CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:
IT-ITeS Sector Skills Council NASSCOM (SSC NASSCOM)
Plot No. – 7, 8, 9 & 10
Sector – 126, Noida
Uttar Pradesh - 201303

Name and contact details of individual dealing with the submission

Name: Ms Divya Gupta

Position in the organisation: Solutions & Partner Ecosystem lead

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List of documents submitted in support of the Qualifications File

1. Functional Analysis Document
2. Occupational Analysis Document
3. Qualification Pack
4. Occupational Map
5. Model Curriculum
6. Summary Sheet
7. Industry Validations

SUMMARY

1	**Qualification Title**	IoT - Software Analyst
2	**Qualification Code, if any**	SSC/Q8205, V1.0
3	**NCO code and occupation**	NCO-2015/2512.NIL
4	**Nature and purpose of the qualification (Please specify whether qualification is short term or long term)**	- The Qualification Pack (QP) contains National Occupational Standards for the job role "IoT - Software Analyst" - The purpose of the qualification is to help Individuals at this job be responsible for the design and development and maintenance of software across IoT solutions. They are also responsible for the management of applications lifecycles and the development of tools and processes for continuous integration and delivery.
5	**Body/bodies which will award the qualification**	SSC NASSCOM
6	**Body which will accredit providers to offer courses leading to the qualification**	IT-ITeS SSC Presently, Accreditation is not prescribed; affiliation is one of the models.
7	**Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)**	Yes. SMART norms for accreditation and SSC norms are available for affiliation on SMART portals
8	**Occupation(s) to which the qualification gives access**	Internet of Things
9	**Job description of the occupation**	Individuals at this job are responsible for the design and development and maintenance of software across IoT solutions. They are also responsible for the management of applications lifecycles and the development of tools and processes for continuous integration and delivery. They must work and collaborate with various stakeholders involved in the development of IoT solutions. They must be able to communicate and build relationships with others and continuously develop their knowledge and analytical abilities.
10	**Licensing requirements**	NA
11	**Statutory and Regulatory**	Though some standards for cyber/data

	requirement of the relevant sector (documentary evidence to be provided)	security exist, currently no standards specific to Statutory and Regulatory exist for IoT.
12	Level of the qualification in the NSQF	6
13	Anticipated volume of training/learning required to complete the qualification	595 hours (215 hours theory, 380 hours practical)
14	Indicative list of training tools required to deliver this qualification	• Whiteboard and Markers • LCD Projector and Laptop for presentations • Lab equipped with the following: - • PCs/Laptops • Internet with Wi-Fi (Min 2 Mbps Dedicated) • Chart paper and sketch pens • Latest version of statistical software packages and IDEs • Chart paper, markers, picture magazines and old newspapers
15	Entry requirements and/or recommendations and minimum age	Graduate in any discipline preferably Science/Computer Science/Electronics and Engineering /Information Technology who is at least 21 years of age with industry experience of 0-2 years in software development or related roles
16	Progression from the qualification (Please show Professional and academic progression)	This entry should refer to one or more of the following: - access to other qualifications at the same NSQF level – Hardware Solution Designer, Test Analyst - access to related qualification(s) at the next NSQF level – Solution Architect, Senior Software Analyst, Senior Test Analyst, Senior Hardware Solution Designer, Associate Consultant
17	Arrangements for the Recognition of Prior learning (RPL)	- Response to market forces for RPL. - RPL assessments will be the same as our normal assessments.
18	International comparability where known (research evidence to be provided)	Not Yet Established
19	Date of planned review of the qualification.	11th March 2020

20	Formal structure of the qualification **Mandatory components**		
	Title of component and identification code/NOSs/Learning outcomes	**Estimated size (learning hours)**	**Level**
(i)	**Bridge Modules**	**69**	**-**
(ii)	**SSC/N8218 (Design, develop and maintain software across appropriate layers of IoT solutions)**	**75**	**6**
(iii)	**SSC/N8219 (Develop software applications and manage application lifecycle for IoT solutions)**	**75**	**6**
(iv)		**175**	**7**
	SSC/N8120 (Develop tools, processes and mechanisms for continuous integration and delivery)		
(v)		**76**	**6**
(vi)	**SSC/N8223 (Manage Systems Engineering processes while developing IoT solutions)**	**25**	**6**
(vii)		**25**	**6**
	SSC/N8238 (Create technical documents and manuals)		
(viii)		**25**	**6**
	SSC/N9005 (Develop your knowledge, skills and competence)	**25**	**6**
(ix)	**SSC/N9006 (Build and maintain relationships at the workplace)**	**25**	**6**
(x)	**SSC/N9010 (Convince others to take appropriate action in different situations)** **SSC/N9012 (Manage and collaborate with stakeholders for project success)**		
	Total	**595**	

<u>**SECTION 1**</u>
ASSESSMENT

21	**Body/Bodies which will carry out assessment:** SSC NASSCOM will carry out the assessment along with the assessment partners.
22	**How will RPL assessment be managed and who will carry it out?** • *RPL assessment will be online, objective evaluation in a highly secure and proctored environment.* • *RPL assessments will be the same as our normal assessments.* • *All procedures followed will be similar to the normal assessment methodology.* • *Issuance of the qualification will be through the centralise SDMS (NSDC).* • *Quality assurance – By equating performance amongst the multiple affiliated assessment provider (AAP) and periodic analytical review and sensitivity analysis for the reliability and validity of all aspects of assessments.*
23	**Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.** • *SSC NASSCOM carries out online assessments through very robust platforms and proctoring methodology.* • *Conduct of assessment are through trained and certified proctors under the assessment agency, partnering with SSC NASSCOM* • *AAP affiliated to SSC NASSCOM come with strong industry references and long experience and analytical ability in assessment methodologies.* • *Periodic workshops are held with the vendors to bring them to a common understanding of the job role, its NSQF level, difficulty level as well as format and sample of assessment items.* • *Internal moderations further ensure the validity and reliability of the assessments and consistency of difficulty levels of the test questions across AAPs.* • *AAPs work with hirers on similar job roles, they use SMEs from their network to get industry relevant scenarios and assessment items aligned to the expected outcomes of the job role/QP.* • *Curriculum and real time scenarios facilitate further understanding the scope of the QP with reference to process knowledge and skills.* • *In addition, we conduct workshops with AAPs w.r.t. beta testing, review of the assessment analytics, performance of the test platform, moderation of NSQF levels, deployment and invigilation patterns and*

> *infrastructure requirements including malpractice avoidance.*
> - *Inferences from benchmarking and analytics patterns are taken into consideration in the development and revision of the assessment criteria and format of assessment items.*
> - *Reliability and validity of assessment items is standardised among AAPs.*
> - *Difficulty level of test items with reference to NSQF levels are ensured, so that the outcomes with reference to performance criteria of the constituent NOSs are in line with the NSQF level descriptors. This is achieved through the detailed test matrix design.*

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in "Formal structure of the qualification" in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

24. Assessment evidences

Title of Component:

Job Role	IoT - Software Analyst
Qualification Pack	SSC/Q8205, V1.0
Sector Skill Council	IT-ITeS

Guidelines for Assessment:

1. 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 proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criterion.
6. To pass a QP, a trainee should score an average of 70% across generic NOS' and a minimum of 70% for each technical NOS.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Title of NOS/Unit/Component:

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
1. SSC/N8218 Design, develop and maintain software across appropriate layers of IoT solutions	PC1.design, develop and maintain real-time operating systems at the device layer	100	5	1.5	3.5
	PC2.design, develop and maintain device software which enables access to device hardware		5	1.5	3.5
	PC3.design, develop and maintain device software which		1	0.3	0.7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	enables features such as remotely controlling the device, upgrading its firmware, monitoring its battery level, etc.				
	PC4.design, develop and maintain firmware that enables wired/wireless connectivity between the end device and IoT gateway		5	1.5	3.5
	PC5.apply appropriate wired/wireless connectivity protocols for device-device or device-gateway communications (this may include protocols such as NFC, NB-IoT, Bluetooth/BLE, ZigBee, Mesh and Lora)		5	1.5	3.5
	PC6. design, develop and maintain IoT device management with Over the Air functionality		5	1.5	3.5
	PC7. design, develop and maintain the deployment of analytics packet		5	1.5	3.5

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	Over the Air updates on the devices through the IoT device management platform				
	PC8. evaluate IOT Device Management Commercial off-the-shelf platforms		5	1.5	3.5
	PC9.design, develop and maintain applications to run on standard IoT platforms (such as Azure IoT, AWS IoT, PTC ThingWorx, etc.)		5	1.5	3.5
	PC10.design, develop and maintain software which enables IoT platforms to interact with large numbers of devices and gateways		5	1.5	3.5
	PC11.design, develop and maintain a central registry to identify the devices/gateways running in an IoT solution		5	1.5	3.5
	PC12.design, develop and maintain scalable processing solutions with the ability to		5	1.5	3.5

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	store and analyse data				
	PC13.design, develop and maintain software applications, libraries, server software and APIs		5	1.5	3.5
	PC14.design and develop analytics solutions for the edge / platform layers		5	1.5	3.5
	PC15.develop & deploy a variety of streaming analytics / complex events / monitoring requirement for various use-cases		5	1.5	3.5
	PC16.design, develop and maintain user experience interfaces across layers of the IoT solution		5	1.5	3.5
	PC17.design, develop and maintain reports, graphs and visualization dashboards of IoT solution		3	0.9	2.1
	PC18.continually evaluate software reliability and		5	1.5	3.5

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	performance				
	PC19. use DevOps tools for automated deployment and monitoring of software applications		1	0.3	0.7
	PC20.continually evaluate software reliability, power and performance		10	3	7
	PC21.monitor firmware and software updates		5	1.5	3.5
	Total		**100**	**30**	**70**
2. SSC/N8219 Develop software applications and manage application lifecycle for IoT solutions	PC1.gather requirements for development of software application from relevant stakeholders	100	15	4.5	10.5
	PC2.ensure regulatory and compliance requirements are also identified		5	1.5	3.5
	PC3.categorize specifications and prioritize them based on when they must be developed		1	0.3	0.7
	PC4.design and develop software applications for the IoT solution		10	3	7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC5.continuously verify that the application is in line with the specified requirements		10	3	7
	PC6.identify appropriate methodologies (such as agile, scrum, etc.) to structure, plan, and control the solution development process		10	3	7
	PC7.develop and run test cases on application being built		5	1.5	3.5
	PC8.plan deployment model of the application		5	1.5	3.5
	PC9.roll out application when it is ready for release		1	0.3	0.7
	PC10.use Application Management Services to provide ongoing application support to external providers		1	0.3	0.7
	PC11.use Application Monitoring Services to delegate the responsibilities of monitoring and		1	0.3	0.7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	releasing patches, bug-fixes and enhancements to external vendors				
	PC12.monitor and manage deployed application		10	3	7
	PC13.continuously look for and resolve bugs in software application		15	4.5	10.5
	PC14.plan for application updates and patches		5	1.5	3.5
	PC15.plan for application upgrades		5	1.5	3.5
	PC16.plan for retirement of application and migration to a new application		1	0.3	0.7
	Total		**100**	**30**	**70**
3. SSC/N8120 Develop tools, processes and mechanisms for continuous integration and delivery	PC1.define continuous delivery and integration strategies	100	15	5	10
	PC2.design and develop staging environments before production		10	3	7
	PC3.deploy, automate and maintain production systems		15	5	10

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC4.evaluate new technology options and vendor products		5	2	3
	PC5.handle build, release and configuration management of production systems		15	5	10
	PC6.manage and provision computer data centres through machine-readable definition files		10	2	8
	PC7.define and execute continuous testing and automated QA processes		10	2	8
	PC8.troubleshoot and solve system issues across platform and application domains		10	3	7
	PC9.ensure availability, performance and scalability of production systems		10	3	7
	Total		**100**	**30**	**70**
4. SSC/N8223 Manage Systems Engineering processes while developing	PC1.perform analysis of requirements to determine needs of overall solution	100	20	6	14
	PC2.identify the work to be		10	3	7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
IoT solutions	performed to develop overall solution				
	PC3.develop the schedules and cost estimates for the work to be performed		20	6	14
	PC4.coordinate activities for the work to be performed		15	4.5	10.5
	PC5.translate system level requirements into detailed functional and performance design criteria		10	3	7
	PC6.develop solutions that satisfy the functional and performance design criteria		10	3	7
	PC7.perform verification of solutions against the original system requirements		15	4.5	10.5
	Total		**100**	**30**	**70**
5. SSC/N8238 Create technical documents and manuals	PC1.identify the purpose and the scope of the activity for which technical documentation is to be produced	100	20	6	14

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC2.obtain information for the technical document from relevant sources and stakeholders		15	4.5	10.5
	PC3.draft technical document ensuring that content is concise, complete and easy to consume		15	4.5	10.5
	PC4.review technical document content with relevant stakeholders and document owners		10	3	7
	PC5.ensure that technical document is formatted and designed as per specifications		10	3	7
	PC6.transfer technical document to relevant stakeholders for sign-off and publishing		10	3	7
	PC7.continuously review and update technical document		20	6	14
	Total		**100**	**30**	**70**
6. SSC/N9005 Develop your knowledge, skills and	PC1. obtain advice and guidance from appropriate people to develop your knowledge, skills	100	10	0	10

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
competence	and competence				
	PC2. identify accurately the knowledge and skills you need for your job role		10	0	10
	PC3. identify accurately your current level of knowledge, skills and competence and any learning and development needs		20	10	10
	PC4. agree with appropriate people a plan of learning and development activities to address your learning needs		10	0	10
	PC5. undertake learning and development activities in line with your plan		20	10	10
	PC6. apply your new knowledge and skills in the workplace, under supervision		10	0	10
	PC7. obtain feedback from appropriate people on your knowledge and skills and how effectively you apply them		10	0	10

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC8. review your knowledge, skills and competence regularly and take appropriate action		10	0	10
	Total		**100**	**20**	**80**
7. SSC/N9006 Build and maintain relationships at the workplace	PC1. build rapport with appropriate people at the workplace		10	3	7
	PC2. develop new professional relationships		10	3	7
	PC3. build alliances to establish mutually beneficial working arrangements	100	10	3	7
	PC4. foster an environment where others feel respected		10	4	6
	PC5. identify and engage a diverse range of influential contacts		10	4	6
	PC6. obtain guidance from appropriate people, wherever necessary		10	3	7
	PC7. attentively listen to ideas and give constructive feedback		10	3	7
	PC8. promptly resolve conflicts		10	2	8

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	between self or others				
	PC9. work with colleagues to deliver shared goals		10	2	8
	PC10. recognize the contributions made by your colleagues		10	3	7
	Total		**100**	**30**	**70**
8. SSC/N9010 Convince others to take appropriate action in different situations	PC1. gather needs of concerned people	100	10	0	10
	PC2. adapt arguments to consider diverse needs		15	0	15
	PC3. use small wins as milestones to gain support for ideas		25	10	15
	PC4. persuade with the help of concrete examples or evidences		25	10	15
	PC5. take structured actions to reach consensus on the course of action		25	10	15
	Total		**100**	**30**	**70**
9. **SSC/N9012 Manage and collaborate with stakeholders for project**	PC1. Identify the larger business and organizational context behind the requirements of the stakeholder		10	3	7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
success					
	PC2. Manage fluctuating stakeholder priorities and expectations		5	1.5	3.5
	PC3. Consult stakeholders early in critical organisation-wide decisions		10	3	7
	PC4. Use formal communication methods to collaborate with stakeholders (such as meetings, conference calls, emails etc.)		5	1.5	3.5
	PC5. Keep stakeholders updated on changes in project requirements		10	3	7
	PC6. Define the frequency of communication with all the stakeholders		10	3	7
	PC7. Use suitable tools to represent numbers and pictures to present details		10	3	7
	PC8. Respond to requests in a timely and accurate manner		10	3	7

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC9. Take feedbacks from stakeholders regularly		5	1.5	3.5
	PC10. Continuously improve work deliverables/service based on stakeholder feedback		15	5	10
	PC11. Plan deliverables based on stakeholder needs		10	3	7
	Total		**100**	**30**	**70**

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Means of assessment 1 *Proctored online assessments (LAN and Web based), carried out using a variety of question formats applicable for linear / adaptive methodologies; performance criteria being assessed via situation judgement tests, simulations, code writing, psychometrics and multiple-choice questions etc.*	
Means of assessment 2 NA	

Pass/Fail

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2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below).

5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criterion.

6. To pass a QP, a trainee should score an average of 70% across generic NOS' and a minimum of 70% for each technical NOS.

7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

<u>**SECTION 2**</u>
25. EVIDENCE OF LEVEL

Title/Name of qualification/component: IoT - Software Analyst		Level: 6
NSQF Domain	**Key requirements of the job role**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
Process	**Demands a wide range of specialised technical skill, clarity of knowledge and practice in broad range of activity involving standard and non-standard practices.** • Develop operating systems at the device layer • Apply connectivity protocols for communications between solution components • Develop applications that run on IoT platforms • Gather requirements for development of software application from relevant stakeholders • Use Application Management Services • Monitor and manage deployed application	The individual in this role must work in a constantly changing environment where he/she needs to develop software code while actively engage with other stakeholders within the company. To perform his/her role and to collaborate with other stakeholders effectively, the individual requires a vast understanding of the processes used to build software. The individual needs to combine a knowledge of the processes along with a solid understanding of their contexts.	6
Professional knowledge	**Factual and theoretical knowledge in broad contexts within a field of work or study.**	The individual in the role must have a vast amount of knowledge across the different	6

Title/Name of qualification/component: IoT - Software Analyst		Level: 6	
NSQF Domain	**Key requirements of the job role**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
	• Knowledge of design, develop and maintain software applications, libraries, server software and APIs • How to design, develop and maintain reports, graphs and visualization dashboards of IoT solution • Monitor firmware and software updates • Design, develop and maintain applications to run on standard IoT platforms (such as Azure IoT, AWS IoT, PTC ThingWorx, etc.) • Design, develop and maintain IoT device management with Over the Air functionality	aspects of software development across the entire IoT stack. This knowledge across various disciplines must be accompanied with an in-depth understanding of each discipline to perform this role effectively.	
Professional skill	**A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.** • The range of code generation tools and unit testing tools used to develop software code • Knowledge of various development	The role demands a skillset that allows the individual to build software code. This requires a wide range of skills. The individual therefore needs to be proficient at using several tools must have the analytical ability to use them effectively.	6

Title/Name of qualification/component: IoT - Software Analyst		Level: 6
NSQF Domain	**Key requirements of the job role**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
	methodologies (such as agile, scrum, etc.) • Knowledge of Application Management Services • Knowledge of Application Monitoring Services • Different data flows and structures • Different algorithmic models and their design		
Core skill	**Reasonably good in mathematical calculation, understanding of social, political and reasonably good in data collection, organising information, and logical communication.** • Knowledge of design, develop and maintain software applications, libraries, server software and APIs • Design, develop and maintain reports, graphs and visualization dashboards of IoT solution • Continually evaluate software reliability and performance • Use DevOps tools for automated	The individual must apply his/her software development skills along with a sound understand larger business, technological and regulatory trends. This would enable him/her to build code across the stack and effectively in line with industry best practices.	6

Title/Name of qualification/component: IoT - Software Analyst		Level: 6	
NSQF Domain	**Key requirements of the job role**	**How the job role relates to the NSQF level descriptors**	**NSQF Level**
	deployment and monitoring of software applications • Follow instructions, guidelines, procedures, rules and service level agreements • Provide opinions on work in a detailed and constructive way		
Responsibility	**Responsibility for own work and learning and full responsibility for other's works and learning.** • Make decisions on suitable courses • Pass on relevant information to others • Contribute to the quality of team working • Apply balanced judgments to different situations • Check your work is complete and free from errors • Ensure that software being developed is deployed across the IoT solution as per specifications	The role demands working in a team to create and maintain software. This may involve helping peers with their work from time to time and providing feedback and advice to help improve the quality of their work. Since this role is likely to have people reporting to it, the individual performing this role is supposed to take responsibility for the output and the development of the entire team.	6

SECTION 3
EVIDENCE OF NEED

26	**What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?** As the number of IoT solutions and devices continues to rise, there is a need for greater software functionality at the edge level. Software would also be tailored specifically to the needs of the layer of the solution. E.g., the competencies required for developing software at the device, connectivity, platform, server, application and interface layers are all vastly different and require niche competencies. It is for reason that an IoT Software Analyst is required. Source: https://www.edgeverve.com/blog/internet-things-iot-software-development/
27	**Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences** In place. MeitY has approved all the 9 QPs w.r.t. IoT. Currently, there are no regulations on IoT by the government or any other industrial body. However, NASSCOM is working with NITI Aayog to build national policies.
28	**What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification** *Cleared by QRC at NSDC. There is only no other qualification in the NQR with respect to IoT, which is – 'IoT – Software Analyst.' This is a specific role that is responsible for performing different aspects of designing, developing and maintaining software for the IoT solution.*
29	**What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here** *Monitoring and review of the qualifications is a project executed every two years.* *While adoption by industry and academia is one good indicator for the usefulness of a qualification pack, we adopt multiple approaches for periodic review and maintenance of the qualifications.* *1. Sub-sector wise Industry council, headed by council chair is a formal*

| | *part of our governing structure. The council participates and steers the qualifications creation and upkeep. This council is a body elected by over 1800 member companies of NASSCOM.*

2. Special interest groups are formed for a more focused and detailed review of the qualifications in the light of emerging knowledge and skill areas.

3. Events and workshops are conducted periodically to validate, monitor and review the qualification.

4. As a part of due diligence process for affiliating Training providers, we do ask them for validation from their hirers – thus covering even medium, small and micro segment of the hiring companies.

5. Any institution / individual is welcome to send feedback, which is recorded and considered during next review cycle. |
| *The above data is used to update the Qualification and this revision is published annually. Nonetheless, if a major feedback is received prior to the planned review period, the change is considered in consultation with the industry council.* | |

Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.
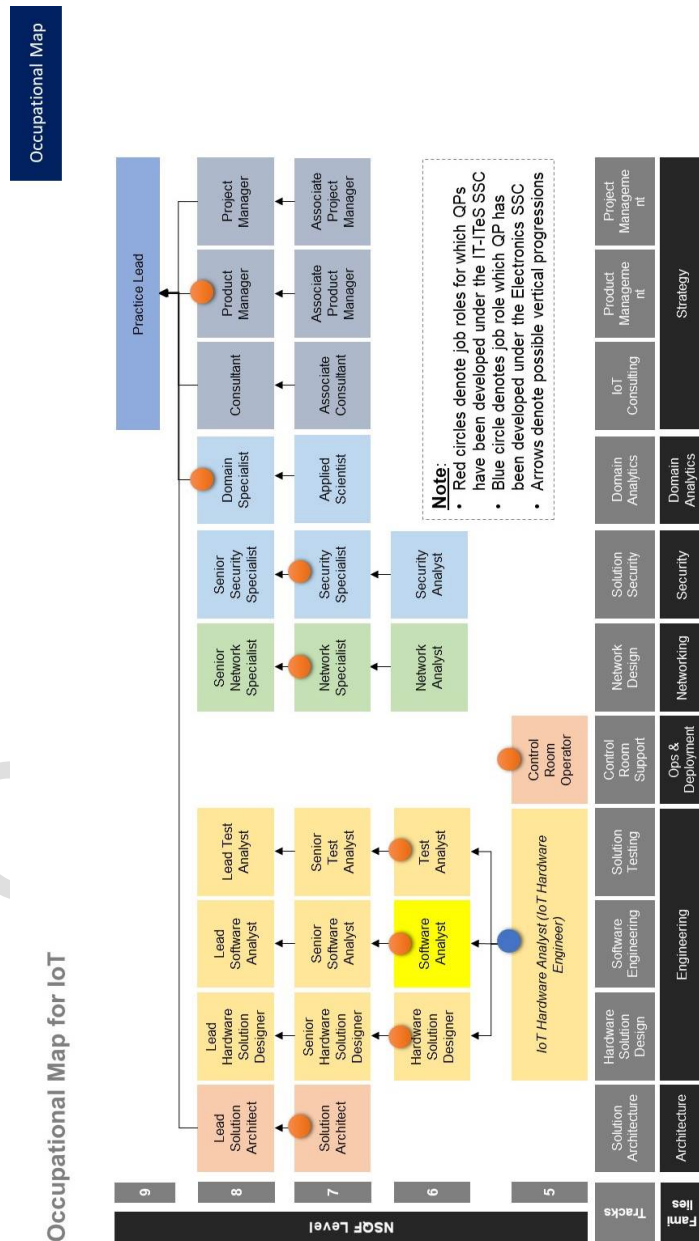
- NASSCOM Talent Demand and Supply Report – Internet of Things

SECTION 4
EVIDENCE OF PROGRESSION

30	**What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**
	Show the career map here to reflect the clear progression

The Career /Occupational Map reflects horizontal and vertical mobility emanating from 'Job Families' and 'Tracks' across NSQF and experience levels.

Presently 9 of the most popular job roles/ QPs in this IoT Occupation have

	been articulated as per IT-ITeS industry's direction and aspirations.

Please attach most relevant and recent documents giving further information about any of the topics above. Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.