

# Model Curriculum

## Web Developer

**SECTOR: IT-ITES**

**SUB-SECTOR: IT SERVICES**

**OCCUPATION: APPLICATION DEVELOPMENT**

**REF. ID: SSC/Q0503, VERSION 1.0**

**NSQF LEVEL: 5**



## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**IT-ITES SECTOR SKILLS COUNCIL NASSCOM**

for the

**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/ Qualification Pack: **'Web Developer'** QP No. **'SSC/Q0503 NSQF Level 5'**

Date of issuance: December 31<sup>st</sup>, 2015

Valid up to\*: December 31<sup>st</sup>, 2016

\* Valid up to the next review date of the Qualification Pack



Authorised Signatory  
Lakshmi Narayan  
(Chairman, IT-ITeS Sector Skills Council NASSCOM)

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# Web Developer

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of Web Developer in the IT-ITeS Sector/Industry and aims at building the following key competencies in the learner.

<b>Program Name</b>	<b>Web Developer</b>		
Qualification Pack Name & Reference ID.	Web Developer SSC/Q0503, version 1.0		
Version No.	1.0	Version Update Date	31/12/2015
Pre-requisites to Training	Graduate degree/ diploma in web design/ media design or any other related field		
Training Outcomes	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• Contribute to the design of software products and applications</li> <li>• Develop media content and graphic designs for software products and Applications</li> <li>• Manage their work to meet requirements</li> <li>• Work effectively with colleagues</li> <li>• Maintain a healthy, safe and secure working environment</li> <li>• Provide data/information in standard formats</li> <li>• Develop their knowledge, skills and competence</li> </ul>		

The Course encompasses all seven National Occupational Standards (NOS) of Web Developer SSC/Q0503 Qualification Pack issued by IT-ITeS Sector Skills Council NASSCOM.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Programming for the Web</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> SSC/N0501</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Design basic programming structures to implement functionality in line with requirements defined in BRS/URS, SRS and HLD</li> </ul>	Refer to Unique Equipment Required Section
2	<p><b>Analysis and Design of Web based Applications</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> SSC/N0501</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Check their understanding of the Business Requirements Specification (BRS)/User Requirements Specification (URS) with appropriate people</li> <li>Check their understanding of the Software Requirements Specification (SRS) with appropriate people</li> <li>Check their understanding of High Level Design (HLD) with appropriate people</li> <li>Review their designs with appropriate people</li> <li>Analyse inputs from appropriate people to identify, resolve and record design defects and inform future designs</li> <li>Document their designs using standard templates and tools</li> <li>Comply with their organization's policies, procedures and guidelines when contributing to the design of software products and applications</li> </ul>	Refer to Unique Equipment Required Section
3	<p><b>Media Content and Graphics Design</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 80:00</p> <p><b>Corresponding NOS Code</b> SSC/N0503</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Check their understanding of the Business Requirements Specification (BRS), Software Requirements Specification (SRS), High Level Design (HLD) and Low Level Design (LLD) with appropriate people</li> <li>Access reusable components, media and graphical packages and tools from their organization's knowledge base</li> <li>Convert requirements into media content and graphic designs, leveraging reusable components where available</li> <li>Review media content and graphic designs</li> </ul>	Refer to Unique Equipment Required Section

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>with appropriate people and analyze their feedback</p> <ul style="list-style-type: none"> <li>Record any defects and corrective actions taken to inform future work</li> <li>Rework media content and graphic designs, incorporating feedback</li> <li>Submit media content timely and graphic designs for approval by appropriate people</li> <li>Update their organization's knowledge base with their experiences of the media content and graphic designs developed</li> <li>Comply with their organization's policies, procedures and guidelines when developing media content and graphic designs for software products and applications</li> </ul>	
4	<p><b>Self and work Management</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 38:00</p> <p><b>Corresponding NOS Code</b> SSC/N9001</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Establish and agree their work requirements with appropriate people</li> <li>Keep their immediate work area clean and tidy</li> <li>utilize their time effectively</li> <li>Use resources correctly and efficiently</li> <li>Treat confidential information correctly</li> <li>Work in line with organization's policies and procedures</li> <li>Work within the limits of their job role</li> <li>Obtain guidance from appropriate people, where necessary</li> <li>Ensure their work meets the agreed requirements</li> </ul>	Refer to Unique Equipment Required Section
5	<p><b>Team Work and Communication</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 38:00</p> <p><b>Corresponding NOS Code</b> SSC/N9002</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Communicate with colleagues clearly, concisely and accurately</li> <li>Work with colleagues to integrate their work effectively with them</li> <li>Pass on essential information to colleagues in line with organizational requirements</li> <li>Work in ways that show respect for colleagues</li> <li>carry out commitments they have made to colleagues</li> <li>Let colleagues know in good time if they cannot carry out their commitments, explaining the reasons</li> <li>Identify any problems they have working with colleagues and take the initiative to solve these problems</li> <li>Follow the organization's policies and procedures for working with colleagues</li> </ul>	Refer to Unique Equipment Required Section

Sr. No.	Module	Key Learning Outcomes	Equipment Required
6	<p><b>Managing Health and Safety</b></p> <p><b>Theory Duration</b> (hh:mm) 05:00</p> <p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> SSC/ N 9003</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Comply with their organization's current health, safety and security policies and procedures</li> <li>Report any identified breaches in health, safety, and security policies and procedures to the designated person</li> <li>Identify and correct any hazards that they can deal with safely, competently and within the limits of their authority</li> <li>Report any hazards that they are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected</li> <li>Follow their organization's emergency procedures promptly, calmly, and efficiently</li> <li>Identify and recommend opportunities for improving health, safety, and security to the designated person</li> <li>Complete any health and safety</li> </ul>	
7	<p><b>Data and Information Management</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 35:00</p> <p><b>Corresponding NOS Code</b> SSC/N9004</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Establish and agree with appropriate people the data/information they need to provide, the formats in which they need to provide it, and when they need to provide it</li> <li>Obtain the data/information from reliable sources</li> <li>Check that the data/information is accurate, complete and up-to-date</li> <li>Obtain advice or guidance from appropriate people where there are problems with the data/information</li> <li>Carry out rule-based analysis of the data/information, if required</li> <li>Insert the data/information into the agreed formats</li> <li>Check the accuracy of their work, involving colleagues where required</li> <li>Report any unresolved anomalies in the data/information to appropriate people</li> <li>Provide complete, accurate and up-to-date data/information to the appropriate people in the required formats on time</li> </ul>	Refer to Unique Equipment Required Section
8	<p><b>Learning and Self Development</b></p> <p><b>Theory Duration</b> (hh:mm) 05:00</p>	<p>Candidates will be able to:</p> <ul style="list-style-type: none"> <li>Obtain advice and guidance from appropriate people to develop their knowledge, skills and competence</li> <li>Identify accurately the knowledge and skills they need for their job role</li> <li>Identify accurately their current level of knowledge, skills and competence and any</li> </ul>	Refer to Unique Equipment Required Section

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> SSC/N9005</p>	<p>learning and development needs</p> <ul style="list-style-type: none"> <li>• Agree with appropriate people a plan of learning and development activities to address their learning needs</li> <li>• Undertake learning and development activities in line with their plan</li> <li>• Apply their new knowledge and skills in the workplace, under supervision</li> <li>• Obtain feedback from appropriate people on their knowledge and skills and how effectively they apply them</li> <li>• Review their knowledge, skills and competence regularly and take appropriate action</li> </ul>	
	<p><b>Total Duration</b></p> <p><b>Theory Duration</b> 109:00</p> <p><b>Practical Duration</b> 291:00</p>	<p><b>Unique Equipment Required:</b> Training room should be fully furnished with the following equipment / tools / accessories. Additional / specific resources, wherever applicable (e.g. Hardware, software) are indicated in the main text corresponding to relevant learning outcome.</p> <p><b>For Domain NOSs:</b></p> <ul style="list-style-type: none"> <li>• NOS SSC/N0501: HTML5, Javascript, CSS, SQL, Web Builder, Word Press, Joomla and modelling tools such as Visio, UML</li> <li>• NOS SSC/N0503: HTML5, CSS, Flash, Photoshop, Windows media player, Eclipse, XAMPP</li> </ul> <p><b>General:</b></p> <ul style="list-style-type: none"> <li>• Comfortable seats with adequate lighting, controlled temperature and acoustics for training and learning</li> <li>• White Board, Markers and Eraser</li> <li>• Projector with screen</li> <li>• Flip chart with markers</li> <li>• Faculty's PC/Laptop with latest configuration and internet connection</li> <li>• Supporting software / applications for projecting audio, video, recording,</li> <li>• Presentation Tools to support learning activities: <ul style="list-style-type: none"> <li>○ Intranet</li> <li>○ Email</li> <li>○ IMs</li> <li>○ Learning management system e.g. Moodle, Blackboard to enable blended learning</li> </ul> </li> <li>• Microphone / voice system for lecture and class activities</li> <li>• Handy Camera</li> <li>• Stationery kit – Staples, Glue, Chart Paper, Sketch Pens, Paint Box, Scale, A4 Sheets</li> </ul>	



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• For IT Lab sessions: Computer Lab with 1:1 PC: trainee ratio and having internet connection, MS Office / Open office, Browser, Outlook/ other Email Clients</li> <li>• Assessment and Test Tools for day to day online Tests and Assessments</li> <li>• For team discussions: Adequate seating arrangement in full / half circle format for one or more teams as per planned team composition.</li> </ul> <p>Reading Resources: Access to relevant sample documents and learning forums to enable self-study before and after each training session.</p>	

**Grand Total Course Duration: 400 Hours 0 Minutes**

**(This Syllabus/Curriculum has been approved by IT-ITeS Sector Skills Council NASSCOM.)**

## Notes from IT-ITeS Sector Skills Council

1. This document outlines the broad scope of coverage. This should be linked with OBF and training delivery plan. OBF (Outcome based framework) reflects the pedagogy used to ensure an expected outcome. Training delivery plan focuses on the sequence of delivery.
2. Though many NOSs have some seemingly common outcomes, notably core/generic, professional and technical skills, it is imperative to understand the contextual difference between them. For example, writing skills required write design specifications(in SSC/N0501) are different from the writing skills required to prepare a time plan (in SSC/N9001). Training providers are advised to,
  - a. Embed such skills development in the learning pedagogy for each expected outcome
  - b. Prepare a detailed session plan for training delivery with focus on sequence and duration of training
  - c. Run a diagnostic test to assess prior learning of students and help trainers / students identify the need for gap training, optimal duration, and suitable training methodology. Accordingly, more introductory level sessions may be included in guided or self-paced mode of learning. E.g. adding some sessions on Functional English or Use of Internet and MS Office.

## Trainer Prerequisites for Job role: Web Developer mapped to Qualification Pack: SSC/Q0503

Sr. No.	Area	Details
1	<b>Job Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack SSC/Q0503.
2	<b>Personal Attributes</b>	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in this field.
3	<b>Minimum Educational Qualifications</b>	Minimum Graduate degree/ diploma in web design/ media design or any other related field; Preferred Master's Degree in Media Design
4a	<b>Domain Certification</b>	Minimum accepted score in SSC Assessment is 90% per NOS being taught in QP SSC/Q0503.  Certification in relevant software competencies: Software Development Certifications in C++, Embedded, C#, C, Java etc., is an added advantage.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: "Trainer" mapped to the Qualification Pack: "SSC/Q1402". Minimum accepted score is 70%.
5	<b>Experience</b>	Field experience: Minimum 2 years' experience in the same domain Training experience: 1 year preferred

## Annexure: Assessment Criteria

<b>Assessment Criteria for Web Developer</b>	
<b>Job Role</b>	<b>Web Developer</b>
<b>Qualification Pack</b>	<b>SSC/Q0503</b>
<b>Sector Skill Council</b>	<b>IT-ITeS</b>

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack (QP) will be created by the Sector Skill Council (SSC). Each performance criteria (PC) will be assigned Theory and Skill/Practical marks proportional to its importance in NOS.
2	The assessment will be conducted online through assessment providers authorised by SSC.
3	Format of questions will include a variety of styles suitable to the PC being tested such as multiple choice questions, fill in the blanks, situational judgment test, simulation and programming test.
4	To pass a QP, a trainee should pass each individual NOS. Standard passing criteria for each NOS is 70%.
5	For latest details on the assessment criteria, please visit <a href="http://www.sscnasscom.com">www.sscnasscom.com</a> .

				<b>MARKS ALLOCATION</b>	
<b>ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)</b>	ASSESSMENT CRITERIA (PC)	TOTAL MARKS	OUT OF	THEORY	SKILLS PRACTICAL
1. SSC/N0501 (CONTRIBUTE TO THE DESIGN OF SOFTWARE PRODUCTS AND APPLICATIONS)	PC1. check their understanding of the Business Requirements Specification (BRS)/User Requirements Specification (URS) with appropriate people	<b>100</b>	10	10	0
	PC2. check their understanding of the Software Requirements Specification (SRS) with appropriate people		10	10	0
	PC3. check their understanding of High Level Design (HLD) with appropriate people		10	10	0
	PC4. design basic programming structures to implement functionality in line with requirements defined in BRS/URS, SRS and HLD		30	0	30
	PC5. review their designs with appropriate people		5	5	0
	PC6. analyze inputs from appropriate people to identify, resolve and record design defects and inform future designs		15	5	10
	PC7. document their designs using standard templates and tools		10	0	10
	PC8. comply with their organization's policies, procedures and guidelines when contributing to the design of software products and applications		10	0	10
		<b>Total</b>	100	40	60
2. SSC/N0503 (DEVELOP MEDIA CONTENT AND GRAPHIC DESIGNS FOR SOFTWARE PRODUCTS AND APPLICATIONS)	PC1. check their understanding of the Business Requirements Specification (BRS), Software Requirements Specification (SRS), High Level Design (HLD) and Low Level Design (LLD) with appropriate people	<b>100</b>	10	10	0
	PC2. access reusable components, media and graphical packages and tools from their organization's knowledge base		10	0	10
	PC3. convert requirements into media content and graphic designs, leveraging reusable components where available		20	0	20
	PC4. review media content and graphic designs with appropriate people and analyze their feedback		10	5	5

				<b>MARKS ALLOCATION</b>	
<b>ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)</b>	ASSESSMENT CRITERIA (PC)	TOTAL MARKS	OUT OF	THEORY	SKILLS PRACTICAL
	PC5. record any defects and corrective actions taken to inform future work		10	0	10
	PC6. rework media content and graphic designs, incorporating feedback		10	5	5
	PC7. submit media content and graphic designs for approval by appropriate people		10	0	10
	PC8. update their organization's knowledge base with their experiences of the media content and graphic designs developed		10	0	10
	PC9. comply with their organization's policies, procedures and guidelines when developing media content and graphic designs for software products and applications		10	0	10
		<b>Total</b>	100	20	80
<b>3.SSC/N9001 (MANAGE THEIR WORK TO MEET REQUIREMENTS)</b>	PC1. establish and agree their work requirements with appropriate people	<b>100</b>	7.5	0	7.5
	PC2. keep their immediate work area clean and tidy		15	7.5	7.5
	PC3. utilize their time effectively		15	7.5	7.5
	PC4. use resources correctly and efficiently		15	7.5	7.5
	PC5. treat confidential information correctly		7.5	0	7.5
	PC6. work in line with their organization's policies and procedures		15	0	15
	PC7. work within the limits of their job role		7.5	0	7.5
	PC8. obtain guidance from appropriate people, where necessary		7.5	0	7.5
	PC9. ensure their work meets the agreed requirements		10	0	10
		<b>Total</b>	100	22.5	77.5
<b>4.SSC/N9002 (WORK EFFECTIVELY WITH COLLEAGUES)</b>	PC1. communicate with colleagues clearly, concisely and accurately	<b>100</b>	20	0	20
	PC2. work with colleagues to integrate their work effectively with theirs		10	0	10
	PC3. pass on essential information to colleagues in line with organizational requirements		10	10	0
	PC4. work in ways that show respect for colleagues		20	0	20

				MARKS ALLOCATION	
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	ASSESSMENT CRITERIA (PC)	TOTAL MARKS	OUT OF	THEORY	SKILLS PRACTICAL
	PC5. carry out commitments you have made to colleagues		10	0	10
	PC6. let colleagues know in good time if you cannot carry out their commitments, explaining the reasons		10	10	0
	PC7. identify any problems you have working with colleagues and take the initiative to solve these problems		10	0	10
	PC8. follow the organization's policies and procedures for working with colleagues		10	0	10
		<b>Total</b>	100	20	80
5.SSC/N9003 (MAINTAIN A HEALTHY, SAFE AND SECURE WORKING ENVIRONMENT)	PC1. comply with their organization's current health, safety and security policies and procedures	<b>100</b>	20	10	10
	PC2. report any identified breaches in health, safety, and security policies and procedures to the designated person		10	0	10
	PC3. identify and correct any hazards that you can deal with safely, competently and within the limits of their authority		20	10	10
	PC4. report any hazards that you are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected		10	0	10
	PC5. follow their organization's emergency procedures promptly, calmly, and efficiently		20	10	10
	PC6. identify and recommend opportunities for improving health, safety, and security to the designated person		10	0	10
	PC7. complete any health and safety records legibly and accurately		10	0	10
		<b>Total</b>	100	30	70
6.SSC/N9004 (PROVIDE DATA/INFORMATION IN STANDARD FORMATS)	PC1. establish and agree with appropriate people the data/information you need to provide, the formats in which you need to provide it, and when you need to provide it	<b>100</b>	15	15	0
	PC2. obtain the data/information from reliable sources		15	0	15

				MARKS ALLOCATION	
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	ASSESSMENT CRITERIA (PC)	TOTAL MARKS	OUT OF	THEORY	SKILLS PRACTICAL
	PC3. check that the data/information is accurate, complete and up-to-date		15	5	10
	PC4. obtain advice or guidance from appropriate people where there are problems with the data/information		5	5	0
	PC5. carry out rule-based analysis of the data/information, if required		20	0	20
	PC6. insert the data/information into the agreed formats		10	0	10
	PC7. check the accuracy of their work, involving colleagues where required		10	0	10
	PC8. report any unresolved anomalies in the data/information to appropriate people		5	5	0
	PC9. provide complete, accurate and up-to-date data/information to the appropriate people in the required formats on time		5	0	5
		<b>Total</b>	100	30	70
7.SSC/N9005 (DEVELOP THEIR KNOWLEDGE, SKILLS AND COMPETENCE)	PC1. obtain advice and guidance from appropriate people to develop their knowledge, skills and competence	<b>100</b>	20	7	13
	PC2. identify accurately the knowledge and skills you need for their job role		14	7	7
	PC3. identify accurately their current level of knowledge, skills and competence and any learning and development needs		14	0	14
	PC4. agree with appropriate people a plan of learning and development activities to address their learning needs		7	0	7
	PC5. undertake learning and development activities in line with their plan		12	0	12
	PC6. apply their new knowledge and skills in the workplace, under supervision		12	0	12
	PC7. obtain feedback from appropriate people on their knowledge and skills and how effectively you apply them		7	0	7
	PC8. review their knowledge, skills and competence regularly and take appropriate action		14	7	7
		<b>Total</b>	<b>100</b>	<b>21</b>	<b>79</b>





## IT-ITeS Sector Skill Council

4E-Vandana Building (4th Floor) 11, Tolstoy Marg, New Delhi-110001