



QUALIFICATION FILE

Junior Software Developer

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	Junior Software Developer													
2.	Sector/s	IT/ITeS													
3.	Type of Qualification: <input type="checkbox"/> New <input checked="" type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: 2022/ITES/ITSSC/05247, v3.0	Qualification Name of existing/previous version: Junior Software Developer												
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>	NA Junior Software Developer													
5.	National Qualification Register (NQR) Code &Version <i>(Will be issued after NSQC approval)</i>	QG-04-IT-03649-2025-V2-NASSCOM & v4.0	6. NCrF/NSQF Level: 4												
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other) <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	Certificate													
8.	Brief Description of the Qualification	A Junior Software Developer supports software development activities by writing, testing, and debugging code using basic programming languages such as Python, Java, or JavaScript. They assist in Agile development processes, participate in code reviews, and manage tasks using version control systems like Git. Familiarity with Gen AI-based tools and a focus on learning industry best practices are integral to their role.													
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1" style="margin-left: 20px; border-collapse: collapse; width: 100%;"> <thead> <tr> <th style="width: 10%;">S. No.</th> <th style="width: 60%;">Academic/Skill Qualification (with Specialization - if applicable)</th> <th style="width: 30%;">Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>12th Grade* Pass</td> <td></td> </tr> <tr> <td style="text-align: center;">2.</td> <td>10th Grade Pass</td> <td>3-years relevant experience**</td> </tr> <tr> <td style="text-align: center;">3.</td> <td>Previous Relevant qualification of NSQF level 3</td> <td>3-years relevant experience**</td> </tr> </tbody> </table> <p>*With Computer Knowledge **Relevant Experience: Computer Operation The relevant experience would include work, internship, and apprenticeship after completing relevant educational qualifications.</p> <p>Age: 15 years</p>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	12th Grade* Pass		2.	10th Grade Pass	3-years relevant experience**	3.	Previous Relevant qualification of NSQF level 3	3-years 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	3-years relevant experience**													
3.	Previous Relevant qualification of NSQF level 3	3-years relevant experience**													
10.	Credits Assigned to this Qualification, Subject to Assessment <i>(as per National Credit Framework (NCrF))</i>	14	11. Common Cost Norm Category (I/II/III) <i>(wherever applicable):</i> II												

12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																							
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1" data-bbox="952 347 2051 523"> <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>240</td> <td>60</td> <td></td> <td>420</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> (Refer Blended Learning Annexure for details)						Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	120	240	60		420	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																				
Classroom (offline)	120	240	60		420																				
Online																									
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/2512.0205																							
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	This entry should refer to one or more of the following: Professional progression: access to related qualification(s) at the next NSQF level: Software Product Developer																							
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi																							
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:																							
18.	Is the Job Role Amenable to Persons with Disability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: <i>Visual, Hearing or Speech impairment, Locomotor Disability</i>																							
19.	How Participation of Women will be Encouraged	To encourage women to participate Software Development 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 Software Development 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 Software Development 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 (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Covered in DGT/VSQ/N0101)																							
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																							
22.	Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: 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
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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 the 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 with basic software development and testing tasks in the IT services industry	SSC/N0506, v3.0	Core	4.0	13	90	240	60	-	390	30	50	-	20	100	90
2.	Employability Skills (30 Hours)	DGT/VSQ/N 0101, v1.0	Non-Core	2.0	1	30	-	-	-	30	20	30	-	-	50	10
Duration (in Hours) / Total Marks					14	120	240	60		420	50	80	-	20	150	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.)

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 software development roles.
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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) (as per NCVET guidelines)	Educational Qualification: Graduate in any discipline Industry & Training Experience: 4 years of industry experience in software development roles. Certification: " Master Trainer" mapped to the Qualification Pack "MEP/Q2602" Minimum accepted score is 90% aggregate.
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in any discipline Industry & Training Experience: 2 years of industry experience in software development roles. 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) (as per NCVET guidelines)	Educational Qualification: Graduate in any discipline Industry & Training Experience: 2 years of industry experience in software development roles. 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) (as per NCVET guidelines)	Educational Qualification: Graduate in any discipline Industry & Training Experience: 4 years of industry experience in software development roles. Certification: "Lead Assessor" mapped to the Qualification Pack "MEP/Q2702" 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	<input checked="" type="checkbox"/> Same as for training <input type="checkbox"/> Yes <input type="checkbox"/> 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
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	<p>Assist in Software Development</p> <ul style="list-style-type: none"> Learn to design and implement algorithms using programming languages such as Python, Java, or JavaScript. Apply Object-Oriented Programming (OOP) principles for scalable and maintainable code. Gain familiarity with frameworks and libraries for basic application development. <p>Debug and Optimize Code</p> <ul style="list-style-type: none"> Use debugging tools and techniques to identify and resolve code issues. Optimize code for better performance and adherence to industry best practices. <p>Version Control and Collaboration</p> <ul style="list-style-type: none"> Use version control systems like Git to manage and track code changes. Participate in code reviews to ensure quality and learn from peers. <p>Basic Testing and Documentation</p> <ul style="list-style-type: none"> Draft and execute test cases to validate functionality. Document development processes, test outcomes, and technical specifications. <p>Integration of Generative AI Tools</p> <ul style="list-style-type: none"> Utilize AI tools like GitHub Copilot or ChatGPT for coding assistance, debugging, and task automation. 	<p>The role of a Junior Software Developer focuses on contributing to software development through designing, coding, testing, and maintaining applications. This involves applying programming constructs, object-oriented principles, and advanced programming techniques. They use Agile methodologies, version control systems, and Generative AI tools to streamline development and testing processes. Knowledge spans database management, UI/UX fundamentals, security best practices, and integration testing. Adhering to the Software Development Lifecycle (SDLC), their work ensures that applications are scalable, efficient, and aligned with project goals.</p>	<p>4.0</p>
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ul style="list-style-type: none"> Proficiency in basic programming constructs and OOP principles. Ability to write, test, and debug code in Python, Java, or JavaScript. Understanding of SQL for database queries and interaction. Familiarity with Agile practices, including standups and sprint planning. Basic knowledge of version control tools like Git and collaboration platforms like GitHub. Exposure to SDLC stages and simple deployment strategies. Awareness of security fundamentals like encryption and authentication. 	<p>Junior Software Developers possess technical expertise in fundamental and advanced programming languages such as Python, Java, or JavaScript. They are skilled in writing algorithms, managing databases with SQL and ORM frameworks, and integrating APIs for enhanced functionality. Knowledge of DevOps basics, version control (Git/GitHub), Agile practices, and Generative AI tools (e.g., GitHub Copilot, ChatGPT) allows them to automate tasks and improve software performance. Familiarity with front-end technologies, UI/UX principles, and security measures ensures that solutions are user-friendly, secure, and robust.</p>	<p>4.0</p>

	<ul style="list-style-type: none"> • Familiarity with basic UI/UX concepts and responsive design principles. 		
Employment Readiness & Entrepreneurship Skills & Mind - set/Professional Skill	<ul style="list-style-type: none"> • Collaborate effectively with team members to achieve project goals. • Communicate clearly about technical processes and project updates. • Manage time to deliver tasks within deadlines and quality standards. • Stay proactive in learning new tools, technologies, and industry trends. • Develop a problem-solving approach to address development challenges efficiently. • Adapt to feedback and continually improve coding and debugging skills. 	Junior Software Developers exhibit a growth-oriented mindset, collaborating effectively within Agile teams and communicating technical concepts clearly. They adapt to new technologies, troubleshoot complex issues, and deliver quality solutions under deadlines. Their entrepreneurial approach includes exploring Generative AI for code optimization, identifying innovative development methods, and contributing to the team's success by improving code quality and development efficiency. Proficiency in documentation, testing, and deployment processes positions them as valuable assets in software projects.	4.0
Broad Learning Outcomes/Core Skill	<ul style="list-style-type: none"> • Acquire foundational knowledge to contribute to software development projects. • Gain experience in writing clean, efficient, and maintainable code. • Understand the importance of testing, debugging, and documentation in software development. • Build awareness of industry practices, including Agile, SDLC, and version control systems. • Develop skills to integrate AI tools for enhanced productivity and innovation. • Learn to implement best practices for code quality, performance, and security. 	A Junior Software Developer builds foundational expertise in software development, encompassing coding, debugging, database management, and application deployment. They gain problem-solving abilities, logical thinking, and collaboration skills necessary for Agile workflows. By mastering security principles, front-end technologies, and AI-driven tools, they deliver optimized, scalable applications. Continuous learning and adapting to industry trends enable them to advance in their careers while driving innovation in software solutions.	4.0
Responsibility	<p>The individual in this job role will be responsible for the below-mentioned activities:</p> <ul style="list-style-type: none"> • Designing Algorithms and Coding • Logical Problem-Solving • Advanced Programming Techniques • Database Management • Version Control and Collaboration • Agile Development Practices • Test Case Execution and Documentation • Ensuring Code Quality and Debugging • Integration Testing and Deployment • Software Development Lifecycle (SDLC) • DevOps Basics 	A Junior Software Developer supports software development activities by writing, testing, and debugging code using basic programming languages such as Python, Java, or JavaScript. They assist in Agile development processes, participate in code reviews, and manage tasks using version control systems like Git. Familiarity with Gen AI-based tools and a focus on learning industry best practices are integral to their role.	4.0

	<ul style="list-style-type: none"> ● Security Best Practices ● UI/UX Fundamentals ● Generative AI Integration 		
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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.	Version Control System (e.g., GitLab, Gitea, etc.)	Nos	1
2.	Code editor for HTML, CSS, JavaScript, and back-end programming (e.g. VSCodium, Brackets, etc.)	Nos	1
3.	Database Management System (e.g. MySQL, PostgreSQL, etc.)	Nos	1
4.	Continuous Integration Tool (e.g. Jenkins, GitLab CI/CD, Concourse CI, etc.)	Nos	1
5.	Agile Project Management Tool (e.g. Taiga)	Nos	1

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, Maharashtra 411045	7389777739	monica.sharma@t-systems.com	
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,	9717036547	rishi.kumar@globant.com	

				Hadapsar, Pune - 411 013. Pune			
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,	9479421477	vaishalitomar@kpmg.com	

				Koramangala, Bengaluru, Karnataka- 560071			
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
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	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	<input checked="" type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge	<ul style="list-style-type: none"> ▪ Books/ e-books ▪ Presentations ▪ Reference Material ▪ Audio / Video Modules 	
2	<input checked="" type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	<ul style="list-style-type: none"> ▪ Self-Learning Videos (optional) ▪ Broadcasts (optional) ▪ Mobile Learning ▪ Curated Digital content (optional) 	
3	<input checked="" type="checkbox"/> Showing Practical Demonstrations to the learners	<ul style="list-style-type: none"> ▪ Video Content (optional) ▪ E-Resource library (optional) 	
4	<input checked="" type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	<ul style="list-style-type: none"> ▪ Training tools (tools list attached) ▪ Video Play ▪ Presentations 	
5	<input checked="" type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice	<ul style="list-style-type: none"> ▪ Online Question Bank ▪ MCQ based tests 	
6	<input checked="" type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations		
7	<input checked="" type="checkbox"/> 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
Assist with basic software development and testing tasks in the IT services industry	<i>Designing Algorithms and Coding</i>	3	4	-	2
	PC1. design and implement algorithms to solve problems using appropriate programming constructs	1	1.5	-	1
	PC2. apply Object-Oriented Programming (OOP) principles to create scalable and maintainable code	1	1.5	-	0.5

PC3. optimize code for performance and ensure it adheres to best practices	1	1	-	0.5
<i>Logical Problem-Solving</i>	3	4	-	2
PC4. analyze information to draw logical conclusions and solve problems effectively	1	1.5	-	1
PC5. use debugging techniques to identify and fix code issues	1	1.5	-	0.5
PC6. identify bottlenecks and implement performance improvements for enhancing existing solutions	1	1	-	0.5
<i>Advanced Programming Techniques</i>	2	4	-	1.5
PC7. integrate external functionalities by utilizing APIs and web services	1	1.5	-	0.5
PC8. implement error-handling mechanisms to improve software stability	0.5	1.5	-	0.5
PC9. apply asynchronous programming to enhance application performance	0.5	1	-	0.5
<i>Database Management</i>	2	4	-	1.5
PC10. develop efficient SQL queries and enhance the performance of database interactions	1	1.5	-	0.5
PC11. utilize ORM frameworks such as Hibernate to streamline database management	0.5	1.5	-	0.5
PC12. create and manage database schemas to ensure efficient and reliable data storage	0.5	1	-	0.5
<i>Version Control and Collaboration</i>	2	4	-	1.5
PC13. use Git or GitHub for version control and manage code changes effectively	1	1.5	-	0.5
PC14. contribute to code reviews and work collaboratively to enhance code quality	0.5	1.5	-	0.5
PC15. follow best practices for commit messages and branch management	0.5	1	-	0.5
<i>Agile Development Practices</i>	2	3	-	1
PC16. engage in Agile ceremonies such as daily standups, sprint planning, and retrospectives to ensure team alignment and progress	1	1.5	-	0.5
PC17. collaborate with team members to break down user stories into smaller, actionable tasks for effective sprint execution and delivery	1	1.5	-	0.5
<i>Test Case Execution and Documentation</i>	2.5	4	-	1.5
PC18. draft and execute test cases to ensure software functionality meets requirements	1	1.5	-	0.5
PC19. document test outcomes and report discrepancies clearly	1	1.5	-	0.5
PC20. collaborate with the QA team to improve test case coverage	0.5	1	-	0.5
<i>Ensuring Code Quality and Debugging</i>	2.5	4	-	1.5
PC21. perform code reviews and utilize static analysis tools to ensure the code maintains high standards of quality	1	1.5	-	0.5

PC22. employ effective debugging methods to swiftly identify and resolve issues within the codebase	1	1.5	-	0.5
PC23. refactor code for readability, performance, and maintainability	0.5	1	-	0.5
<i>Integration Testing and Deployment</i>	<i>2.5</i>	<i>4</i>	<i>-</i>	<i>1.5</i>
PC24. utilize automated integration testing tools to verify the seamless interaction of all system components	1	1.5	-	0.5
PC25. implement deployment strategies such as rolling, blue-green, and canary deployments for efficient release management	1	1.5	-	0.5
PC26. document and execute deployment processes across environments (development, testing, production)	0.5	1	-	0.5
<i>Software Development Lifecycle (SDLC)</i>	<i>1.5</i>	<i>3</i>	<i>-</i>	<i>1</i>
PC27. comprehend the stages of SDLC, including requirements gathering, design, development, testing, deployment, and maintenance	1	1.5	-	0.5
PC28. collaborate in various SDLC models, such as Waterfall, Agile, or DevOps, depending on project needs	0.5	1.5	-	0.5
<i>DevOps Basics</i>	<i>2</i>	<i>3</i>	<i>-</i>	<i>1</i>
PC29. apply continuous integration and continuous deployment (CI/CD) pipelines to automate code integration, testing, and deployment for efficient software delivery	1	1.5	-	0.5
PC30. utilize tools such as Jenkins, Docker, or Kubernetes to understand and manage automated build and deployment processes	1	1.5	-	0.5
<i>Security Best Practices</i>	<i>1</i>	<i>2</i>	<i>-</i>	<i>1</i>
PC31. apply fundamental security measures, including data encryption and authentication protocols	0.5	1	-	0.5
PC32. identify common vulnerabilities such as SQL injection and cross-site scripting (XSS) and implement strategies to mitigate them	0.5	1	-	0.5
<i>UI/UX Fundamentals</i>	<i>2.5</i>	<i>4</i>	<i>-</i>	<i>1.5</i>
PC33. apply the basics of user interface (UI) design and user experience (UX) principles	1	1.5	-	0.5
PC34. utilize front-end technologies like HTML, CSS, and JavaScript to create intuitive and responsive interfaces	1	1.5	-	0.5
PC35. use design tools or libraries to improve the visual appeal of applications	0.5	1	-	0.5
<i>Generative AI Integration</i>	<i>1.5</i>	<i>3</i>	<i>-</i>	<i>1.5</i>
PC36. understand the core concepts of Generative AI, including its objectives, capabilities, and constraints	0.5	1	-	0.5
PC37. utilize Generative AI tools like GitHub Copilot and ChatGPT to assist with coding, debugging, and code optimization	0.5	1	-	0.5
PC38. create precise prompts to enhance the accuracy and relevance of AI-generated outputs	0.5	1	-	0.5

	Total Marks	30	50	-	20
DGT/VSQ/N0101: Employability Skills (30 Hours)	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
	<i>Constitutional values – Citizenship</i>	1	1	-	-
	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
	<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
	PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
	<i>Basic English Skills</i>	2	3	-	-
	PC4. speak with others using some basic English phrases or sentences	-	-	-	-
	<i>Communication Skills</i>	1	1	-	-
	PC5. follow good manners while communicating with others	-	-	-	-
	PC6. work with others in a team	-	-	-	-
	<i>Diversity & Inclusion</i>	1	1	-	-
	PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
	PC8. report any issues related to sexual harassment	-	-	-	-
	<i>Financial and Legal Literacy</i>	3	4	-	-
	PC9. use various financial products and services safely and securely	-	-	-	-
	PC10. calculate income, expenses, savings etc.	-	-	-	-
	PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
	<i>Essential Digital Skills</i>	4	6	-	-
	PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-	
<i>Entrepreneurship</i>	3	5	-	-	
PC14. identify and assess opportunities for potential business	-	-	-	-	
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-	
<i>Customer Service</i>	2	2	-	-	

PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	<i>1</i>	<i>3</i>	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
Total Marks	20	30	-	-
Grand Total	50	80	-	20

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
CRM	Customer Relationship Management
SDLC	SDLC – Software Development Lifecycle
OOP	OOP – Object-Oriented Programming
API	API – Application Programming Interface
CI/CD	CI/CD – Continuous Integration/Continuous Deployment
AI	AI – Artificial Intelligence
UI/UX	UI/UX – User Interface/User Experience
ORM	ORM – Object-Relational Mapping
SQL	SQL – Structured Query Language
DevOps	DevOps – Development and Operations
XSS	XSS – Cross-Site Scripting
Git	Git – Global Information Tracker
HTML	HTML – HyperText Markup Language
CSS	CSS – Cascading Style Sheets
Gen AI	Gen AI – Generative Artificial Intelligence
IDE	IDE – Integrated Development Environment
DBMS	DBMS – Database Management System
VCS	VCS – Version Control System

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