IT - ITeS SSC NASSCOM

Skill India
कौशल भारत-कुशल भारत

N·S·D·C National Skill Development Corporation
Transforming the skill landscape

Model Curriculum

QP Name: TEST ENGINEER

QP Code: SSC/Q7001

QP Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

IT-ITeS Sector Skills Council NASSCOM | Plot No – 7, 8, 9 & 10, Sector 126, Noida, UP.
Pin Code: 201303

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Training Parameters

Sector	IT-ITeS
Sub-Sector	Software Product Development
Occupation	Testing and Quality Assurance
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 2519.0402
Minimum Educational Qualification and Experience	Graduate (Computer Science or any related field) with 1 year of relevant experience in TQM, ISO etc. quality process, software testing techniques, test writing plans OR 12th Class (Science) with 4 years of relevant experience
Pre-Requisite License or Training	Software Development Certifications in C++, Embedded, C#, C, Java, etc.
Minimum Job Entry Age	18 Years
Last Reviewed On	13-09-2021
Next Review Date	13-09-2024
NSQC Approval Date	27-01-2022
QP Version	2.0
Model Curriculum Creation Date	13-09-2021
Model Curriculum Valid Up to Date	13-09-2024
Model Curriculum Version	1.0
Minimum Duration of the Course	400
Maximum Duration of the Course	400

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Identify any issues with the software requirements for testing using codes.
- Examine the process to modify test cases relevant to the requirements.
- Identify the checkpoints that a project should comply with during every phase.
- Identify the nature of testing to be carried out and the test management tool to be used.
- Examine the process of functional, usability, compatibility, performance, and regression testing on applications.
- Identify the checkpoints that a project should comply with during every phase.
- Identify the latest changes, procedures and practices in test designing.
- Examine the purpose of source coding standards, and utilities/tools for handling quality assurance.
- Demonstrate effective communication and collaboration with colleagues.
- Apply measures to maintain standards of health and safety at the workplace.
- Use different approaches to effectively manage and share data and information.
- Develop strong relationships at the workplace through effective communication and conflict management.
- Identify best practices to maintain an inclusive, environmentally sustainable workplace.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration (In Hours)	Practical Duration (In Hours)	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration (In Hours)
Module 1 (Bridge Module): IT-ITeS/Product development industry – An Introduction	02:00	02:00	00:00	00:00	04:00
SSC/N1301 Design tests for software products/ applications/ modules NOS Version No. 2 NSQF Level 5	20:00	60:00	00:00	00:00	80:00

Module 2: Concept and principle of quality	12:00	30:00	00:00	00:00	42:00
Module 3: Design tests for software products/ applications/ modules	08:00	30:00	00:00	00:00	38:00
SSC/N1302 Carry out automated tests on software products/ applications/modules NOS Version No. 2 NSQF Level 5	22:00	49:00	00:00	00:00	71:00
Module 4: Carry out automated tests on software products/ applications /modules	12:00	29:00	00:00	00:00	41:00
Module 5: Contribute to quality assurance of projects	10:00	20:00	00:00	00:00	30:00
SSC/N1303 Carry out manual tests on software products/ applications/modules NOS Version No. 2 NSQF Level 5	25:00	55:00	00:00	00:00	80:00
Module 6: Key indicators for software applications	07:00	15:00	00:00	00:00	22:00
Module 7: Technical skills for manual tests	08:00	10:00	00:00	00:00	18:00
Module 8: Carry out manual tests on software products/ applications/modules	10:00	30:00	00:00	00:00	40:00
SSC/N9001 Manage your work to meet requirements NOS Version No. 2 NSQF Level 4	08:00	32:00	00:00	00:00	40:00
Module 9: Manage your work to meet requirements	08:00	32:00	00:00	00:00	40:00
SSC/N9002 Work effectively with colleagues NOS Version No. 2 NSQF Level 4	08:00	32:00	00:00	00:00	40:00
Module 10: Work effectively with colleagues	08:00	32:00	00:00	00:00	40:00
SSC/N9003 Maintain a healthy, safe and secure working environment NOS Version No. 2 NSQF Level 4	05:00	25:00	00:00	00:00	30:00
Module 11: Managing Health and Safety	05:00	25:00	00:00	00:00	30:00

SSC/N9004 Provide data/information in standard formats NOS Version No. 2 NSQF Level 4	05:00	25:00	00:00	00:00	30:00
Module 12: Workplace Data Management	05:00	25:00	00:00	00:00	30:00
SSC/N9014 Implement & Improve the Gender Sensitivity, PWD (Person/People with Disability) Sensitivity and Greening NOS Version No. 1 NSQF Level 4	05:00	20:00	00:00	00:00	25:00
Module 13: Inclusive and Environmentally Sustainable Workplaces	05:00	20:00	00:00	00:00	25:00
Total Duration	100:00	300:00	00:00	00:00	400:00

Module Details

Module 1: IT-ITeS/Product Development Industry – An Introduction

Bridge Module

Terminal Outcomes:

- Explain various delivery models used in the IT/ software Products development industry.

Duration: *02:00(In Hours)*	**Duration:** *02:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the relevance of the IT-ITeS sector. • Identify the career path for a Test Engineer for Software Product Development.	• Conduct internet search to gather information, evidence, and articles regarding the IT-ITeS/software development services. • Categorize key applications to conduct testing and quality assurance service.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated)	

Module 2: Concept and Principle of Quality Testing

Mapped to SSC/N1301, v2.0

Terminal Outcomes:

- Discuss the objectives and scope of the quality assurance work being undertaken.
- Discuss the key differences of quality testing vs quality control based on types of data.

Duration: *12:00(In Hours)*	**Duration:** *30:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss various aspects of quality assurance pertaining to controls, job management, adequate process, performance, and integrity criteria. • Discuss the key requirements for quality testing, including policies, standards, processes, procedures, and version control. • Discuss the principles of subjective and objective data gathered from various sources.	• Demonstrate how to categorize subjective and objective data based on rejection principle. • Perform quality control through objective and subjective data analysis. • Analyse the impact of soft elements, such as personnel integrity, confidence, organizational culture, motivation, team spirit and quality relationships on quality process.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 3: Design Tests for Software Products/ Applications/ Modules

Mapped to SSC/N1301, v2.0

Terminal Outcomes:

- Demonstrate how to identify issues with the software requirements for testing using codes.
- Examine the process to modify test cases relevant to the requirements.

Duration: *08:00(In Hours)*	**Duration:** *30:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the concept of source code and its use in application development. • Discuss the process of modification of the test plan, test cases and/or automated scripts. • Discuss the hierarchy of escalation in designing team for technical issues. • Discuss the process of Identifying issues with the requirements for testing in consultation with relevant stakeholders	• Demonstrate how to develop source codes for various applications. • Demonstrate writing source code, reviewing code, etc. for software designing. • Modify test cases relevant to the requirements for automation. • Examine the steps to develop a test methodology to cover all the requirements. • Apply the design process for automated scripts relevant to the requirements.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 4: Carry out Automated Tests on Software Products/ Applications/Modules

Mapped to SSC/N1302, v2.0

Terminal Outcomes:

- Demonstrate the knowledge of identifying the nature of testing to be carried out and the test management tool to be used.
- Examine the process of functional, usability, compatibility, performance, and regression testing on applications.

Duration: *12:00(In Hours)*	**Duration:** *29:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the process for Identifying latest versions of the test cases and automated scripts. • Discuss how to identify the correct versions of application and data sources required for testing. • Describe key elements of functionality, usability, and regression method. • Discuss how programming languages like Java, SQL, etc. assists in development of software modules.	• Interpret instructions to carry out automated test scripts. • Demonstrate the process of functional, usability, compatibility, performance, and regression testing. • Apply programming language, like C, C++, SQL, Java, etc. to develop software modules.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 5: Contribute to Quality Assurance of Projects

Mapped to SSC/N1302, v2.0

Terminal Outcomes:

- Demonstrate the ability to identify the checkpoints that a project should comply with during each phase of the project.
- Prepare reports on checks carried out, data and information collected, and risks identified.

Duration: *10:00(In Hours)*	**Duration:** *20:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the principles of effective quality testing on data. • Collate required data/information against key indicators using standard templates and tools. • Identify various test plans, test cases for monitoring automated scripts. • Discuss the hierarchy of approval process in quality team. • Discuss with experts, any issues related to project data, where necessary.	• Demonstrate regressive/progressive analysis of data to accurately identify risks to projects. • Apply the review process of the test plan, test cases and/or automated scripts. • Examine the impact of failure test or stress test of data on quality. • Demonstrate the use of chart/bar diagrams to project milestones to management reviewers, internal auditors, and technical reviewers.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 6: Key Indicators for Software Applications

Mapped to SSC/N1303, v2.0

Terminal Outcomes:

- Identify the primary sources of key indicators for quality testing.
- Examine the purpose of data or information provided to third party for quality check.

Duration: *07:00(In Hours)*	**Duration:** *15:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify the key factors impacting the quality assurance of projects and why projects must comply with these. • Discuss the types of risks and their indicators like unproven technologies, user and functional requirements, application, and system architecture, etc. • Define the checkpoints for third party performance in quality assurance. • Explain the factors that impact quality of software such as inadequate third-party performance, litigation in protecting intellectual property, obsolete software, and wrong software functionality.	• Analyse how management reviewers, internal auditors, technical reviewers impact the purpose of data/information shared for software applications.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 7: Technical Skills for Manual Tests

Mapped to SSC/N1303, v2.0

Terminal Outcomes:

- Design test suites or cases during the testing phase with 100% test coverage.
- Examine the importance of source coding standards, and utilities/tools for handling quality assurance.

Duration: *08:00(In Hours)*	**Duration:** *10:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss latest changes, procedures, and practices in the field of designing test suites. • Examine the purpose of software testing elements, like static testing, dynamic testing, white box testing, black box testing, etc. • Discuss the use of different value and data to determine the correct action in manual testing.	• Apply correct usage of information technology to input and/or extract data accurately. • Demonstrate static testing, dynamic testing, white box testing, black box testing, etc. • Use applications like .Net, SQL, Java, Oracle, VB Script, etc. for comprehending code written in respective coding language • Monitor, access and validate automated alerts and test service requests.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 8: Carry out Manual Tests on Software Products/ Applications/Modules

Mapped to SSC/N1303, v2.0

Terminal Outcomes:

- Demonstrate understanding of the nature of testing to be carried out and usage of the test management tool to be used.
- Evaluate the use of adhering conformance to usability guidelines in case of usability testing.

Duration: *10:00(In Hours)*	**Duration:** *30:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Select the latest versions of the test cases and automated scripts. • Select correct alternative solution from software specification document. • Identify the correct versions of the application and data to be used for testing.	• Analyse requirements from the software specification document. • Demonstrate the process of creating a test plan and developing test cases. • Develop test progress report, results and defects discovered, using the agreed test management tool. • Demonstrate contingency plans to monitor risk triggers during the project. • Analyse results to identify the defects and track the same in defect tracking system.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) DOT Net, Visual studio 2010 - ultimate, IIS 7.5 SQL server 2008 R2, JAVA, Eclipse SDE 7.0, Apache Tomcat 6.0, My SQL & work bench 5.2 Oracle 11G - express edition, VB Script, QTP (Quick Test Professional) tool, MySQL, Unit Testing Tool - JUnit	

Module 9: Manage your Work to meet Requirements

Mapped to SSC/N9001, v2.0

Terminal Outcomes:

- Define the scope of work.
- Demonstrate effective work planning principles.
- Recognize the importance of using time and resources effectively.

Duration: *08:00(In Hours)*	**Duration:** *32:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the role, responsibilities, and limits of the responsibilities. • Discuss the importance of gathering detailed work requirements and prioritizing work areas. • Identify commonly made mistakes in the prioritized work areas. • Explain the importance of completing work accurately.	• Analyse needs, requirements, and dependencies in order to meet the work requirements. • Apply resource management principles and techniques. • Demonstrate the ways to maintain an organized work area. • Apply effective time management principles.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) Microphone / voice system for lecture and class activities Computer Lab with 1:1 PC: trainee ratio and having internet connection, MS Office / Open office, Browser, Outlook / Any other Email Client, and chat tools	

Module 10: Work Effectively with Colleagues

Mapped to SSC/N9002, v2.0

Terminal Outcomes:

- Explain the methods and mechanisms for effective communication.
- Explain the importance of effective collaboration at workplace.

Duration: *08:00(In Hours)*	**Duration:** *32:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the principles of clear communication. • Outline the importance of being a good listener and adhering to the commitments. • Identify challenges and pain points related to work distribution while working in a team. • Explain the importance of distributing and sharing workloads.	• Use oral, written, and non-verbal communication skills in a variety of forms to construct thoughts and ideas effectively. • Demonstrate professional behaviour at workplace. • Demonstrate effective team mentorship.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) Microphone / voice system for lecture and class activities Computer Lab with 1:1 PC: trainee ratio and having internet connection, MS Office / Open office, Browser, Outlook / Any other Email Client, and chat tools Social networking tool / LMS tool to enable blog posts or discussion board, Instant messenger, chat and email tools to enable mock exercises.	

Module 11: Managing Health and Safety

Mapped to SSC/N9003, v2.0

Terminal Outcomes:

- Describe how to maintain a health, safe and secure environment at workplace.

Duration: *05:00(In Hours)*	**Duration:** *25:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of complying with organizational health, safety and security policies and procedures. • Discuss possible roles and responsibilities that an employee can take up with respect to workplace safety management. • Evaluate sample organizational emergency procedures. • Identify mechanisms to improve workplace health, safety, and security. • Label appropriate personal protective equipment needed for a job role.	• Demonstrate the identification of possible breaches in health, safety, and security policies. • Document health, safety, and security breaches. • Design a contingency plan for emergency situations like fire, short circuit, accidents, earthquake, etc. • Demonstrate the use of First Aid, CPR, and safety evacuation process as part of routine operations.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) Microphone / voice system for lecture and class activities Computer Lab with 1:1 PC: trainee ratio and having internet connection, MS Office / Open office, Browser, Outlook / Any other Email Client, and chat tools A sample health and safety policy document, Emergency broadcast system and mock emergency signage in the appropriate areas of the training institute	

Module 12: Workplace Data Management

Mapped to SSC/N9004, v2.0

Terminal Outcomes:

- Describe how data / information can be managed effectively.

Duration: *05:00(In Hours)*	**Duration:** *25:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss data privacy in terms of sharing and retrieving data from different sources. • Discuss the significance of providing accurate and up-to-date information on time. • Identify the database management tools and importance of CRM database.	• Apply the concepts behind information and knowledge management. • Perform rule-based analysis of data/information. • Format the data/information into required types/forms. • Demonstrate effective data management. • Use CRM databases to record and extract information.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) Microphone / voice system for lecture and class activities Computer Lab with 1:1 PC: trainee ratio and having internet connection, MS Office / Open office, Browser, Outlook / Any other Email Client, and chat tools Social networking tool / LMS tool to enable blog posts or discussion board, Instant messenger, chat, and email tools to enable mock exercises.	

Module 13: Inclusive and Environmentally Sustainable Workplaces

Mapped to SSC/N9014, v1.0

Terminal Outcomes:

- Illustrate sustainable practices at workplace for energy efficiency and waste management.
- Apply different approaches to maintain gender equality and increase inclusiveness for PwD.

Duration: *05:00(In Hours)*	**Duration:** *20:00(In Hours)*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe different approaches for efficient energy resource utilisation and waste management. • Describe the importance of following the diversity policies. • Identify stereotypes and prejudices associated with people with disabilities and the negative consequences of prejudice and stereotypes. • Discuss the importance of promoting, sharing, and implementing gender equality and PwD sensitivity guidelines at organization level.	• Practice the segregation of recyclable, non-recyclable and hazardous waste generated. • Demonstrate different methods of energy resource use optimization and conservation. • Demonstrate essential communication methods in line with gender inclusiveness and PwD sensitivity.
Classroom Aids:	
Whiteboard and Markers Chart paper and sketch pens LCD Projector and Laptop for presentations	
Tools and Other Requirements:	
Labs equipped with the following: PCs/Laptops Internet with Wi-Fi (Min 2 Mbps Dedicated) Microphone / voice system for lecture and class activities	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Bachelor's Degree	Electrical & Electronics Eng. / Computer Science Eng.	Minimum 2 years' experience in engineering and R&D domain.		1 year preferred	Minimum 2 years' experience in the software testing domain.	Additional certification in software testing techniques, test writing plans, testing tools and software.

Trainer Certification	
Domain Certification	**Platform Certification**
Minimum accepted score in SSC Assessment is 80% per NOS being taught in "SSC/Q4901, v2.0"	Recommended that the trainer is certified for the Job role "Trainer" mapped to the Qualification Pack "MEP/Q2601 v1.0". Minimum accepted score is 80% aggregate

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduate in any discipline		2	Experience that involves client interaction	1-2	Experience that involves client interaction	

Assessor Certification	
Domain Certification	**Platform Certification**
Not Applicable	

Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the learner on the required competencies of the program.

Assessment System Overview

A uniform assessment of job candidates as per industry standards facilitates progress of the industry by filtering employable individuals while simultaneously providing candidates with an analysis of personal strengths and weaknesses.

Assessment Criteria

Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down the proportion of marks for Theory and Skills Practical for each PC.

The assessment for the theory part will be based on a knowledge bank of questions created by the SSC. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

Guidelines for Assessment			
Testing Environment	**Tasks and Functions**	**Productivity**	**Teamwork**
• Carry out assessments under realistic work pressures that are found in the normal industry workplace (or simulated workplace). • Ensure that the range of materials, equipment, and tools that learners use are current and of the type routinely found in the normal industry workplace (or simulated workplace) environments.	• Assess that all tasks and functions are completed in a way, and to a timescale, that is acceptable in the normal industry workplace. • Assign workplace (or simulated workplace) responsibilities that enable learners to meet the requirements of the NOS.	• Productivity levels must be checked to ensure that it reflects those that are found in the work situation being replicated.	• Provide situations that allow learners to interact with the range of personnel and contractors found in the normal industry workplace (or simulated workplace).

Assessment Quality Assurance framework

NASSCOM provides two assessment frameworks NAC and NAC-Tech.

NAC (NASSCOM Assessment of Competence)

NAC follows a test matrix to assess Speaking & Listening, Analytical, Quantitative, Writing, and Keyboard skills of candidates appearing for assessment.

NAC-Tech

NAC-Tech test matrix includes assessment of Communication, Reading, Analytical, Logical Reasoning, Work Management, Computer Fundamentals, Operating Systems, RDBMS, SDLC, Algorithms & Programming Fundamentals, and System Architecture skills.

Methods of Validation

To pass a QP, a trainee should score an average of 70% across generic NOS' and a minimum of 70% for each technical NOS. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Method of assessment documentation and access

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by SSC assessment team. After upload, only SSC can access this data.

References

Glossary

Term	Description
Key Learning Outcome	Key learning outcome is the statement of what the learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcomes is specified in terms of knowledge, understanding (theory) and skills (practical application).
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training**.**
Terminal Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module**.** A set of terminal outcomes help to achieve the training outcome.
National Occupational Standards	National Occupational Standard specify the standard of performance an individual must achieve when carrying out a function in the workplace.
Persons with Disability	Persons with Disability are those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on equal basis with others.
Integrated Development Environment	An integrated development environment is a software application that provides comprehensive facilities to computer programmers for software development.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skill Qualification Framework
NSQC	National Skill Qualification Committee
NOS	National Occupational Standards
SSC	Skill Sectors Council
NASSCOM	National Association of Software & Service Companies
PWD	Persons with Disability
IDE	Integrated Development Environment