



QUALIFICATION FILE

Application Developer - Web & Mobile

☒ 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: 5.0

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	Application Developer - Web & Mobile													
2.	Sector/s	IT/ITeS													
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: 2020/ITES/ITSSC/03795 & v2.0	Qualification Name of existing/previous version: Application Developer - Web & Mobile												
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA													
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-05-IT-03642-2025-V2-NASSCOM & v3.0	6. NCrf/NSQF Level: 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	An Application Developer - Web and Mobile designs, develops, and maintains innovative applications that fulfill user needs and business objectives. The role involves managing the entire application lifecycle, ensuring efficient workflows for continuous integration and delivery. The individual collaborates with cross-functional teams to gather requirements, conducts testing, and implements enhancements to optimize performance and user experience. The person also provides ongoing support for existing applications.													
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 2nd Year of UG*</td> <td></td> </tr> <tr> <td>2.</td> <td>Completed 3-Year Diploma* after 10th</td> <td>1.5-year relevant experience</td> </tr> <tr> <td>3.</td> <td>Previous relevant Qualification of NSQF Level 4</td> <td>3-year relevant experience</td> </tr> </tbody> </table> b. Age: 20 Years *UG or Diploma with courses related to Engg. / Science **Relevant Experience (including work, internship and apprenticeship) related to Web and Mobile		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	Completed 2nd Year of UG*		2.	Completed 3-Year Diploma* after 10th	1.5-year relevant experience	3.	Previous relevant Qualification of NSQF Level 4	3-year relevant experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)													
1.	Completed 2nd Year of UG*														
2.	Completed 3-Year Diploma* after 10th	1.5-year relevant experience													
3.	Previous relevant Qualification of NSQF Level 4	3-year relevant experience													
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	Minimum- 14 Maximum: 18	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 Duration: ☒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>180</td> <td>150</td> <td>90</td> <td></td> <td>420</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)	180	150	90		420	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)															
Classroom (offline)	180	150	90		420															
Online																				
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>	This entry should refer to one or more of the following: Academic progression: access to related qualification(s) at the same NSQF level: User Experience Designer, Test Analyst – Web & Mobile, DevOps Analyst – Web & Mobile, Mobile Device Management Analyst Professional progression: access to related qualification(s) at the next NSQF level: Product Manager – Web & Mobile, Senior User Experience Designer, Application Architect – Web & Mobile, Senior Application Developer – Web & Mobile, Senior Test Analyst – Web & Mobile, Senior DevOps Analyst – Web & Mobile																		
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	The program is gender-neutral, promoting equal opportunities for all participants. However, to foster greater participation from women, some organizations have designated a specific number of seats exclusively for female candidates to encourage their involvement.																		
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 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 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.	Implement DevSecOps practices for secure application development	SSC/N8417, v3.0	Core	5.0	3	30	30	30	-	90	30	50	-	20	100	20
2.	Implement Continuous Integration and Continuous Deployment (CI/CD) practices	SSC/N8451, v1.0	Core	5.0	2	10	20	30	-	60	30	50	-	20	100	15
3.	Develop tests or simulations for end-to-end QA of systems	SSC/N8125, v3.0	Core	5.0	2	15	15	30	-	60	30	50	-	20	100	15
4.	Fix application bugs and improve application performance	SSC/N8418, v3.0	Core	5.0	1	15	15	-	-	30	30	50	-	20	100	15
5.	Monitor and manage cloud applications and the deployed systems	SSC/N8323, v3.0	Core	5.0	1	10	20	-	-	30	30	50	-	20	100	15
6.	Optimize Revenue, Security, and Accessibility in Web and Mobile Products	SSC/N8452, v1.0	Non-Core	5.0	1	10	20	-	-	30	30	50	-	20	100	5

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)
7.	Employability Skills (60 Hours)	DGT/VSQ/N 0102, v1.0	Non-Core	4.0	2	60	-	-	-	60	20	30	-	-	50	5
Duration (in Hours) / Total Marks					12	150	120	90		360	200	330	-	120	650	90

Elective NOS/s:

Elective 1: Front-end Web Development

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 a user-friendly web app aligned with functional, non-functional, and UX requirements	SSC/N8414, v3.0	Core	5.0	2	30	30	-	-	60	30	50	-	20	100	10
Duration (in Hours) / Total Marks					2	30	30	-	-	60	30	50		20	100	10

Elective 2: Mobile Application Development

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 native/cross-platform/hybrid mobile application for the target platforms	SSC/N8415, v3.0	Core	5.0	2	30	30	-	-	60	30	50	-	20	100	10
Duration (in Hours) / Total Marks					2	30	30			60	30	50		20	100	10

Elective 3: Back-end Engineering

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 reliable, scalable and secure back-end aligned to the application architecture	SSC/N8416, v3.0	Core	5.0	2	30	30	-	-	60	30	50	-	20	100	10
Duration (in Hours) / Total Marks					2	30	30			60	30	50		20	100	10

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, preferably Engineering/Science/Computer Science/Electronics and Engineering /Information Technology. Industry & Training Experience: Minimum 2 years of industry experience in the field of web & mobile. Certification: "Trainer" mapped to the Qualification Pack "MEP/Q2601". Minimum accepted score is 80% aggregate.
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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, preferably Engineering/Science/Computer Science/Electronics and Engineering /Information Technology. Industry & Training Experience: 4 years of industry experience in relevant field of web & mobile. 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, preferably Engineering/Science/Computer Science/Electronics and Engineering /Information Technology. Industry & Training Experience: 2 years of industry experience in the field of web & mobile. 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, preferably Engineering/Science/Computer Science/Electronics and Engineering /Information Technology. Industry & Training Experience: 2 years of industry experience in the field of web & mobile. 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, preferably Engineering/Science/Computer Science/Electronics and Engineering /Information Technology. Industry & Training Experience: 4 years of industry experience in the field of web & mobile. 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 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 <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): NA
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>	NA
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	NA
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:	NO

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	A command of wide-ranging specialized theoretical and practical skills, involving variable routine and non-routine contexts. Preparation for Application Development Operations: - Analyze Project Requirements and Specifications - Establish Development Tools and Environment - Define Coding Standards and Best Practices Continuous Integration and Continuous Deployment (CI/CD) practices: - Build and test automation - CI/CD pipeline management - Deployment automation Technical Requirements Implementation: - Develop Application Features Based on Specifications - Implement Frontend and Backend Logic - Integrate APIs and Third-Party Services Testing and Debugging: - Conduct Unit, Integration, and System Testing - Debug and Resolve Issues During Development Performance Optimization and Scalability: - Optimize Application Performance - Ensure Scalability and Future-Proofing Technology Stack and Tools Implementation: - Select and Utilize the Appropriate Technology Stack - Use Development Frameworks and Tools Effectively Security and Compliance Implementation: - Implement Secure Coding Practices - Ensure Compliance with Industry Standards Project Development and Collaboration: - Collaborate with Cross-Functional Teams - Participate in Code Reviews and Team Collaboration Problem-Solving and Decision-Making: - Diagnose and Solve Technical Problems - Balance Trade-Offs Between Time, Quality, and Performance	An Application Developer at this level should have specialized theoretical knowledge across areas like DevSecOps, CI/CD practices and end-to-end quality assurance (QA) systems. They must understand how to fix application bugs and optimize performance, manage cloud-based applications and deployed systems, and possess essential employability skills. Additionally, they need to understand how to develop user-friendly web applications, mobile applications, and back-end systems that are aligned with functional and non-functional requirements, user experience (UX), and security standards. Hence, this role falls under Level 5.	5.0

	Optimize Revenue, Security, and Accessibility in Web and Mobile Products • Revenue Strategy • Product Solution Strategy • Customer Requirement Analysis • Product Security • Data Privacy and Security • Accessibility		
Professional and Technical Skills/ Expertise/ Professional Knowledge	Wide-ranging factual and theoretical knowledge in broad contexts within a field of work or study. • Know the implementation of DevSecOps and CI/CD practices for smooth software deployment. • Knowledge of developing and executing end-to-end tests to ensure application functionality. • Understand the methods for fixing bugs and optimizing application performance. • Knowledge of monitoring and managing cloud-based applications for performance and security. • Know the best practices for building user-friendly web applications based on functional and UX requirements. • Understand the process of developing native, cross-platform, or hybrid mobile apps for target platforms. • Knowledge of selecting technology stacks for secure, scalable, and efficient back-end systems. • Know the importance of security measures like encryption and access control in applications. • Understand the principles of performance optimization for scalability and reliability. • Knowledge of debugging techniques for resolving performance issues in web and mobile apps. • Know the regulatory requirements for web and mobile application compliance (e.g., GDPR). • Understand the importance of working with cross-functional teams to deliver quality applications.	The Application Developer must demonstrate technical skills to implement DevSecOps and CI/CD practices for seamless deployment and integration, along with expertise in developing and running simulations for QA testing. They should be adept at identifying and fixing application bugs, improving performance, and ensuring security across both mobile and web applications. For cloud-based applications, they must monitor and manage systems for high availability and performance. • For front-end development, they should be proficient in developing intuitive and responsive user interfaces (UI) aligned with functional and UX requirements. • For mobile development, they must develop reliable, secure native/cross-platform applications. • For back-end engineering, they are responsible for building scalable, secure back-end services and integrating them with the application architecture. Hence, this role falls under Level 5.	5.0

Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work of study. • Select appropriate development tools and frameworks to optimize application performance and user experience. • Identify and analyze market trends to inform application development strategies and feature sets. • Develop effective problem-solving techniques to address bugs and performance issues in applications. • Create user-centered designs that enhance usability and accessibility in web and mobile applications. • Implement agile methodologies to ensure efficient project management and iterative development processes. • Conduct thorough testing and quality assurance practices to deliver high-quality software products. • Establish effective communication strategies to collaborate with cross-functional teams and stakeholders. • Manage project timelines and resources effectively to meet deadlines and project goals. • Demonstrate adaptability to rapidly changing technologies and industry standards in software development. • Cultivate entrepreneurial thinking by exploring innovative solutions and new business models in application development. • Integrate user feedback and analytics into the development process to continuously improve applications. • Build a professional network within the tech industry to share knowledge and explore collaboration opportunities. • Foster a growth mindset to embrace learning and development in emerging technologies and programming languages. • Evaluate the feasibility and scalability of application features based on user requirements and market demand. • Lead initiatives for continuous improvement in coding practices and development processes.	The Application Developer must possess core employability skills that include critical thinking, adaptability, and problem-solving. They should be prepared to collaborate with cross-functional teams, manage development projects with agility, and align their development work with business goals. An entrepreneurial mindset is essential for adapting to changing technologies and customer demands, driving innovation, and ensuring that applications meet performance and security benchmarks. Professionalism, teamwork, and a continuous learning approach are key to excelling in this role. Therefore, this role is considered at Level 5.	5.0
Broad Learning Outcomes/Core Skill	Full responsibility for output of group and development The job holder is expected to communicate complex and specialized information clearly and effectively, both in written and oral forms, to diverse stakeholders, including cross-functional teams, senior	The Application Developer applies specialized theoretical knowledge and technical skills to develop secure, scalable, and high-performance web and mobile applications. They are responsible for ensuring the reliability of the applications through testing and QA, optimizing	5.0

	management, and external partners. They must possess advanced analytical and problem-solving skills, be capable of interpreting and presenting data and insights to drive informed decision-making, and demonstrate proficiency in project management and strategic planning. They should be skilled in advanced arithmetic, statistical analysis, and understanding complex systems, as well as applying these skills to optimize processes, enhance quality, and ensure compliance with standards.	performance, and maintaining cloud-based systems. Their role requires the continuous development of their skills, staying updated with technological trends, and adapting new tools and frameworks to improve efficiency and scalability. Hence, this role falls under Level 5.	
Responsibility	The participant is responsible for: • Secure version control and source code management • Security compliance and auditing • Security in deployment pipelines • Build and test automation • CI/CD pipeline management • Deployment automation • Security compliance and integration • Define requirements • Create test cases • Run test cases • Conduct performance and load testing • Record and document bugs • Identify the bug • Isolate the bug • Analyze the logs • Gather requirements • Monitor system performance • Report application performance • Understanding the scope • Design and development • Requirements mapping • Application development • Publishing to app-stores • Independent application development • Identification of scope • Design back-end • Design back-end APIs and services	An Application Developer – Web & Mobile is responsible for designing, developing, testing, and maintaining web-based and mobile-based applications. They collaborate with cross-functional teams to implement DevSecOps practices, monitor application performance, and ensure security and compliance. The individual evaluates and resolves issues related to bugs and performance, while also ensuring the applications are aligned with business requirements, user experience standards, and scalability needs. The developer works under guidance but takes responsibility for their work and the quality of the applications they deliver. Thus, this role falls under Level 5.	5.0

	• Design database • Reliability and scalability • Write test scripts • Back-end development • Revenue Strategy • Product Solution Strategy • Customer Requirement Analysis • Product Security • Data Privacy and Security • Accessibility in Web and Mobile Products		
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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 Systems (e.g., Git, GitLab, Gitea, etc.)	Nos	1
2.	CI/CD Tools (e.g., Jenkins, Concourse CI, etc.)	Nos	1
3.	DevSecOps Integration (e.g., Jenkins, GitLab CI/CD, etc.)	Nos	1
4.	Testing Frameworks (e.g., JUnit, TestNG, etc.)	Nos	1
5.	Agile Methodology Tools (e.g., Taiga, OpenProject, etc.)	Nos	1
6.	Backend Development Frameworks (e.g., Node.js, Django, Spring Boot, Flask)	Nos	1

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.	PwC India	Yatharth Bhatnagar	Software Engineer	Pune	7276325777	yatharth23@gmail.com	
2.	Siemens Digital Industries Software	Snehal Pandey	Software Engineer	Pune	7387151993	snehalpande93@gmail.com	
3.	Dell Technologies	Ariba Syed	Software Engineer	Surat		ariba.syed2017@gmail.com	
4.	Protiviti Global Business Consulting	Sakshi Samtani	Senior Manager	Mumbai	8080536463	sakshi3192@gmail.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.	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	
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.	Capgemini	Shruti Gupta	Manager	Chennai, Tamil Nadu, India	9004343572	shrutivijendra@gmail.com	
9.	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	
10.	Sycamore Informatics	Rahul Kumar Kaushik	Product Manager	No. 6, 2nd Floor, 2nd Main, Arekere, Off Bannerghatta Road, Bangalore 560076	8859885973	rahul.kaushik@sycamoreinformatics.com	
11.	Movate	Rohit Kumar Sharma	Manager – Development	A-21, sector 4, Block A, Kailash Colony, Greater Kailash, New Delhi,	9927564461	rohit.sharma.movate@gopangea.com	
12.	GlobalLogic	Rashid Muhammad	Associate Manager	Oxygen Business Park SEZ, Tower, 3, Noida-Greater Noida	8881474420	rashid.muhammad@globallogic.com	

13.	HCL Tech	Sheeloo Sachan	Technical Specialist	Plot No 3A, Sector 126, Noida, Uttar Pradesh 201301	9717036547	sachan.sheeloo@gmail.com	
14.	Globant	Rishi Kumar	Analytics	Wing A & B, Level 5, Tower IV, Cybercity, Magarpatta City, Hadapsar, Pune – 411 013. Pune	9717036547	rishi.kumar@globant.com	
15.	Reckitt Benckiser	Sachin Sharma	Demand Manager	Udyog Vihar, Phase V, Gurgaon, Haryana	9758573077	Sachin.Sharma@rb.com	
16.	PWC	Mahbub Khan	Human Capital Lead	Pine Valley 4th Floor, Village, Intermediate Ring Rd, Embassy Golf Links Business Park, Challaghatta, Bengaluru, Karnataka 560071			
17.	Mindtree	Rosalee M Kombial	Vice President- People Function	LTIMindtree Ltd, Global Village, RVCE Post, Mysore Road, Bengaluru-560059, Karnataka.			
18.	Tech Mahindra	Krishna Ramaswami	Head- Human Resources	Gateway Building, Apollo Bunder, Mumbai- 400001			
19.	Capital Numbers	Mrs. Paromita Biswas Panja	HR	Mani Casadona- IT Building, unit Number 8E4, 8th Floor, Plot 2 F/4, Action Area # 2 F New Town, Rajarhat, Kolkata: 700156, West Bengal, India	033 6799 2222	info@capitalnumbers.com	
20.	Merce Technologies	Mr Jayant Bhatt	Operation Head	301 Technocity, X-5/3, T.T.C. Industrial Area, MIDC Industrial Area, Mahape, Navi Mumbai, Maharashtra 400710		accounts@remiges.tech	
21.	eSquare	Md.Ali	Director Operation	5, AC- 709, 5th A Cross Road, Balachandra Layout, HRBR Layout 2nd Block, HRBR Layout, Kalyan Nagar, Bengaluru, Karnataka- 560043			
22.	Senrysa Technologies Private Limited	Triparna Mukherjee	HR Business Partner & Leadership Acquisition	6th Floor, TOWER-1, GODREJ WATERSIDE, DP Block, Sector V, Bidhannagar, Kolkata, West Bengal 700091	033 66212222	mail.senrysa.com	

23.	MaxMobility	Arijeet Mukherjee	CEO	2nd Floor, Unit, Block-2b, ECOSPACE BUSINESS PARK, 202B, AA II, Newtown, Kolkata, Chakpachuria, West Bengal 700156	infomaxmibilty.in	
24.	Prerogative Business Solution Pvt.Ltd.	Sujit Singha Roy	Director	9 Victoria Park, GN Block, Sector V, Bidhannagar, Kolkata, West Bengal 700091		
25.	DXC Technology	Lokendra Sethi	Vice President- Human Resources	Hosur Rd, near to THE OTTERA HOTEL, Konappana Agrahara, Electronic City, Bengaluru, Karnataka 560100		
26.	Mass Mutual India	Ravi Tangirala	Head GCC	7th Floor, Block I, BSR IT SEZ, Financial District Nanakramguda Village, Serilingampalle (M), Hyderabad, Telangana 500008		
27.	PI-Square Tech	Ananya Varma	HR Executive	3a, Mindspace Madhapur Rd, Mindspace, Vittal Rao Nagar, HITEC City, Hyderabad, Telangana 500081		
28.	TeckValley India Pvt. Ltd	Chandrika Prasad	Assistant Manager- HR	J-38, Block J, Sector 63, Noida, Uttar Pradesh 201301		
29.	ALLSEC Technologies	Aarav Sharma	Human Resources Department	Khykha Castle, 3rd floor, Ashok Nagar, Bengaluru, Karnataka. Lifestyle bus stop to come straight take right Empire hotel walk, 25, Castle St, Ashok Nagar, Bengaluru, Karnataka 560025		
30.	Virtusa	Janardhan S	Global Head- Talent Development	Sy No.115, Nanakramguda Rd, Financial District, Serilingampalle (M), Hyderabad, Telangana 500032		

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
2025	200	75	10	5	5	5
2026	300	100	15	10	10	10
2027	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	50:50
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners		50:50
3	☒ Showing Practical Demonstrations to the learners	- Video Content (optional) - E-Resource library (optional)	50:50
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	- Training tools (tools list attached) - Video Play - Presentations	50:50
5	☒ Tutorials/ Assignments/ Drill/ Practice	- Online Question Bank - MCQ based tests	50:50
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations		50:50
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training		50:50

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/N8417: Implement DevSecOps practices for secure application development	<i>Secure version control and source code management</i>	15	25	-	8
	PC1. maintain and secure the repository, ensuring appropriate access controls and backup procedures for managing application source code	3	7	-	2
	PC2. manage changes to the application code/source code through a version control system, tracking all changes and contributions	2	6	-	2
	PC3. implement policies for code review, tagging, and secure merging to minimize vulnerabilities in the development process	5	6	-	2

	PC4. integrate version control systems with project management tools, streamlining workflow and collaboration across teams	5	6		2
	<i>Security compliance and auditing</i>	10	15	-	7
	PC5. conduct security reviews of application source code, including vulnerability scanning and static code analysis	3	5	-	3
	PC6. integrate security tools into the DevSecOps pipeline to automate security checks throughout the development lifecycle	3	5	-	2
	PC7. document security practices and maintain compliance with industry standards (e.g., ISO/IEC 27001)	4	5	-	2
	<i>Security in deployment pipelines</i>	5	10	-	5
	PC8. ensure security measures are applied during deployment, such as encryption, access management, and firewall configuration	3	5	-	3
	PC9. conduct penetration testing and security audits before and after deployment to identify and mitigate risks	2	5	-	2
	Total Marks	30	50	-	20
SSC/N8451: Implement Continuous Integration and Continuous Deployment (CI/CD) practices	<i>Build and test automation</i>	15	25	-	8
	PC1. manage application environment variables and configurations for target environments	5	10	-	3
	PC2. automate build and testing using scripts, tools, and test frameworks to ensure consistency and efficiency	5	10	-	3
	PC3. integrate automated tests into the CI pipeline to detect errors early in the development cycle	5	5	-	2
	<i>CI/CD pipeline management</i>	10	15	-	6
	PC4. implement and manage CI/CD pipelines, ensuring a smooth and automated process for continuous integration and delivery	4	5	-	2
	PC5. test, identify, and fix build failures to ensure uninterrupted development and deployment cycles	3	5	-	2
	PC6. manage deployment policies and processes, ensuring security and compliance are adhered to in the deployment pipeline	3	5	-	2
	<i>Deployment automation</i>	5	10	-	6
	PC7. automate application deployment to different environments (e.g., web servers, API services, databases) using industry-standard tools (e.g., Jenkins, GitLab CI)	3	5	-	3
	PC8. ensure deployment processes are scalable and maintain high availability, using containerization and orchestration tools (e.g. Docker, Kubernetes)	2	5	-	3
	Total Marks	30	50	-	20
	<i>Define requirements</i>	8	15	-	5
SSC/N8125: Develop tests or simulations for end-to-end QA of systems	PC1. define functional requirements of the autonomous system, ensuring clarity and completeness	2	4	-	1
	PC2. define the type of testing and testing requirements, including unit, sub-system, and system testing, based on project needs	1	4	-	1

	PC3. identify issues with the requirements for testing and clarify these with relevant stakeholders	2	3	-	1
	PC4. access reusable scenarios, test cases, scripts, and tools from the organization's knowledge base	1	2	-	1
	PC5. integrate test cases into the CI/CD pipeline, ensuring smooth transitions from development to testing	2	2	-	1
	<i>Create test cases</i>	<i>12</i>	<i>20</i>	<i>-</i>	<i>8</i>
	PC6. create or modify test scenarios relevant to the requirements, ensuring alignment with project goals	1	3	-	1
	PC7. create or modify software test cases relevant to the requirements, focusing on functionality and performance	2	3	-	1
	PC8. create or modify hardware test cases relevant to the requirements, covering all necessary specifications	1	3	-	1
	PC9. identify test cases that can be automated feasibly, optimizing the testing process	2	2	-	1
	PC10. create or modify automated scripts relevant to the requirements, improving efficiency in testing	1	3	-	1
	PC11. access or create test data relevant to the requirements, ensuring comprehensive coverage	1	2	-	1
	PC12. create a test plan to cover all requirements, detailing scope, objectives, and resources needed	2	2	-	1
	PC13. deploy code to lower environments for testing, leading up to the production environment, ensuring proper validation at each stage	2	2	-	1
	<i>Run test cases</i>	<i>7</i>	<i>10</i>	<i>-</i>	<i>5</i>
	PC14. run the simulated test cases and evaluate the outcomes, providing accurate assessments of functionality	2	3	-	2
	PC15. communicate the outcomes of the tests or simulations with relevant stakeholders and iterate based on feedback	1	2	-	1
	PC16. create documentation on the tests or simulations for stakeholders, maintaining transparency and traceability	2	2	-	1
	PC17. validate the test plan, test cases, and/or automated scripts with relevant stakeholders, ensuring all criteria are met	2	3	-	1
	<i>Conduct performance and load testing</i>	<i>3</i>	<i>5</i>	<i>-</i>	<i>2</i>
	PC18. conduct performance and load testing, including advanced load, stress, and performance testing, aligning with industry practices	1.5	3	-	1
	PC19. analyze test results to identify performance bottlenecks and areas for improvement	1.5	2	-	1
	Total Marks	30	50	-	20
SSC/N8418: Fix application bugs and improve application performance	<i>Record and document bugs</i>	<i>8</i>	<i>14</i>	<i>-</i>	<i>5</i>
	PC1. record the bug or enter it in the case tracking system	2	4	-	1
	PC2. identify what the user was doing, what they were expecting, and what happened instead	1	3	-	1

	PC3. search for relevant solutions for the error on developer forums	2	3	-	1
	PC4. document the bug's impact, steps to reproduce it, and any attempted solutions	1	2	-	1
	PC5. maintain detailed records of error messages, their respective solutions, and changes made during the debugging process	2	2	-	1
	<i>Identify the bug</i>	6	10	-	5
	PC6. determine the immediate line of code where the bug occurs	2	3	-	2
	PC7. specify the bug type (e.g., unexpected null, bad input, off-by-one, buffer overflow, index out-of-range, etc.)	2	4	-	2
	PC8. document where the error occurs and note any relevant patterns in the code that might suggest a recurring issue	2	3	-	1
	<i>Isolate the bug</i>	9	16	-	6
	PC9. use the process of elimination to isolate the bug to a particular line of code	1	3	-	1
	PC10. disable blocks of code (comment them out) until the crash stops happening	1	2	-	1
	PC11. use a unit-testing framework to isolate methods	2	3	-	1
	PC12. continue to disable code and reduce the application to minimal functionality until it begins working again	2	3	-	1
	PC13. eliminate the hardware or platform as a cause	1	3	-	1
	PC14. log which parts of the code were disabled, tested, and how the behaviour changed	2	2	-	1
	<i>Analyze the logs</i>	7	10	-	4
	PC15. log all activities and analyze the logs	1	3	-	2
	PC16. continue the isolation and logging processes until the immediate line of code where the bug occurs is identified	3	4	-	1
	PC17. document log analysis results, noting which logs helped pinpoint the issue and which didn't	3	3	-	1
	Total Marks	30	50	-	20
SSC/N8323: Monitor and manage cloud applications and the deployed systems	<i>Gather requirements</i>	7	12	-	5
	PC1. identify the factors which impact the performance of the cloud application	3.5	6	-	2.5
	PC2. analyze ways to optimize applications in terms of cost and resource utilization	3.5	6	-	2.5
	<i>Monitor system performance</i>	16	26	-	10
	PC3. define metrics to monitor application performance and the health of deployed systems	4	6.5	-	2.5
	PC4. monitor application log reports for errors and clues about problems with the application and the deployed systems on the cloud	4	6.5	-	2.5

	PC5. assess and deploy appropriate application monitoring tools to track cloud application performance	4	6.5	-	2.5
	PC6. perform analysis to generate consumable reports about cloud application performance	4	6.5	-	2.5
	<i>Report application performance</i>	7	12	-	5
	PC7. share application performance reports with relevant stakeholders	3.5	6	-	2.5
	PC8. provide actionable insights for re-engineering the application	3.5	6	-	2.5
	Total Marks	30	50	-	20
SSC/N8452: Optimize Revenue, Security, and Accessibility in Web and Mobile Products	<i>Revenue Strategy</i>	5	10	-	4
	PC1. develop and implement monetization models (e.g., subscriptions, ads, freemium models) based on market analysis and revenue opportunities	3	5	-	2
	PC2. conduct A/B testing and use analytics tools to evaluate product performance and optimize revenue potential	2	5	-	2
	<i>Product Solution Strategy</i>	5	10	-	4
	PC3. design and prioritize product features aligned with business goals, ROI, and customer needs	3	5	-	2
	PC4. coordinate with cross-functional teams to ensure timely and efficient delivery of product solutions	2	5	-	2
	<i>Customer Requirement Analysis</i>	5	10	-	3
	PC5. conduct surveys, interviews, and usability testing to gather customer insights and establish continuous feedback loops for iterative improvements	3	5	-	2
	PC6. translate customer requirements into actionable product specifications	2	5	-	1
	<i>Product Security</i>	5	5	-	3
	PC7. identify and address potential security threats and vulnerabilities through regular audits, penetration testing, and security protocols (e.g., encryption, secure authentication, API security)	5	5	-	3
	<i>Data Privacy and Security</i>	5	10	-	3
	PC8. adhere to global data privacy regulations (e.g., GDPR, CCPA) by establishing clear policies for data collection, storage, and usage	3	5	-	2
	PC9. ensure compliance with data anonymization and encryption standards	2	5	-	1
	<i>Accessibility in Web and Mobile Products</i>	5	5	-	3
	PC10. implement and audit accessibility guidelines (e.g., WCAG, ADA) to ensure compliance across web and mobile platforms	3	3	-	2
	PC11. develop inclusive solutions, such as screen reader compatibility, voice commands, and alternative input methods	2	2	-	1
	Total Marks	30	50		20

DGT/VSQ/N0102: Employability Skills	<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/N8414: Develop a user-friendly web app aligned with functional, non-functional, and UX requirements	<i>Understanding the scope</i>	13	24	-	8
	PC1. collaborate with cross-functional teams to understand the scope	2	4	-	1.5
	PC2. understand and analyze the functional, non-functional, and user experience requirements for interface development	3	4	-	1.5

	PC3. create a list of tasks that the user can execute within the interface based on identified requirements	2	4	-	1.5
	PC4. organize the list of tasks and interfaces needed for the overall application	2	4	-	1.5
	PC5. create a pre-list of possible re-usable components before starting development	2	4	-	1
	PC6. use Git/GitHub for version control to manage code changes and collaboration in a team environment	2	4	-	1
	<i>Design and development</i>	17	26	-	12
	PC7. define the structure of the pages, including headers, sections, articles, main, and footer	2	3	-	1.5
	PC8. develop codes for the various components such as headers, sections, articles, main, and footer	2	4	-	1.5
	PC9. write application code that meets security requirements	2	3	-	1.5
	PC10. design and develop unit tests for the application code	3	4	-	1.5
	PC11. build, test, and run the application before deployment	2	3	-	1.5
	PC12. manage data storage and retrieval mechanisms, ensuring efficiency and security	2	3	-	1.5
	PC13. conduct accessibility testing to ensure the web application is usable by all individuals, including those with disabilities	2	3	-	1.5
	PC14. apply agile methodologies like Scrum or Kanban to manage the development cycle and ensure continuous feedback and iteration	2	3	-	1.5
	Total Marks	30	50	-	20
SSC/N8415: Develop native/cross-platform/hybrid mobile application for the target platforms	<i>Requirements mapping</i>	6	13	-	4
	PC1. obtain information about the mobile solution, user needs, and market trends	2	4	-	1
	PC2. identify the functional, non-functional, and user experience (UX) requirements of the mobile application	1	4	-	1
	PC3. identify dependencies related to development, including device hardware functionalities, third-party integrations, and time-to-market	2	3	-	1
	PC4. follow emerging technologies in mobile app development, such as AI integration, augmented reality (AR), and machine learning (ML) to incorporate them into planning	1	2	-	1
	<i>Application development</i>	12	20	-	8
	PC5. develop application code according to security and compliance requirements	2	2	-	1
	PC6. encrypt data to safeguard user information where applicable	1	3	-	1
	PC7. manage security configurations to meet regulatory standards	2	3	-	1
	PC8. design and develop unit tests to ensure code reliability	1	3	-	1
	PC9. build, run, and test the application before deployment	2	2	-	1

	PC10. develop platform capabilities for A/B testing of features	1	3	-	1
	PC11. integrate AI, AR, or ML technologies to enhance app functionality and user engagement	1	2	-	1
	PC12. design user-friendly interfaces that enhance the overall user experience (UX/UI)	2	2	-	1
	<i>Publishing to app-stores</i>	7	9	-	5
	PC13. create and maintain service configurations for code deployment	2	2	-	1
	PC14. automate the deployment process using scripts and tools for efficiency	2	3	-	2
	PC15. publish the mobile application to the relevant app stores or platforms, ensuring adherence to their guidelines	1	2	-	1
	PC16. manage updates and continuous delivery using best practices in app-store deployment	2	2	-	1
	<i>Independent application development</i>	5	8	-	3
	PC17. develop and manage mobile applications independently, from concept to deployment	2	3	-	1
	PC18. handle all aspects of the app development lifecycle, including requirement gathering, coding, testing, and app store publishing	1.5	3	-	1
	PC19. follow market trends and new technologies to continuously improve application features and performance	1.5	2	-	1
	Total Marks	30	50	-	20
	SSC/N8416: Develop reliable, scalable and secure back-end aligned to the application architecture				
	<i>Identification of scope</i>	6	11	-	4
	PC1. demarcate backend and frontend responsibilities before starting application development	2	4	-	1
	PC2. identify the scope of backend operations and functionalities, ensuring alignment with project requirements	2	4	-	1.5
	PC3. consider the implications of different Software Development Life Cycle (SDLC) models, such as Agile, Waterfall, and DevOps, on backend development planning and execution	2	3	-	1.5
	<i>Design back-end</i>	4	8		2
	PC4. design server endpoints to connect with the client efficiently	2	4	-	1
	PC5. create stubs for upstream and downstream components to facilitate backend functionality	2	4	-	1
	<i>Design back-end APIs and services</i>	8	15	-	5
	PC6. document what each backend API endpoint must accomplish and its purpose	2	4	-	1
	PC7. specify the required and optional values expected from the client and those returned by the backend	2	4	-	1.5
	PC8. ensure the documentation is accurate and consistently updated	2	3	-	1.5

	PC9. implement retry logic and circuit breakers to handle failures in backend systems and ensure smooth operation	2	4	-	1
	<i>Design database</i>	2	3		1.5
	PC10. design and document the database schema, considering scalability and performance needs	2	3	-	1.5
	<i>Reliability and scalability</i>	4	5		3
	PC11. ensure all processes align with reliability and scalability requirements	2	2.5	-	1.5
	PC12. apply microservices architecture to enhance scalability, fault isolation, and ease of maintenance	2	2.5	-	1.5
	<i>Write test scripts</i>	2	3	-	1.5
	PC13. write test scripts to verify the functionality and reliability of all backend endpoints	2	3	-	1.5
	<i>Back-end development</i>	4	5	-	3
	PC14. build the API using the appropriate programming language	2	2.5	-	1.5
	PC15. deploy the backend using cloud services or dedicated hosting solutions	2	2.5	-	1.5
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.

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
IT	Information Technology
API	Application Programming Interface
CI/CD	Continuous Integration/Continuous Deployment
QA	Quality Assurance
UX	User Experience
UI	User
AR	Artificial Intelligence
AI	augmented reality
ML	machine learning
SDLC	Software Development Life Cycle

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