

QUALIFICATION FILE

Cyber Secured Web Development Associate

- ☒ 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

Submitted By:

National Institute of Electronics and Information Technology

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Table of Contents

Section 1: Basic Details	3
Section 2: Module Summary	6
Section 3: Training Related	8
Section 4: Assessment Related	9
Section 5: Evidence of the Need for the Qualification.....	10
Section 6: Annexure & Supporting Documents Checklist	10
Annexure I: Evidence of Level	11
Annexure-II: Tools and Equipment (Lab Set-Up).....	13
Annexure-III: Industry Validations Summary	14
Annexure-IV: Training & Employment Details	15
Annexure-V: Blended Learning	16
Annexure-VI: Detailed Assessment Criteria	17
Annexure-VII: Assessment Strategy	20
Annexure-VIII: Career Progression:	21
Annexure-IX: Occupational Map	22
Annexure-X: Acronym and Glossary	22

Section 1: Basic Details

1.	Qualification Name	Cyber Secured Web Development Associate	
2.	Sector/s	IT-ITeS	
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: NA	Qualification Name of existing/previous version: NA
4.	a. OEM Name b. Qualification Name (Wherever applicable)	-	
5.	National Qualification Register (NQR) Code & Version	QG-04-IT-00361-2023-V1-NIELIT	6. NCrf/NSQF Level: 4
7.	Award (Certificate/Diploma/Advanced Diploma/ Any Other	Certificate	
8.	Brief Description of the Qualification	<p>Nature: The programme encompasses people's skills, trust, and ability to use technologies responsibly and effectively for broader socio-economic benefits.</p> <p>The qualification has been envisaged to create manpower with skills for design and development of web applications with cyber secure coding practices.</p> <p>Secure coding practices enable users / developers to safeguard their applications and also enables the developer team to better collaborate or integrate and deliver high quality, secure software. It is important to note that while coding and developing software applications is important, it is only one part of the development process.</p> <p>Purpose:</p> <ul style="list-style-type: none"> Gain technical confidence: Demystify cyber security concepts and equip the future workforce with the confidence to learn and apply secure coding practices independently for development of secured web applications free from CSS Hack, Website defacement, SQL injection attack etc. Enhance employability for web development related jobs: Build necessary technology, career growth and social skills on cyber security, secure coding practices & web development for jobs ahead. 	

9. Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1" data-bbox="981 209 2051 863"> <thead> <tr> <th>S. No.</th><th>Academic/Skill Qualification (with Specialization - if applicable)</th><th>Required Experience (with Specialization - if applicable)</th></tr> </thead> <tbody> <tr> <td>1.</td><td>12th Grade Pass</td><td>NA</td></tr> <tr> <td>2.</td><td>Completed 2nd year of 3-year diploma (after 10th) and pursuing a regular diploma in relevant</td><td>NA</td></tr> <tr> <td>3.</td><td>10th grade pass plus 2-year NTC</td><td>NA</td></tr> <tr> <td>4.</td><td>10th grade pass plus 1-year NTC and 1-year NAC</td><td>NA</td></tr> <tr> <td>5.</td><td>10th grade pass and pursuing continuous schooling</td><td>NA</td></tr> <tr> <td>6.</td><td>10th Grade Pass</td><td>with 2 years relevant experience</td></tr> <tr> <td>7.</td><td>Previous NSQF Level 3 in relevant sector with minimum education as 8th Grade pass</td><td>with 3 years relevant experience</td></tr> <tr> <td>8.</td><td>Previous NSQF Level 3.5 in relevant field</td><td>with 1.5 year relevant experience</td></tr> </tbody> </table>						S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	12th Grade Pass	NA	2.	Completed 2nd year of 3-year diploma (after 10th) and pursuing a regular diploma in relevant	NA	3.	10th grade pass plus 2-year NTC	NA	4.	10th grade pass plus 1-year NTC and 1-year NAC	NA	5.	10th grade pass and pursuing continuous schooling	NA	6.	10th Grade Pass	with 2 years relevant experience	7.	Previous NSQF Level 3 in relevant sector with minimum education as 8th Grade pass	with 3 years relevant experience	8.	Previous NSQF Level 3.5 in relevant field	with 1.5 year relevant experience
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10. Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	c. Age: No Bar 33 Credits		11. Common Cost Norm Category (I/II/III) (wherever applicable): Category – II (Information and Communication technology)																														
12. Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																																
13. Training Duration by Modes of Training Delivery (Specify <i>Total Duration</i> as per selected training delivery modes and as per the requirement of the qualification)	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1" data-bbox="1039 1257 2056 1457"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT/Project Mandatory (Hours)</th><th>ES (Hrs)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td>390</td><td>510</td><td>30</td><td>60</td><td>990</td></tr> </tbody> </table>						Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT/Project Mandatory (Hours)	ES (Hrs)	Total (Hours)	Classroom (offline)	390	510	30	60	990															
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		<p><i>The mode of delivery shall be based on the regional demand and can be offered in any of the above modes mentioned.</i></p> <p><i>((Refer Blended Learning Annexure –V for details))</i></p>
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	<p>NCO-2015 Code :</p> <p>3114.0802 - ICT Technician</p> <p>2523.0100 - Data Communication Analyst/Network Administrator</p>
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	<p>Academic:</p> <p>Horizontal:</p> <ul style="list-style-type: none"> • Level 4: Course in O Level 'IT' <p>Vertical:</p> <ul style="list-style-type: none"> • Level 5 course in IT: Courses in A Level • Level 6 Course in IT: IT Application Engineer (B Level - IT) <p>Professional:</p> <p>Web Developer -> Web Development Security Expert -> Web Research Scientist</p>
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Qualification files available in English & Hindi Language.
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	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>a. <i>Locomotor Disability</i></p> <ol style="list-style-type: none"> <i>Leprosy Cured Person</i> <i>Dwarfism</i> <i>Muscular Dystrophy</i> <i>Acid Attack Victims</i> <p>b. <i>Visual Impairment</i></p> <ol style="list-style-type: none"> <i>Low Vision</i>
19.	How Participation of Women will be Encouraged	Participation of Women Candidates will be ensured as per Government norms. Time to time exclusive batches for women would be run for the proposed course. Funding of women batches may be generated from IT for masses scheme /other schemes launched by Govt. of India occasionally.

20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
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 <i>(In the case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	From NIELIT: Name: Shammi Sharma Email: shammisharma@nielit.gov.in Contact No: 8285824320 Website: https://www.nielit.gov.in/itanagar/index.php	
23.	Final Approval Date by NSQC: 29.03.2023	24. Validity Duration: 3 Years	25. Next Review Date: 29.03.2026

Section 2: Module Summary

Mandatory NOS/s of Qualifications

- Computer Fundamentals and Operating System
- Fundamentals of Internet and Computer Network
- Web Application Development
- Cyber Security & Web App Penetration Testing
- Employability Skills

Th.-Theory **Pr.-Practical** **OJT-On the Job** **Man.-Mandatory** **Training** **Rec.-Recommended** **Proj.-Project**

S. No	NOS/Module Name	NOS/Module Code & Version <i>(if applicable)</i>	Core/Non-Core	NCrF/NSQF Level	Credits as per NCrF	Training Duration (Hours)			Assessment Marks			
						Th.	Pr.	Total	Th.	Pr.	Total	The weightage (%) <i>(if applicable)</i>
1.	Computer Fundamentals and Operating System	NIE/ITS/N14 037	Core	4	6	120	60	180	50	36	86	12.28

2.	Fundamentals of Internet and Computer Network	NIE/ITS/N14 038	Core	4	8	120	120	240	100	48	148	21.14
3.	Web Application Development	NIE/ITS/N14 039	Core	4	10	100	200	300	100	60	160	22.85
4.	Cyber Security & Web App Penetration Testing	NIE/ITS/N14 040	Core	4	6	50	130	180	50	36	86	12.28
Sub Total (A)						390	510	900	300	180	480	68.57
5.	Employability Skills (B)	DGT/VSQ/N 0102	Non-core	4	2	-	-	60	-	-	60	8.57
6.	Implementation of Cyber Secured Web Development Associate in virtual environment/ OJT (C)	N/A	Core	4	1	-	-	30	-	-	60	8.57
7.	Project (D)	N/A	Core	4	-	-	-	-	-	-	100	14.28
Total (A+B+C+D)								990	300	180	700	100

Assessment Components	NOS Included	Duration* (in mins)	Marks
Theory Paper-1: Cyber Secured Web Development Associate	NOS 1 & NOS 4	90	100
Theory Paper-2: Cyber Secured Web Development Associate	NOS 2	90	100
Theory Paper-3: Cyber Secured Web Development Associate	NOS 3	90	100
Practical Paper-1: Cyber Secured Web Development Associate	NOS 1 & NOS 4	180	90
Practical Paper-2: Cyber Secured Web Development Associate	NOS 2-NOS 3	180	90
Employability Skills	NOS 5	-	60
OJT	NOS 6	-	60
Project	NOS 7	-	100
Grand Total			700

***Assessment strategy shall be as per NIELIT Norms prevailing at times.**

Minimum Pass Percentage – The pass percentage is 50% in each assessment component (as mentioned in the above table) with the aggregate pass percentage be 50%

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	B. Tech in Computer Science/ Electrical Engineering/ Electronics and Communication / allied branches Or MCA Or BCA Or Attained NSQF Level-5 Or NIELIT A- Level Qualified
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2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	B. Tech in Computer Science/ Electrical Engineering/ Electronics and Communication/ allied branches 2 Years of Experience in teaching Or MCA 2 Years of Experience in teaching Or BCA with 4 Years of Experience in teaching
3.	Tools and Equipment Required for Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Details available in Annexure-II
4.	In Case of a 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)	B. Tech in Computer Science/ Electrical Engineering/ Electronics and Communication/ allied branches 2 Years of Experience in teaching Or MCA 2 Years of Experience in teaching Or BCA with 4 Years of Experience in teaching
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	The assessor carries out theory online assessments through the remote proctoring methodology. Theory examination would be conducted online and the paper comprise of MCQ. Conduct of assessment is through trained proctors. Once the test begins, remote proctors have full access to the candidate's video feeds and computer screens. Proctors authenticate the candidate based on registration details, pre-test image captured and I- card in possession of the candidate. Proctors can chat with candidates or give warnings to candidates. Proctors can also take screenshots, terminate a specific user's test session, or re-authenticate candidates based on video feeds.
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	An External Examiner/ Observer (Subject matter expert) are deployed including NIELIT scientific officers who are subject expert for evaluation of Practical examination/ internal assessment / Project/ Presentation/ assignment and Major Project (if applicable). Qualification is generally B.Tech.
4.	Assessment Mode (Specify the assessment mode)	Online for Theory Online/Offline/Blended for Practical

5.	Tools and Equipment Required for Assessment	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(details to be provided in Annexure-if it is different for Assessment)</i>
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Section 5: Evidence of the Need for the Qualification

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes, Available in Annexure-B: Evidence of Need
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes, Available at Annexure-B: Evidence of Need
3.	Government /Industry initiatives/ requirement (Yes/No): Yes, Available at Annexure-B: Evidence of Need
4.	The number of Industry validation provided: 8
5.	Estimated nos. of persons to be trained and employed: 1000 persons per year shall be trained.
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: NIELIT is recognized as AB and AA under Government Category. NIELIT is an HRD arm of MeitY, therefore, the Line Ministry Concurrence is not required.

Section 6: Annexure & Supporting Documents Checklist

1.	Annexure: NCrF/NSQF level justification based on NCrF level/NSQF descriptors <i>(Mandatory)</i>	<i>Available at Annexure-I: Evidence of Level</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of the online course)</i>	<i>Available at Annexure-II: Tools and Equipment</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Available at Annexure-VI: Detailed Assessment Criteria</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Available at Annexure-VII: Detailed Assessment Strategy</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case the selected Mode of delivery is "Blended Learning")</i>	<i>Available at Annexure-V: Blended Learning</i>
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>Available at Annexure-X: Acronym and Glossary</i>

8.	Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>)	<i>Available at Annexure-A: Model Curriculum</i>
9.	Supporting Document: Career Progression (<i>Mandatory - Public view</i>)	<i>Available at Annexure-VIII: Career Progression</i>
10.	Supporting Document: Occupational Map (<i>Mandatory</i>)	<i>Available at Annexure-IX: Occupational Map</i>
11.	Supporting Document: Assessment SOP (<i>Mandatory</i>)	<i>Available at Annexure-C: Examination SoP</i>
12.	Any other document you wish to submit:	NA

Annexure I: 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	<ol style="list-style-type: none"> 1. Possesses specialized knowledge of procedures employed in both routine and non-routine contexts. 2. Possesses specialized operational knowledge and understanding of the work. 3. Has complete knowledge of concept of time required for delivery; and Quality for a range of issues. 4. Has knowledge of collecting and interpreting the available information, drawing conclusions & communicating the same. 5. Understands the financial and feasibility aspect of various work/ solutions options 	<ol style="list-style-type: none"> 1. Possesses specialized operational knowledge and understanding of the work. 2. Have complete knowledge of the concept of time required for delivery; and Quality for a range of issues 	4
Professional and Technical Skills/ Expertise/ Professional Knowledge	<ol style="list-style-type: none"> 1. Choose an adequate focus area when evaluating a problem. 2. Qualify data from multiple sources. 3. Evaluate data for attributes. 4. Evaluate their results against bias and variance. 	<ol style="list-style-type: none"> 1. Possesses specialized professional and technical skills; displays clarity of professional knowledge and technical skills in a broad range of activities/ tasks. 	4

		2. Have knowledge of collecting and interpreting the available information, drawing conclusions & communicating the same	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	<ul style="list-style-type: none"> • Have much broader Employability Skills including understanding of career planning, digital skills, financial and legal literacy. • Good Communication skills, both oral and written. • Initiative and Leadership Abilities • Advanced literacy and Numeracy skills • Has good skills for self-employment and entrepreneurship skills/ entrepreneurial Mind-set which may potentially create job for more persons (say 3 to 5) • Skills for accurate workshop/ mathematical calculation and estimations, and understanding of arithmetic and algebraic principles. • Can comfortably use most of the basic digital tools, has clear understanding of Financial and Digital literacy, Aadhaar and Mobile, uses digital payments etc. with proficiency • Good understanding of Constitutional values & Citizenship, inclusion and Diversity. • Very Good understanding of social political and work environment 	<ol style="list-style-type: none"> 1. Can explain Entrepreneurial Mindset and describe the importance of it in the context of opportunity for future jobs 2. Can comfortably use most of the basic software with proficiency 3. Have the ability to relate to the 5 pillars of Social Emotional Skills and describe the similarities between SES and Emotional Intelligence 	4
Broad Learning Outcomes/Core Skill	<ol style="list-style-type: none"> 1. Can apply the required knowledge for successfully implementing or applying techniques/ processes in a specific field/ job role 	<ol style="list-style-type: none"> 1. Students are able to use, create, and design secured websites. 2. Able to identify the problems and a wider possible range of solutions with pros and cons in production/ services 	4
Responsibility	<ol style="list-style-type: none"> 1. At Level 3.5 the candidate is a senior skilled technician 2. Takes complete responsibility for delivery and quality of own work and output as also the subordinates. 3. Shares responsibility for the group tasks. 4. At level 4 the candidate is a highly skilled master technician 5. Can perform all non-standard procedures and non-routine tasks with confidence 	<ol style="list-style-type: none"> 1. Takes complete responsibility for delivery and quality of own work and output as also the subordinates. 2. Shares responsibility for the group tasks. 	4

Annexure-II: 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	Classroom	1 (30 Sq.m)	30
2	Student Chair	30	30
3	Student Table	30	30
4	Desktop computer with accessories	Installed with: MS Office/Libreoffice Google Chrome Adobe Photoshop Adobe in Design CorelDraw Word press Adobe Dreamweaver Bootstrap Github Adobe Flash Notepad ++ Or Free open-source alternative available Software	30
5	Desk jet printer	1 Nos.	A4

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. LCD Projector
2. Pin-up Board
3. White Board

Annexure-III: 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
1	M/s A.B. Enterprise	Sh. Ajit Borah	Proprietor	S.K. Bhuyan Road, Dighalipukhuri, East Guwahati – 781001	9435095785	ajitborahh@yahoo.co.in
2	MS PLACEMENT CUM SECURITY AGENCY	Bamang Taniang	Proprietor	Near Tirap Festival Ground, Senki Park, Itanagar-791111 (A.P)	7630818643	Btaniang@gmail.com
3	Computer Application Centre		Director	3 rd Floor, Priyadarshini Market, CRPF Squire, Bhubaneswar-751012	9437089830	debashiswwain06@gmail.com
4	M/s Computer Inforsys	Hem Chandra Das	Proprietor	Unnaynn Super Market, Room No.F-40, 1 st Floor, AT Road, Opp. SBI Branch, Jorhat – 785001, Assam	9854267773	Computerinfosys13@gmail.com
5	M/s Kipa Infotech	-	-	Barapani Bazar, Naharlagun-791110, Arunachal Pradesh	-	-
6	M/s Tech Booster Education Pvt Ltd.	-	Director	H/N-209, 2nd Floor, Opp. to Ambikagiri Nagar Path, Jonali, Zoo Road, Guwahati-24	8404049881	info@techbooster.co.in

7	WEBX	Sanjeev Sharma		2nd & 3rd Floor, IEI Building, Panbazar, Guwahati – 781001	9864016701	info@webxindia.com
8	Karkhana	Siddharth Bhattar	Director	Delhi, NCR	9999092827	siddharth@karkhana.club

Annexure-IV: 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
2023	1000	100	200	100	10	2
2024	1000	100	200	100	10	2
2025	1000	100	200	100	10	2

Data to be provided year-wise for next 3 years

Annexure-V: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

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	Online interaction platforms like JitSi Meet, Bharat VC, Google Meet, MS Teams, etc.	60:40
2	Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Online interaction platforms like JitSi Meet, Bharat VC, Google Meet, MS Teams, etc.	60:40
3	Showing Practical Demonstrations to the learners	Online interaction platforms like JitSi Meet, Bharat VC, Google Meet, MS Teams, etc.	60:40
4	Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	NA	100:0
5	Tutorials/ Assignments/ Drill/ Practice	Online interaction platforms like JitSi Meet, Bharat VC, Google Meet, MS Teams, etc.	50:50
6	Proctored Monitoring/ Assessment/ Evaluation/ Examinations	NIELIT Remote Proctored Software	Online: 100% Theory Offline: 100% Practical
7	On Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	Simulated Platform	Either 100% online on virtual environment Or 100% offline in the Industry.

Annexure-VI: Detailed Assessment Criteria

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

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks
<i>NOS 1: Computer Fundamentals and Operating System</i>	<ul style="list-style-type: none"> • Computer Fundamentals, Hardware/Software, Applications • Basics of Operating system, OS Installation (Window & Linux), Basics of Windows operating system, various types of Linux installation (Red Hat, Centos, Ubuntu), Booting process • Basic Linux Command, vi, vim, Nano text editor • Advance Linux Commands • Shell Scripting 	50	36
<i>NOS 2: Fundamentals of Internet and Computer Network</i>	<ul style="list-style-type: none"> • Basics of Internet, usages & its applications • Introduction to LAN, MAN, PAN, WAN, WLAN • Ethernet Fundamentals and Cabling, ISO-OSI Reference Model, TCP/IP Model, • IP address, Classes, Classless, CIDR, Prefix, IPv6 addressing • TCP/IP Troubleshooting utilities like hostname, ipconfig/ ipconfig, arp, Ping, tracert/trace route, Path ping, route, netstat, getmac, nslookup. • Router and switch Hardware, enable telnet and SSH access on Router • Basics of routing and switching, routing classification, Static Routing, Default routing, Dynamic routing • Types of Switches, installation, configuration, MAC binding • NAT Concept, static NAT, Dynamic NAT configuration and troubleshooting • Gateway load balancing • Switching process, VLAN concept, VLAN trucking protocol IEEE802.1Q, VTP • Configuring services -Telnet, SSH, NFS, FTP, Web, DHCP, DNS etc. • Access control Lists, standard ACL, Extended ACL, Named ACL 	100	48

	<ul style="list-style-type: none"> Virtual Private Networks (VPNs), Concepts, Site-to-site VPN configuration, Easy VPN Server Concept. 		
NOS 3: Web Application Development	<p>3.1 Front End Development</p> <ul style="list-style-type: none"> Introduction to Web Design Text Editors and their installation HTML-5 Basics and its uses Cascading Style Sheets (CSS) JavaScript Bootstrap- 4 and advance <p>3.2 Data base Concepts</p> <ul style="list-style-type: none"> Introduction to Data base, types and comparative study Introduction to My SQL Work bench, My SQL data base Table & Views, My SQL Queries, clauses, conditions, joins Aggregate functions, My SQL functions (built in /custom) <p>3.3 Back End Development</p> <ul style="list-style-type: none"> Introduction to the Website Development Implementation of a server-side programming language PHP and website security Database connectivity with PHP and MySQL 	100	60
NOS 4: Cyber Security & Web App Penetration Testing	<p>4.1 Ethical hacking (Cyber Security) & Counter Measures</p> <ul style="list-style-type: none"> Basics of Cyber Security Cryptography Introduction to Ethical Hacking Foot printing and Reconnaissance Scanning Networks Enumeration Vulnerability Analysis System Hacking Malware Threats Sniffing 	50	36

	<ul style="list-style-type: none"> • Social Engineering • Denial-of-Service • Session Hijacking • Evading IDS, Firewalls, and Honey pots • Hacking Wireless Networks • Hacking Mobile Platforms • IoT and OT Hacking • Cloud Computing & its Security • securing DNS server • securing Web server • Securing DB server • Linux based Firewall, IP tables, ACLs, etc <p>4.2 Web App Penetration</p> <ul style="list-style-type: none"> • Hacking Web Servers & Applications • Web Application Testing Frameworks • OWASP top 10 • Secure Coding Practices • Web Application API Testing • Best Practices for Protecting Web Applications 		
NOS 5: Employability Skills	<ul style="list-style-type: none"> • Introduction to Employability Skills • Constitutional values - Citizenship • Becoming a Professional in the 21st Century • Basic English Skills • Communication Skills • Diversity & Inclusion • Financial and Legal Literacy • Essential Digital Skills • Entrepreneurship • Customer Service • Getting ready for apprenticeship & Jobs 		60

Implementation of Cyber Secured Web Development Associate_in virtual environment/ OJT	-	60
Project	-	100
Grand Total		700

Annexure-VII: Assessment Strategy

Assessment of the qualification evaluates candidates to ascertain that they can integrate knowledge, skills and values for carrying out relevant tasks as per the defined learning outcomes and assessment criteria.

The underlying principle of assessment is fairness and transparency. The evidence of the outcomes and assessment criteria. Competence acquired by the candidate can be obtained by conducting Theory (Online), Practical assessment, internal assessment, Project/Presentation/ Assignment, Major Project. The emphasis is on the practical demonstration of skills & knowledge gained by the candidate through the training. Each OUTCOME is assessed & marked separately. A candidate is required to pass all OUTCOMES individually based on the passing criteria.

About Examination Pattern:

1. The question papers for the theory and practical exams are set by the Examination wing (assessor) of NIELIT HQS.
2. The assessor assigns roll number.
3. The assessor carries out theory online assessments through remote proctoring methodology. Theory examination would be conducted online and the paper comprise of MCQ. Conduct of assessment are through trained proctors. Once the test begins, remote proctors have full access to candidate's video feeds and computer screens. Proctors authenticate the candidate based on registration details, pre-test image captured and I- card in possession of the candidate. Proctors can chat with candidates or give warnings to candidates. Proctors can also take screenshots, terminate a specific user's test session, or re-authenticate candidates based on video feeds.
4. An External Examiner/ Observer may be deployed including NIELIT officials for evaluation of Practical examination/ internal assessment / Project/ Presentation/. Major Project (if applicable) would be evaluated preferably by external/ subject expert including NIELIT officials.
5. Pass percentage would be 50% marks in each component.

6. Candidates may apply for re-examination within the validity of registration (only in the assessment component in which the candidate failed).
7. For re-examination prescribed examination fee is required to be paid by the candidate only for the assessment component in which the candidate wants to reappear.
8. There would be no exemption for any paper/module for candidates having similar qualifications or skills.
9. The examination will be conducted in English language only.

Quality assurance activities: A pool of questions is created by a subject matter expert and moderated by other SME. Test rules are set beforehand. Random set of questions which are according to syllabus appears which may differ from candidate to candidate. Confidentiality and impartiality are maintained during all the examination and evaluation processes.

Annexure-VIII: Career Progression:

Academic:

Horizontal:

- Level 4: Course in O Level 'IT'

Vertical:

- Level 5 course in IT: Courses in A Level
- Level 6 Course in IT: IT Application Engineer (B Level - IT)

Professional:

Web Developer -> Web Development Security Expert -> Web Research Scientists

Annexure-IX: Occupational Map

Cyber Secured Web Development Associate	Software Engineer Junior Cyber Security Expert. Web Developer Web Master	Web Development Security Expert	Web Research Scientists
			

Annexure-X: 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
S.M.A.R.T	Specific Measurable Achievable Relevant Time-bound

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