

QUALIFICATION FILE – Standalone NOS

Foundation of Web development

☒ Horizontal/Generic ☒ Vertical/Specialization

☒ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

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

NCrF/NSQF Level: 4.5

Submitted By:

IT-ITeS Sector Skills Council NASSCOM (SSC NASSCOM)

Plot No. – 7, 8, 9 & 10

Sector – 126, Noida, Uttar Pradesh - 201303

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Section 1: Basic Details

1.	NOS	Foundation of web development																
2.	Sector/s	IT/ITeS																
3.	Type of Qualification ☒ New ☐ Revised	NQR Code & version of the existing /previous qualification: <i>(change to previous, once approved)</i>	Qualification Name of the existing/previous version: <i>(previous, once approved)</i>															
4.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval.)</i>	NG-4.5-IT-04694-2025-V1-NASSCOM, V1.0	5. NCrf/NSQF Level: 4.5															
6.	Brief Description of the Standalone NOS	This NOS describes the fundamentals of web development																
7.	Eligibility Criteria for Entry for a 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>Relevant Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>UG Certificate or equivalent in STEM</td> <td>-</td> </tr> <tr> <td>2</td> <td>Pursuing 1st Year of 3Y/4Y UG Program in STEM</td> <td>-</td> </tr> <tr> <td>3</td> <td>Passed Class 12th or equivalent</td> <td>1.5 Years of relevant experience (including work, internship, and apprenticeship) in Web development/IT /Programming</td> </tr> <tr> <td>4</td> <td>Previous relevant qualification of NSQF level 4</td> <td>1.5 Years of relevant experience (including work, internship, and apprenticeship) in Web development/IT /Programming</td> </tr> </tbody> </table> b. Age: NA		S.No.	Academic/Skill Qualification (with Specialization - if applicable)	Relevant Experience (with Specialization - if applicable)	1	UG Certificate or equivalent in STEM	-	2	Pursuing 1st Year of 3Y/4Y UG Program in STEM	-	3	Passed Class 12th or equivalent	1.5 Years of relevant experience (including work, internship, and apprenticeship) in Web development/IT /Programming	4	Previous relevant qualification of NSQF level 4	1.5 Years of relevant experience (including work, internship, and apprenticeship) in Web development/IT /Programming
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8.	Credits Assigned to this NOS-Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	1.5 Credit	9. Common Cost Norm Category (I/II/III) (wherever applicable): II																	
10.	Any Licensing Requirements for Undertaking Training on This Qualification (wherever applicable)	NA																		
11.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	☐ Offline Only ☐ Online Only ☒ Blended <table border="1"> <thead> <tr> <th>Training Delivery Mode</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT (Hours)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td>25</td><td>20</td><td>00</td><td rowspan="2">45</td></tr> <tr> <td>Online</td><td>25</td><td>20</td><td>00</td></tr> </tbody> </table> (Refer Blended Learning Annexure for details)					Training Delivery Mode	Theory (Hours)	Practical (Hours)	OJT (Hours)	Total (Hours)	Classroom (offline)	25	20	00	45	Online	25	20	00
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13.	Is the NOS Amenable to Persons with Disability	☐ Yes ☒ No If "Yes", specify the applicable type of Disability:																		
14.	Progression Path After Attaining the Qualification, wherever applicable (Please show Professional and Academic progression)	NA																		
15.	How will the participation of women be encouraged?	The Program is gender neutral, although to increase women's participation, organizations are keeping aside few seats to encourage female candidates.																		
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Once approved the qualification will be available in Hindi or other Indian Languages.																		
17.	Is similar NOS available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:																		

18.	Name and Contact Details 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 Contact No.: 0120-4990111 Website: https://nasscom.in
19.	Final Approval Date by NSQC: 07th October 2025	20. Validity Duration: 36 Months 21. Next Review Date: 07th October 2028

Section 2: Training Related

1	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate (Engineering/ Technology/ Computer Science) Industry & training experience: 2 years of industry experience in Web Development. The industry experience would include work, internship, and apprenticeships undertaken after regular graduation. 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 (Engineering/ Technology/ Computer Science) Industry & training experience: 4 years of industry experience in Web Development. The full-time experience would include work, internship, and apprenticeship undertaken after regular graduation. Certification: "Master Trainer" mapped to the Qualification Pack "MEP/Q2602" Minimum accepted score is 90% aggregate.
3	Tools and Equipment Required for the Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4	In Case of Revised NOS, details of Any Upskilling Required for Trainer	NA

Section 3: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Educational Qualification: Graduate (Engineering/ Technology/ Computer Science) Industry & Training Experience: 2 years of industry experience in Web Development. The full-time experience would include work, internship, and apprenticeship undertaken after regular graduation. 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), (wherever applicable)</i>	Educational Qualification: Graduate (Engineering/ Technology/ Computer Science) Industry & Training Experience: 2 years of industry experience in Web Development. The full-time experience would include work, internship, and apprenticeship undertaken after regular graduation. 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 (Engineering/ Technology/ Computer Science) Industry & Training Experience: 4 years of industry experience in Web Development. The full-time experience would include work, internship, and apprenticeship undertaken after regular graduation. 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 and online proctored scenario-based multiple-choice questions ensuring a thorough evaluation of the individual's proficiency in learning outcomes, practical understanding, and real-world application of concepts.
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

Section 4: Evidence of the Need for the Standalone NOS

Provide Annexure/Supporting documents name.

1.	Government /Industry initiatives/ requirement (Yes/No): Industry initiative
2.	Number of Industry validation provided:11

3.	Estimated number of people to be trained:2000 As per Draup's AI Power Search, the employed talent in the Web and Mobile industry in 2024 is ~314,000. The annual demand is at~52000 in 2024
4.	Evidence of Concurrence/Consultation with Line/State Departments (In case of regulated sectors): (Yes/No): Applied (under process) If "No", why:

Section 5: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf/NSQF descriptors <i>(Mandatory)</i>	Evidence of Level
2.	Annexure: List of tools and equipment relevant for NOS <i>(Mandatory, except in case of online course)</i>	Tools and Equipment (lab set-up)
3.	Annexure: Performance and Assessment Criteria <i>(Mandatory)</i>	Performance Criteria Details
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	Assessment Strategy
5.	Annexure: Blended Learning <i>(Mandatory, in case the selected Mode of delivery is Blended Learning)</i>	NA
6.	Annexure: Acronym and Glossary <i>(Optional)</i>	Acronym and Glossary
7.	Annexure/Supporting Document: Standalone NOS- Performance Criteria Details Annexure/Document with PC-wise detailing as per NOS format (Mandatory- Public view)	NOS Sheet_Foundation of web development
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	MC_Foundation of Web development

Annexure: 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	Designing of Web Pages Implementation of Audio, Video, Animations, and other plugins in web pages	In Learning Web development and its various functionalities, candidates learn specialized technical skills to perform multiple web development related tasks.	4.5
Professional and Technical Skills/ Expertise/ Professional Knowledge	Fundamentals of clients and servers on the web Different types of semantic tags, multimedia tags, and embedding tags Different types of CSS selectors Basics of Object-Oriented Programming, JavaScript Language and Syntax Types of Databases (SQL and NoSQL-based databases) Back-end web development frameworks	After acquiring Professional Knowledge on Configuration and proper working of Linux Operating System, Apache HTTP server candidate will have enough knowledge of facts and principles adopted for configuration of servers.	4.5
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	How to style borders, background, and table elements using CSS Manipulation of HTML DOM using JavaScript Database management using Atomicity, Consistency, Isolation, and Durability (ACID) concepts.	The role demands a skill set that allows the individual to use development skills in setting up servers and web designing. This requires a wide range of skills of organising information to manage the server.	4.5

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
	How to request and query data from DBMS		
Broad Learning Outcomes/Core Skill	Configuration of programs and utilities to administer a machine for web development. Run scripts embedded in webpages. Debug JavaScript using browser-based development tools. Different methods to Query data (using SQL/NoSQL) Server-side programming	The individual must apply his/her web development skills along with a sound understanding of Database management and security. This would enable him/her to better understand web development concepts.	4.5
Responsibility	Development of knowledge, skills, and competences Build and maintain relationships with colleagues and other teams Convince others to take appropriate action in different situations. Manage and collaborate with stakeholders for project success	The role demands to work in a team to empower a culture of safety, security, and compliance in all aspects of Web Development activities and assist to deploy, monitor, audit, document, and maintain the life cycles of Web Development.	4.5

Annexure: Tools and Equipment (lab set-up)

List of Tools and Equipment
Batch Size:

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	PC/Laptop with internet		
2	Text Editors and IDEs		
3	Web Browsers		
4	FTP Clients		
5	Database Management Systems (DBMS)		
6	Web Server Software		
7	Back-End Programming Languages		
8	Frameworks and Libraries		

*Tools are open source

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. White Board
2. White Board Marker
3. Projector

Annexure: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile
1	Wipro	Narendra Nande	Practice Director	-	9900086708	narendra.nande@wipro.com	https://www.linkedin.com/in/narendra-nande-84402a2/
2	Draup	Anoop Mandodi/Ragul Kumar	Principal Product Designer	64, Jyoti Nivas College Rd, Koramangala Industrial Layout, Koramangala, Bengaluru, Karnataka 560034	8147771532	anoop.mandodi@draup.com	-
3	Kornferry	Ragul Kumar	Data analyst	Kornferry, 1st Floor, Prestige Nebula, National Informatics Centre, II, Infantry Rd, Bangalore, Karnataka,	9659964881	ragulblooper143@gmail.com	https://www.linkedin.com/in/ragul-kumar-b2297a171/

4	Farmtheory	Krishn Gopal Rajput	Business Analyst	-	9555863231	krishn.gopal@farmtheory.in	https://www.linkedin.com/in/krishn-gopal-rajpud-44a30611a/
5	Forbes Advisor	Naveenkumar J	Data Research Analyst	6th Floor, ITC Grand Chola, 24, Greams Road, Chennai, Tamil Nadu	9976773109	naveenkumarj4997@gmail.com	https://www.linkedin.com/in/naveenkumar-janakiraman
6	Cognizant	Ragul Raja M	Programmer Analyst	Cognizant Technology , Bengaluru, Karnataka	9952211204	rajaragul197@gmail.com	https://www.linkedin.com/in/ragul-raja-m-38743912a
7	Government Science College	Rithesh Adith	Assistant Programmer	-	9626592302	ritheshadith0@gmail.com	
8	Cognizant	Biswaroop	Programmer analyst	Cognizant Technology , Bengaluru, Karnataka	7094571383	tpmmourinth1998@gmail.com	https://www.linkedin.com/in/mourinth-manivel-a4ab04143?
9	IBM	Arpita Majumder	Tech Consultant	-	7894369677	Arpita.majumder@ibm.com	https://www.linkedin.com/in/arpita-majumder-85612a67/
10	Data Switch	Thilak hariharaSudhan A	Product Engineer	DataSwitch, Chennai	6393798750	thilakhariharan@gmail.com	https://www.linkedin.com/in/thilak-hariharasudhan-43a89b269/
11	Intellibren	Kailash PD	Director	-	6374700185	support@intellibren.com	

Annexure: Training Details

Training Projections:

Year	Estimated Training # of Total Candidates	Estimated training # of Women	Estimated training # of People with Disability
2023-2024	200	40	20
2024-2025	800	160	80
20205-2026	1200	240	120

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

Annexure: 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 NOS	List Recommended Tools – for all Selected Components	Offline: Online Ratio
1	☐ Theory/ Lectures - Imparting theoretical and conceptual knowledge	NA	NA
2	☐ Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners	NA	NA
3	☐ Showing Practical Demonstrations to the learners	NA	NA
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	NA	NA
5	☐ Tutorials/ Assignments/ Drill/ Practice	NA	NA
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	NA	NA
7	☐ On the Job Training (OJT)/ Project Work Internship/ Candidate Training	NA	NA

Annexure: Standalone NOS- Performance Criteria details

1. Description: This NOS describes the fundamentals of web development

2. Scope:

The scope covers the following:

- Overview of website management,
- Basics of HTML and CSS

- Basics of Javascript
- Overview of server-side technologies

3. Elements and Performance Criteria

Overview of Website Management

PC1. Get an overview of how the web works and how the transaction of data takes place

PC2. Identify the common components of internet and web such as web page, website, server, HTML, CSS, and Javascript

PC3. Perform basic tasks related to website's management such as registering a site name, hosting a website, and managing its content

PC4. Apply different tools and options found on a web browser to manage web pages

Basics of HTML and CSS

PC5. Develop the HTML content for web pages using a standard HTML editor

PC6. Embed multimedia in web pages and create/ manage links in the web pages using HTML

PC7. Set the style and control the layout of webpages using CSS

Basics of Javascript

PC8. Apply the concepts of OOP and write scripts using Javascript

PC9. Develop dynamic and interactive webpages using Javascript

Overview of server-side technologies

PC10. Design and implement databases in web applications

PC11. Get an overview of server-side technologies (HTTP servers, APIs, backend databases, server-side programming, etc.) and how to implement them in developing web pages

4. Knowledge and Understanding (KU):

KA1. Organizational policies, procedures and guidelines which relate to building and maintaining web pages

KB2. organizational policies and procedures regarding security of web pages

KB1. concepts of OOP

KB2. developing scripts using Javascript

KB3. tools and software to develop web pages.

KB4. concepts of databases
KB5. tools to style webpages

5. Generic Skills (GS):

GS1. Work independently and collaboratively.
GS2. Communicate with others in writing.
GS3. Ability to understand business impact and disseminate relevant information to others.
GS4. Check the work is complete and free from errors.
GS5. Apply balanced judgments to different situations.
GS6. Plan and organize the work to achieve targets and deadlines.

Annexure: Assessment Criteria

Detailed PC-wise assessment criteria and assessment marks for the NOS are as follows:

S. No.	Assessment Criteria for Performance Criteria	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC 1.	Get an overview of how the web works and how the transaction of data takes place	3	1	-	-
PC 2.	Identify the common components of internet and web such as web page, website, server, HTML, CSS, and Javascript	3	1	-	-
PC 3.	Perform basic tasks related to website's management such as registering a site name, hosting a website, and managing its content	3	7	-	-
PC 4.	Apply different tools and options found on a web browser to manage web pages	3	7	-	-
PC 5.	Develop the HTML content for web pages using a standard HTML editor	3	7	-	-
PC 6.	Embed multimedia in web pages and create/ manage links in the web pages using HTML	3	8	-	-
PC 7.	Set the style and control the layout of webpages using CSS	2	8	-	-
PC 8.	Apply the concepts of OOP and write scripts using Javascript	2	8	-	-
PC 9.	Develop dynamic and interactive webpages using Javascript	2	8	-	-

PC 10.	Design and implement databases in web applications	2	8	-	-
PC 11.	Get an overview of server-side technologies (HTTP servers, APIs, backend databases, server-side programming, etc.) and how to implement them in developing web pages	4	7	-	-
Total Marks		30	70	-	-

Annexure: Assessment Strategy

Assessment System Overview

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: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework

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.