

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Telecom Sector Skill Council

Estel House, 3rd Floor, Plot No: - 126, Sector 44, Gurugram, Haryana 122003

Name and contact details of individual dealing with the submission

Name: Mr. Krishna Nand Jha

Position in the organisation: Assistant General Manager

Address if different from above: Same as above

Tel number(s): 0124-4148029

E-mail address: manager-projects@tsscindia.com

List of documents submitted in support of the Qualifications File

1. Model Curriculum

Model Curriculum to be added which will include the following:

- **Indicative list of tools/equipment to conduct the training**
- **Trainers' qualification**
- **Lesson Plan**
- **Distribution of training duration into theory/practical/OJT component**

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

SUMMARY

1	Qualification Title: AI & ML – Jr. Telecom Data Analyst
2	Qualification Code, if any: TEL/Q6602
3	NCO code and occupation: NCO-2015/2523.6602 Data Handling - Network Managed Services
4	Nature and purpose of the qualification (Please specify whether a qualification is a short term or long term): AI – Jr. Telecom Data Analyst Responsible for using the relevant Artificial Intelligence (AI) technologies for collecting, processing, and obtaining statistical information from datasets. This QP is for a short-term program, and it is designed based on industry demand. Easy to learn and deploy.
5	Body/bodies which will award the qualification: Telecom Sector Skill Council
6	Body which will accredit providers to offer courses leading to the qualification: Telecom Sector Skill Council
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 for affiliation are available on the SMART portal.
8	Occupation(s) to which the qualification gives access: Data Handling – Network Managed Services
9	Job description of the occupation: An AI & ML – Jr. Telecom Data Analyst is responsible for using the relevant Artificial Intelligence (AI) technologies for collecting, processing, and obtaining statistical information from datasets. The individual draws actionable insights and presents the data to the stakeholders for decision-making.
10	Licensing requirements: N/A
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided): N/A
12	Level of the qualification in the NSQF: Level 4
13	Anticipated volume of training/learning required to complete the qualification: 450 Hours (120 Theory, 210 Practical, 120 OJT)
14	Indicative list of training tools required to deliver this qualification: Laptop /Desktop with pre-installed (SQL Server, Java, Java Virtual Machine (JVM), R programming Software) language/ Software, Relevant stationery, First Aid Kit and Equipment used in Medical Emergencies, Personal Protective Equipment, Hygiene Equipment and Materials like Sanitizer, Soap, Mask

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

15	<p>Entry requirements and/or recommendations and minimum age:</p> <p>Class 12th Pass (with vocational education in IT) OR Class 10th + ITI (2 years in Electronics/Telecom/IT and other relevant fields) OR Class 10th Pass and pursuing continuous regular schooling OR Class 10th with 2 years of relevant experience OR Class 8th Pass + ITI (2 years in Electronics/Telecom/IT and other relevant fields) with 2 years of relevant experience OR Diploma after Class 10th (3 years in Electronics/Telecom/IT and other relevant fields) OR Certified in NSQF-L3 AI Devices Installation Operator with 2 years of relevant experience</p> <p>17 years</p>																
16	<p>Progression from the qualification (Please show Professional and academic progression): Level-5 (Vertical) Machine Learning (ML) Engineer</p>																
17	<p>Arrangements for the Recognition of Prior learning (RPL):</p> <p>RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack by Telecom Sector Skill Council.</p>																
18	<p>International comparability where known (research evidence to be provided): No</p>																
19	<p>Date of a planned review of the qualification: 30 June 2025</p>																
20	<p>The formal structure of the qualification</p> <p>Mandatory components</p>																
(i)	<p>Title of component and identification code/NOSs/Learning outcomes</p>	<p>Estimated size (learning hours)</p> <table border="1"> <thead> <tr> <th data-bbox="783 1637 916 1720">Theory</th> <th data-bbox="916 1637 1066 1720">Practical</th> <th data-bbox="1066 1637 1217 1720">OJT</th> </tr> </thead> <tbody> <tr> <td data-bbox="783 1720 916 1890">08</td> <td data-bbox="916 1720 1066 1890">04</td> <td data-bbox="1066 1720 1217 1890">12</td> </tr> <tr> <td data-bbox="783 1890 916 1973">40</td> <td data-bbox="916 1890 1066 1973">78</td> <td data-bbox="1066 1890 1217 1973">54</td> </tr> <tr> <td data-bbox="783 1973 916 2098">40</td> <td data-bbox="916 1973 1066 2098">80</td> <td data-bbox="1066 1973 1217 2098">54</td> </tr> </tbody> </table>			Theory	Practical	OJT	08	04	12	40	78	54	40	80	54	<p>Level</p>
Theory	Practical	OJT															
08	04	12															
40	78	54															
40	80	54															
1	<p>Bridge Module (Introduction to the role of an AI & ML – Jr. Telecom Data Analyst)</p>	08	04	12	4												
2	<p>Collect data using AI tools</p>	40	78	54	4												
3	<p>Analyse Data using AI Tools and Utilize data in Business Productivity</p>	40	80	54	4												

NSQF QUALIFICATION FILE**Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022**

4	Organise Work and Resources as per Health and Safety Standards	16	24	00	4
5	Interact Effectively with Team Members and Customers	16	24	00	4
	Sub Total (A)	120	210	120	

NSQC Approved

SECTION 1
ASSESSMENT

<p>21</p>	<p>Body/Bodies which will carry out an assessment: Telecom Sector Skill Council.</p> <p>Proposed Body/Bodies which will carry out an assessment: The assessment will be carried out via our affiliated assessment body.</p>
<p>22</p>	<p>How will RPL assessment be managed and who will carry it out? The RPL assessment will be managed by TSSC via its affiliate assessment partners.</p>
<p>23</p>	<p>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.</p> <p>The emphasis is on practical demonstration of skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessment papers are also checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment results are backed by evidence collected by assessors.</p> <ol style="list-style-type: none"> 1. The assessor needs to collect a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In-charge / Head of the Training Centre. 2. The assessor needs to verify the authenticity of the candidates by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate, and cross verify trainee's credentials in the enrolment form. 3. The assessor needs to punch the trainee's roll number on all the test pieces. 4. The assessor can take a photograph of all the students along with the assessor standing in the middle and with the center name/banner at the back as evidence. 5. The assessor also needs to carry a photo ID card. <p>The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments.</p>

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

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 – i.e., Learning Outcomes to be assessed, assessment criteria and the means of assessment.

NSQC Approved

24. Assessment evidences

Title of Component:

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role AI & ML – Jr. Telecom Data Analyst

Qualification Pack TEL/Q6602

Sector Skill Council Telecom Sector Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualifications Pack will be approved 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 approved 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 center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualifications Pack, every trainee should score a minimum of 70% of aggregate marks.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
TEL/N6607: Collect Data using AI Tools				
Determine the scope	4	8	-	2
PC1. determine the scope and objectives of data analysis	2	3	-	1
PC2. identify the type of data required to be collected based on the scope and objectives, such as numerical, textual and visual data	2	5	-	1
Collect and prepare the data for analysis	26	47	-	13
PC3. collect the relevant data from the appropriate sources using the relevant automated tools	2	4	-	1

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

PC4. use the relevant technologies, such as analytics, machine learning, and Natural Language Generation (NLG), to automate data management processes	3	5	-	1
PC5. use Natural Language Query (NLQ) to enable the stakeholders to find answers and extract insights from data intuitively	3	5	-	1
PC6. utilise the AI technology for making enterprise data accessible to various stakeholders in the organisation	2	4	-	1
PC7. assess the quality and meaning of data using the relevant AI tool	2	5	-	1
PC8. use the relevant AI technology to identify and remove the corrupt data	2	4	-	1
PC9. identify the coding errors by filtering data	2	5	-	1
PC10. follow the recommended measures to rectify the coding errors and other related problems	2	4	-	1
PC11. organise data in a readable format using the relevant AI tool	2	3	-	2
PC12. assign numerical values to essential business functions so that business performance can be assessed and compared over periods	2	5	-	2
PC13. store the data using an appropriate medium or service, such as a cloud server, for easy retrieval and analysis	4	3	-	1
NOS Total	30	55	-	15
TEL/N6608: Analyse Data using AI Tools and Utilize data in Business Productivity				
Carry out data analysis using AI tools	15	33	-	8
PC1. determine the best attributes for the data model and build an algorithm to answer the relevant business queries effectively	1	4	-	1
PC2. carry out the Extract, Transform and Load (ETL) data process automatically using augmented analytics to get data ready for analysis	2	6	-	1
PC3. commission and decommission data sets as per the requirements	2	2	-	1
PC4. use augmented analytics for automatic data processing and deriving the appropriate insights	2	3	-	1
PC5. analyses the relevant local, national, and global trends that impact both the organization and the industry	2	3	-	1

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

PC6. use the relevant AI-based statistical tools to identify, analyses, and interpret patterns, trends, and actionable insights in large and complex data sets	2	4	-	1
PC7. analyses the past and present data as part of Business Intelligence (BI) to identify ways to deliver insights faster and help conduct business efficiently	2	5	-	1
PC8. use NLQ and NLG to query the data in machine language, and derive meaningful results and insights in the form of easy-to-understand language	2	6	-	1
Prepare the relevant reports	5	12	-	3
PC9. utilize augmented analytics to prepare relevant reports automatically with the insights derived through data analysis, along with solutions to existing business issues and predictions	2	5	-	1
PC10. ensure the reports state the relevant trends, patterns, predictions, and conclusions	1	3	-	1
PC11. assist the stakeholders in understanding the final analysis reports to enable them to take critical decisions based on various facts and trends	2	4	-	1
Assist in business improvement	5	15	-	4
PC12. co-ordinate with programmers, engineers, and other stakeholders to identify process improvement opportunities	2	5	-	1
PC13. identify the required system modifications, and assist in devising data governance strategies	2	6	-	1
PC14. assist in implementing and monitoring the business solutions identified for business improvement based on data analysis	1	4	-	2
NOS Total	25	60	-	15
TEL/N9101: Organise Work and Resources as per Health and Safety Standards				
Perform work as per quality standards	4	9	-	2
PC1. keep workspace clean and tidy	-	1	-	-
PC2. perform individual role and responsibilities as per the job role while taking accountability for the work	1	1	-	1
PC3. record/document tasks completed as per the requirements within specific timelines	-	1	-	1

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

PC4. implement schedules to ensure timely completion of tasks	-	2	-	-
PC5. identify the cause of a problem related to own work and validate it	2	2	-	-
PC6. analyse problems accurately and communicate different possible solutions to the problem	1	2	-	-
Maintain safe, healthy and secure working environment	16	27	-	4
PC7. comply with organisation's current health, safety, security policies and procedures	1	1	-	-
PC8. check for water spills in and around the work space and escalate these to the appropriate authority	1	2	-	1
PC9. report any identified breaches in health, safety, and security policies and procedures to the designated person	1	2	-	1
PC10. use safety materials such as goggles, gloves, ear plugs, caps, ESD pins, covers, shoes, etc	1	2	-	1
PC11. avoid damage of components due to negligence in ESD procedures or any other loss due to safety negligence	2	3	-	1
PC12. identify hazards such as illness, accidents, fires or any other natural calamity safety, as per organisation's emergency procedures, within the limits of individual's authority	2	1	-	-
PC13. participate regularly in fire drills or other safety related workshops organised by the company	1	3	-	-
PC14. report any hazard outside the individual's authority to the relevant person in line with organisational procedures and warn others who may be affected	1	3	-	-
PC15. maintain appropriate posture while sitting/standing for long hours	1	1	-	-
PC16. handle heavy and hazardous materials with care, while maintaining appropriate posture	1	1	-	-
PC17. sanitize workstation and equipment regularly	1	2	-	-
PC18. clean hands with soap, alcohol-based sanitizer regularly	-	1	-	-
PC19. avoid contact with anyone suffering from communicable diseases and take necessary precautions	-	1	-	-

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

PC20. take safety precautions while travelling e.g., maintain 1m distance from others, sanitize hands regularly, wear masks, etc.	1	2	-	-
PC21. report hygiene and sanitation issues to appropriate authority	1	1	-	-
PC22. follow recommended personal hygiene and sanitation practices, for example, washing/sanitizing hands, covering face with a bent elbow while coughing/sneezing, using PPE, etc	1	1	-	-
Conserve material/energy/electricity	7	16	-	3
PC23. optimize usage of material including water in various tasks/activities/processes	1	2	-	-
PC24. use resources such as water, electricity and others responsibly	1	2	-	1
PC25. carry out routine cleaning of tools, machine and equipment	1	2	-	-
PC26. optimize use of electricity/energy in various tasks/activities/processes	1	3	-	1
PC27. perform periodic checks of the functioning of the equipment/machine and rectify wherever required	1	3	-	1
PC28. report malfunctioning and lapses in maintenance of equipment	1	2	-	-
PC29. use electrical equipment and appliances properly	1	2	-	-
Use effective waste management/recycling practices	3	8	-	1
PC30. identify recyclable, non-recyclable and hazardous waste	1	2	-	1
PC31. deposit recyclable and reusable material at identified location	1	3	-	-
PC32. dispose non-recyclable and hazardous waste as per recommended processes	1	3	-	-
NOS Total	30	60	-	10
TEL/N9102: Interact Effectively with Team Members and Customers				
Interact effectively with superiors	7	15	-	2
PC1. receive work requirements from superiors and customers and interpret them correctly	1	2	-	-
PC2. inform the supervisor and/or concerned person about any unforeseen disruptions or delays	2	4	-	1

NSQF QUALIFICATION FILE

Approved in 20th NSQC Meeting – NCVET-Dated 30 June 2022

PC3. participate in decision making by providing facts and figures, giving/accepting constructive suggestions	2	5	-	1
PC4. rectify errors as per feedback and ensure the errors are not repeated	2	4	-	
Interact effectively with colleagues and customers	7	26	-	4
PC5. comply with organisation's policies and procedures for working with team members	1	2	-	-
PC6. communicate professionally using appropriate mode of communication such as face-to-face, telephonic and written	2	4	-	1
PC7. respond to queries and seek/provide clarifications if required	2	4	-	1
PC8. co-ordinate with team to integrate work as per requirements	-	3	-	-
PC9. resolve conflicts within the team/with customers to achieve smooth workflow	1	5	-	1
PC10. recognize emotions accurately in self and others to build good relationships	1	4	-	-
PC11. prioritize team and organization goals above personal goals	-	4	-	1
Respect differences of gender and ability	11	24	-	4
PC12. maintain a conducive environment for all the genders at the workplace	2	5	-	1
PC13. encourage appropriate behavior and conduct with people across gender	2	5	-	1
PC14. assist team members with disability in overcoming any challenges faced in work	3	4	-	1
PC15. practice appropriate verbal and non-verbal communication while interacting with People with Disability (PWD)	2	4	-	1
PC16. ensure equal participation of the people across genders in discussions	2	6	-	-
NOS Total	25	65	-	10

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Provided in the above section	

Means of assessment 1

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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below.)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on these criteria.

Means of assessment 2

Add boxes as required.

Pass/Fail

1. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
2. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

NSQF Approved

NSQF QUALIFICATION FILE

SECTION 2

25. EVIDENCE OF LEVEL

Title/Name of qualification/component: AI & ML – Jr. Telecom Data Analyst Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Process	<p>Using the relevant Artificial Intelligence (AI) technologies for collecting, processing, and obtaining statistical information from datasets</p> <ul style="list-style-type: none"> • Determine the scope and objectives of data analysis • Collect and prepare the data for analysis using AI tools 	<p>The individual draws actionable insights and presents the data to the stakeholders for decision-making. The individual must have attention to detail along with strong analytical and problem-solving skills.</p> <p>Hence, this is level 4</p>	4
Professional knowledge	<p>Analytical skills with the ability to work on large datasets</p> <ul style="list-style-type: none"> • Knowledge about technologies to automate data management process. • Knowledge of AI-based automated tools • Maintenance standards/guidelines 	<p>The individual should have a good understanding of the relevant technologies, such as analytics, machine learning, and Natural Language Generation (NLG), to automate data management processes</p> <p>Hence, this is level 4.</p>	4

NSQF QUALIFICATION FILE

Title/Name of qualification/component: AI & ML – Jr. Telecom Data Analyst Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Professional skill	<p>Problem-solving skills, effective communication and interpersonal skills</p> <ul style="list-style-type: none"> able to work for long durations with concentration and in coordination with others 	<p>The individual is required to have a range of technical skills, to be competitive in this job role, such as strong analytical and problem-solving skills, verbal and written communication skills. Comply with standards related to AI Data Analysis.</p> <p>Hence, this is level 4</p>	4
Core skill	<p>Core Domain Skill:</p> <ul style="list-style-type: none"> Fix the best quality for data model. AI Machine learning 	<p>The individual is required to determine the best attributes for the data model and build an algorithm and carries out documentation activities.</p> <p>Hence, this is level 4.</p>	4

NSQF QUALIFICATION FILE

Title/Name of qualification/component: AI & ML – Jr. Telecom Data Analyst Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the outcomes relates to the NSQF level descriptors	NSQF Level
Responsibility	<p>Responsibility of completing the work assigned and reporting the same as per standards.</p> <ul style="list-style-type: none"> • Understand the job role and follow the organisational policy • Record and report about the work status • Follow safety regulations at workplace • Work along with colleagues and supervisors 	<p>The individual is responsible for understanding customer queries/concern and appropriately suggesting the right/suitable product.</p> <p>Hence Level 4.</p>	4

NSQC Approved

NSQF QUALIFICATION FILE

SECTION 3 **EVIDENCE OF NEED**

26	<p>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?</p> <ol style="list-style-type: none">1. Feedback from industry was collected with respect to roles for which qualification pack development was to be prioritized.2. Skills Gap analysis reports for industry demand Training duration w.r.t current and potential capacity envisaged for potential supply
27	<p>Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences</p> <p>We have received the approval form the Line Ministry department.</p>
28	<p>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</p> <p>NSDC list of Approved and Under-Development QPs was checked prior to commencement the work.</p>
29	<p>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</p> <ul style="list-style-type: none">• Agencies have been appointed by the SSC to interact with training providers to gather feedback in implementation• Monitoring of results of assessments• Employer feedback will be sought post-placement• A formal review is scheduled by 2025

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.

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?

1. Endorsed and accepted by the Industry players
2. Formal recognition from the Industry players
3. Horizontal and vertical mobility options are available

Annexure 1: Career Map of AI & ML – Jr. Telecom Data Analyst

