Security and Penetration Testing • Cloud-Based Testing • Version Control Systems • Report and Document Test Results • Comply with Best Practices and Standards • Prepare for Manual Testing • Execute Manual Test Cases • Report Test Results and Defects • Collaborate with Automation Teams • Ensure Continuous Improvement of Manual Testing Processes		
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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.	Test Automation Tool (e.g., Selenium,	Nos	
2.	API Testing Tool (e.g., SoapUI, Insomnia)	Nos	
3.	Bug Tracking Tool	Nos	
4.	Performance Testing Tool (e.g., JMeter,	Nos	
5.	Version Control System (e.g., Git	Nos	

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop with Internet
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.	Dell Technologies	Ariba Syed	Software Engineer	Surat		ariba.syed2017@gmail.com	
2.	PwC	Yatharth Bhatnagar	Software Engineer	Pune	7276325777	yatharth23@gmail.com	
3.	Siemens Digital Industries Software	Snehal Pandey	Software Engineer	Pune	7387151993	snehalpande93@gmail.com	
4.	Protiviti Global Business Consulting	Sakshi Samtani	Senior Manager	Mumbai	8080536463	sakshi3192@gmail.com	
5.	Michelin India Private Ltd.	Himanshu Sharma	Business Analyst/Product Owner	Kharadi, Pune		sharmaaz.himanshu@gmail.com	
6.	Capgemini	Shruti Gupta	Manager	Chennai, Tamil Nadu, India	9004343572	shrutivijendra@gmail.com	
7.	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	
8.	HCL Tech	Sheeloo Sachan	Technical Specialist	Plot No 3A, Sector 126, Noida, Uttar Pradesh 201301	9717036547	sachan.sheeloo@gmail.com	
9.	T-Systems ICT India Pvt Ltd	Monica Sharma	Sr. Consultant	Panchshil business park, Balewadi High St, Laxman Nagar, Baner, Pune,	7389777739	monica.sharma@t-systems.com	

				Maharashtra 411045			
10.	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	
11.	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	
12.	Globant	Rishi Kumar	Analytics	Wing A & B, Level 5, Tower IV, Cybercity, Magarpatta City, Hadapsar, Pune – 411 013. Pune	9717036547	rishi.kumar@globant.com	
13.	Temenos India Pvt Ltd	Yash Kumawat	Senior product engineer	Bengaluru	8319749784	yash120997@gmail.com	
14.	PWC	Ruchita Panchal	Senior Consultant	Gurgaon	7354047944	ruchita.panchal@pwc@gmail.com	
15.	Sopra Steria India	Rikan Singh	Team Leader	Plot No. 20 & 21, Seaview Special Economic Zone, Building 4, Sector 135, Noida, Uttar Pradesh 201304	9899507967	rikan.singh@soprasteria.com	
16.	Sycamore Informatics	Rahul Kumar Kaushik	Product Manager	No. 6, 2nd Floor, 2nd Main, Arekere, Off Bannerghatta Road, Bangalore 560076	8859885973	rahul.kaushik@sycamoreinformatics.com	
17.	Movate	Rohit Kumar Sharma	Manager – Development	A-21, sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi,	9927564461	rohit.sharma.movate@gopangea.com	
18.	GlobalLogic	Rashid Muhammad	Associate Manager	Oxygen Business Park SEZ, Tower, 3, Noida-Greater Noida	8881474420	rashid.muhammad@globallogic.com	

19.	Reckitt Benckiser	Sachin Sharma	Demand Manager	Udyog Vihar, Phase V, Gurgaon, Haryana	9758573077	sachin.Sharma@rb.com	
20.	TCS	Ankit Garg	Assistant Consultant	Skyview Corporate Park, Gurgaon - Delhi Expy, Sector 74A, Gurugram, Haryana 122004	9808254808	ankit.garg8@tcs.com	
21.	Getronics Solutions	Devender Prasad	Team Lead – Quality & Performance	6th Floor, Magnum Tower 1, above Axis Bank, Sector 58, Gurugram, Haryana 122008	9711592810	devprasad83@gmail.com	
22.	Nagarro	Firoz Zaidi	Senior Developer	Block A, Sector 64, Noida, Uttar Pradesh 201301, India	8218191014	firoz@nagarro.com	
23.	KPMG	Vaishali Tomar	Associate Consultant	Block A, 100 Feet Rd, Embassy Golf Link Business Park, Koramangala, Bengaluru, Karnataka- 560071	9479421477	vaishalitomar@kpmg.com	
24.	Ecom Express.in	Shekhar Poswal	Senior QA L1	10 th Floor, Ambience Corporate Tower II, Ambience Island, Gurugram 122001	8588820616	Shekhar.p@ecomexpress.in	
25.	Ivy Comptech Hyderabad	Sakshi Tomar	Analyst Test Engineering	Survey No.13, DIVYA SREE OMEGA, 5th & 6th Floor, “B, Plot No 13/E, part, Kondapur, Hyderabad, Telangana 500084	9599621311	Sakshi.Tomar@ivycomptech.com	
26.	FIS Global Business Solution	Mangal Deep Patel	Sr. Software Developer	B-402, I Park, Plot No. 15, Phase IV, Gurugram, Haryana 122016	9718146851	Mangal.deeppatel@fisglobal.com	
27.	Tecnova India	Happy Sharma	Senior Manager	412, Nimai Tower, Phase IV, Sector 18, Gurgaon - 122015	9821179301	Happy.sharma@tecnovaglobal.com	

28.	Conduent	Prince Jain	Sr. Business Analyst	Plot No. 20, Candor Tech Space, Noida 201304	9013241797	Prince.jain@conduent.com	
29.	Senryaku Management	Udit Kaushik	Co-founder	UTC031, DLF The Ultima, Sector 81, Gurugram 122004	9690909024	Udit.kau@gmail.com	
30.	Tata Consultancy Services	Sheepra Kaushik	Associate Consultant	Hiranandani SEZ, Powai, Mumbai 400076	8433595090	Sheepra.sharma@tcs.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	200	75	10	5	5	5
2025	300	100	15	10	10	10
2026	500	200	25	10	10	10

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
v2.0	2024												
v2.0	2023												
v2.0	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: 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)	
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)	
5	☒ Tutorials/ Assignments/ Drill/ Practice	- Online Question Bank - MCQ based tests	
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations		
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training		

Annexure 6: Detailed Assessment Criteria

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

Procter 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/N4801: Develop Test Plans for Software Products/Applications/Modules	Analyze Requirements	3	5	-	2
	PC1. review and understand software product/application/module specifications and requirements documents.	1	2	-	1
	PC2. identify critical functionalities and performance criteria based on client and project needs.	1	1.5	-	0.5
	PC3. assess technical feasibility and potential challenges for the testing process.	1	1.5	-	0.5

	<i>Define Test Objectives</i>	3	6	-	3
	PC4. establish clear testing objectives, including functional, non-functional, and performance testing requirements.	1	2	-	1
	PC5. prioritize test scenarios based on their impact, complexity, and risk assessment.	1	2	-	1
	PC6. identify compatibility and compliance standards to be addressed during testing.	1	2	-	1
	<i>Design Test Cases</i>	6	10	-	5
	PC7. create and modify high-level scenarios and detailed test cases, ensuring coverage of positive, negative, and boundary scenarios, and including input conditions, execution steps, and expected outcomes.	3	5	-	3
	PC8. utilize reusable and modular testing techniques for scalability and efficiency, accessing test cases, scripts, and tools from the organization's knowledge base.	3	5	-	2
	<i>Testing Frameworks and Tools</i>	2	4	-	2
	PC9. select and implement appropriate manual and automated testing tools (e.g., Selenium, Appium, JUnit) based on project requirements.	1	2	-	1
	PC10. design tests using modern frameworks such as TestNG, Cucumber, or PyTest to ensure scalability and efficiency in testing.	1	2	-	1
	<i>Develop the Test Plan Document</i>	3	6	-	1.5
	PC11. prepare a comprehensive test plan document detailing scope, objectives, timelines, and resources required.	1	2	-	0.5
	PC12. specify testing tools, environments, and data sets to be used.	1	2	-	0.5
	PC13. outline roles and responsibilities of team members involved in the testing process.	1	2	-	0.5
	<i>Review and Validate the Test Plan</i>	3	5	-	1.5
	PC14. review and rework the test plan, test cases, and/or automated scripts with consultation from the supervisor or industry experts.	1	2	-	0.5
	PC15. submit the test plan, test cases, and/or automated scripts for approval by experts.	1	1.5	-	0.5
	PC16. validate the test plan for completeness, feasibility, and adherence to quality standards.	1	1.5		0.5
	<i>Documentation and Reporting</i>	2	3	-	1
	PC17. create detailed reports for test execution, results, and defect tracking, providing clear and actionable insights.	1	1.5	-	0.5
	PC18. use defect tracking tools like Jira, Bugzilla, or Azure DevOps to report and monitor software defects, ensuring timely resolution.	1	1.5	-	0.5
	<i>Manage Test Plan Updates</i>	4	6	-	2
	PC19. monitor changes in product/application requirements and update the test plan accordingly.	2	2	-	1

	PC20. update the organization's knowledge base with inputs for designing tests and ensure consistency in implementation.	1	2	-	0.5
	PC21. communicate updates to stakeholders and maintain version control for test plan documentation.	1	2	-	0.5
	<i>Generative AI in Software Testing</i>	3	4	-	1.5
	PC22. understand the basic concepts and principles of Generative AI, including its potential applications in software testing and quality assurance.	1	1.5	-	0.5
	PC23. identify and explore use cases where Generative AI can enhance software testing, such as test case generation, automated bug detection, and test script optimization.	1	1.5	-	0.5
	PC24. design and optimize effective prompts for Generative AI tools used in test automation, ensuring the accuracy and relevance of generated test cases and scripts.	1	1	-	0.5
	<i>Adhere to Organizational Standards</i>	1	1	-	0.5
	PC25. comply with the organization's testing standards, procedures, and guidelines while designing, executing, and reporting on tests for software products/applications/modules to ensure consistency, quality, and adherence to best practices.	1	1		0.5
	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	20	30	-	-
SSC/N4802: Perform Automated Testing on Software Products/Applications/Modules	<i>Set Up and Manage Automated Testing Environment</i>	2	4	-	1
	PC1. set up the test environment, install necessary tools, and verify compatibility with the software under test.	1	2	-	0.5
	PC2. ensure that the environment is optimized and maintained for effective automated testing.	1	2	-	0.5
	<i>Develop and Maintain Automated Test Scripts</i>	4	4	-	2
	PC3. write, maintain, and update automated test scripts based on the test plan, ensuring they are reusable and compatible with version control systems.	2	2	-	1
	PC4. keep test scripts in sync with software updates and ensure they remain effective for future testing.	2	2	-	1
	<i>Test Preparation and Planning</i>	2	4	-	2
	PC5. collaborate with superiors to establish the nature of the testing and identify the appropriate test management tool to be used.	1	2	-	1
	PC6. plan test cases and execution strategies according to project requirements.	1	2		1
	<i>Execute and Monitor Automated Tests</i>	3	4	-	2
	PC7. run automated test scripts in the defined environment and monitor their execution.	1.5	2	-	1
	PC8. report any issues or discrepancies and ensure the tests are executed as planned.	1.5	2	-	1
	<i>Analyze Test Results</i>	4	4	-	2
	PC9. analyze test results to identify discrepancies, log defects, and contribute to defect management discussions.	2	2	-	1
	PC10. ensure test results are documented, and follow up on defect resolution.	2	2	-	1

	<i>Integrate Automated Testing into CI/CD Pipeline</i>	3	6	-	2
	PC11. integrate automated test scripts into the CI/CD pipeline and monitor their execution within the workflow.	1.5	3	-	1
	PC12. troubleshoot and resolve issues related to automated tests within the CI/CD environment.	1.5	3	-	1
	<i>Exploratory and Ad Hoc Testing</i>	3	4	-	2
	PC13. perform exploratory testing to identify defects beyond predefined scripts and test cases.	1	2	-	1
	PC14. adapt testing approaches based on unexpected scenarios and findings.	2	2		1
	<i>API, Microservices, and Security Testing</i>	2	6	-	2
	PC15. design automated test cases for APIs and microservices, validating their functionality and integration.	1	3	-	1
	PC16. design basic security test cases, identify vulnerabilities, and contribute to penetration testing efforts for the application.	1	3		1
	<i>Cloud-Based and Scalable Testing</i>	2	4	-	1
	PC17. utilize cloud-based platforms for testing applications and perform scalability and performance testing in cloud environments.	2	4	-	1
	<i>Version Control and Collaboration</i>	2	6	-	2
	PC18. manage automated test scripts using version control systems and collaborate with team members on script updates.	1	3	-	1
	PC19. ensure proper version control practices are followed to maintain script integrity.	1	3	-	1
	<i>Reporting, Documentation, and Compliance</i>	3	4	-	2
	PC20. document test execution results, defects, and generate clear, concise test reports for stakeholders.	2	2	-	1
	PC21. adhere to testing standards, best practices, and comply with organizational testing procedures.	1	2	-	1
	Total Marks	30	50	-	20
SSC/N4803: Perform Manual Testing on Software Products/Applications/Modules	<i>Prepare for Manual Testing</i>	6	10	-	4
	PC1. identify testing requirements, including functionality, compatibility, and accessibility standards.	1.5	2.5	-	1
	PC2. verify that the latest and correct versions of test cases and related documents are available for execution.	1.5	2.5	-	1
	PC3. ensure the availability and readiness of test environments, data, and tools.	1.5	2.5	-	1
	PC4. identify the range of browsers, operating systems, and devices for cross-browser and cross-platform testing.	1.5	2.5	-	1
	<i>Execute Manual Test Cases</i>	9	15	-	6
	PC5. execute predefined test cases accurately and within the required timelines.	1.5	2.5	-	1

PC6. validate software conformance to usability and accessibility guidelines (e.g., WCAG).	1.5	2.5	-	1
PC7. perform exploratory and dynamic testing to identify defects in unscripted scenarios.	1.5	2.5	-	1
PC8. execute manual test scripts and take corrective action in case of failures or deviations.	1.5	2.5	-	1
PC9. conduct cross-browser testing to verify compatibility with different browsers and versions.	1.5	2.5	-	1
PC10. carry out cross-platform testing to validate functionality across operating systems and devices.	1.5	2.5	-	1
<i>Report Test Results and Defects</i>	<i>6</i>	<i>10</i>	-	<i>4</i>
PC11. log detailed test progress, results, and defects in the agreed format and test management tool.	1.5	2.5	-	1
PC12. communicate critical defects and risks to supervisors and stakeholders promptly.	1.5	2.5	-	1
PC13. document issues with supporting evidence (e.g., screenshots, logs) for efficient resolution.	1.5	2.5	-	1
PC14. analyze defects to determine their root causes and provide detailed feedback to developers.	1.5	2.5	-	1
<i>Collaborate with Automation Teams</i>	<i>4</i>	<i>7</i>	-	<i>3</i>
PC15. identify scenarios where automation testing might improve efficiency and reduce errors.	1.5	2.5	-	1
PC16. work closely with automation testers to ensure the seamless integration of manual and automated testing processes.	1.5	2.5	-	1
PC17. provide inputs for designing test scripts that cover edge cases or complex workflows identified during manual testing.	1	2	-	1
<i>Ensure Continuous Improvement of Manual Testing Processes</i>	<i>5</i>	<i>8</i>	-	<i>3</i>
PC18. obtain guidance from supervisors or experts for complex or unclear scenarios.	1.5	2	-	1
PC19. update and improve test cases based on testing outcomes and feedback.	1.5	2	-	1
PC20. stay updated on the latest manual testing techniques, tools, and best practices.	1	2	-	0.5
PC21. ensure adherence to the organization's policies, procedures, and quality standards.	1	2	-	0.5
Total Marks	30	50	-	20
Grand Total	110	180	-	60

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.

Batch Creation & Assessment Request:

Training Providers (TP) or Training Centers (TC), including any other authorized partner of Ministry/ Department create batches / push batches on the SIDH portal. Assessment requests are submitted through the SIDH portal or via email or other media as authorized from time to time. For NON-SIDH schemes, assessment requests are received electronically or through respective State Skill Mission portals. TP/TC initiates the assessment request through the InSDMS portal and processes the payment (where applicable).

Batch Alignment & Confirmation:

Upon payment confirmation, batches are assigned to the Assessment Agency based on factors like:

- Assessment readiness
- Availability of certified assessors for the specific job role
- Assessment capping to an assessment agency as prescribed from time to time for an AB An email communication / prescribed mode communication is sent to TP/TC for confirmation of the assessment date, with IT-ITeS SSC in the loop. Once confirmation is received, the Assessment Agency designates a TOA-certified assessor to conduct or facilitate the assessment.
- Batches are only formed when the Qualification is active.

Candidate Verification & Assessment Execution:

Candidate details are verified and documented at the beginning of the assessment by a certified assessor. A Quality Assurance (QA) mechanism is enforced, requiring an undertaking from the TC. Regular feedback is collected from TP/TC to ensure continuous improvement.

Evidence Collection & Validation:

Proctors or assessors capture date/time-stamped and geo-tagged photographs of the assessment location during the process. Attendance is also ensured offline. A PC-wise result analysis is conducted to refine assessment standards.

Monitoring & Compliance:

Batch monitoring follows established protocols, ensuring adherence to assessment guidelines. Sample based surprise visits are conducted at TC locations during both training and assessments to verify compliance. This structured approach ensures transparency, quality control, and validation throughout the assessment process.

Testing Environment:

- Check the Assessment location, date and time
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

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. We publish an openly accessible sample /model question paper on our website for all stakeholders. The quality of the Question Bank created by the assessment designer is validated by a Subject matter experts on the following parameters:

- Appropriateness of the Question Bank in terms of facts, data and information.
- 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

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
Gen AI	Generative Artificial Intelligence
ITSM	IT Service Management
CRMs	Customer Relationship Management Systems

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