

## **QUALIFICATION FILE-*OEM***

### **Azure Data Scientist Associate**

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☒ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒ General ☐ Multi-Skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☒ Original Equipment Manufacturer (OEM)

NCrF/NSQF Level: 6

Submitted By:

**Microsoft Corporation India Pvt. Ltd.**

**DLF Downtown, Level 8, Block 2**

**DLF Phase - 3, Sector - 25A**

**Gurugram 122002**

**Table of Contents**

Section 1: Basic Details ..... 3

Section 2: Module Summary ..... 6

    NOS/s of Qualifications.....**Error! Bookmark not defined.**

        Mandatory NOS/s: .....**Error! Bookmark not defined.**

        Elective NOS/s: .....**Error! Bookmark not defined.**

        Optional NOS/s: .....**Error! Bookmark not defined.**

    Assessment - Minimum Qualifying Percentage.....**Error! Bookmark not defined.**

Section 3: Training Related.....**Error! Bookmark not defined.**

Section 4: Assessment Related.....**Error! Bookmark not defined.**

Section 5: Evidence of the need for the Qualification.....**Error! Bookmark not defined.**

Section 6: Annexure & Supporting Documents Check List.....**Error! Bookmark not defined.**

    Annexure: Evidence of Level .....**Error! Bookmark not defined.**

    Annexure: Tools and Equipment (Lab Set-Up) .....**Error! Bookmark not defined.**

    Annexure: Industry Validations Summary .....**Error! Bookmark not defined.**

    Annexure: Training & Employment Details .....**Error! Bookmark not defined.**

    Annexure: Blended Learning .....**Error! Bookmark not defined.**

    Annexure: Detailed Assessment Criteria .....**Error! Bookmark not defined.**

    Annexure: Assessment Strategy .....**Error! Bookmark not defined.**

    Annexure: Acronym and Glossary .....**Error! Bookmark not defined.**

## Section 1: Basic Details

| 1.     | Qualification Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Azure Data Scientist Associate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------|--------|--------------------------------------------------------------------|-----------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 2.     | Sector/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | IT/ITeS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 3.     | Type of Qualification: <input type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options<br><input checked="" type="checkbox"/> OEM                                                                                                                                                                                                                                                                                                                                                                            | NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i><br>NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       | Qualification Name of existing/previous version:<br>NA |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 4.     | a. OEM Name<br>b. Qualification Name<br><i>(Wherever applicable)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | a. Microsoft<br>b. Azure Data Scientist Associate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 5.     | National Qualification Register (NQR) Code &Version<br><i>(Will be issued after NSQC approval)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NM-06-IT-04299-2025-V1-MCRSFT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6. NCrf/NSQF Level: 6 |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 7.     | Award (Certificate/Diploma/Advance Diploma/ Any Other <i>(Wherever applicable specify multiple entry/exits also &amp; provide details in annexure)</i> )                                                                                                                                                                                                                                                                                                                                                                                                  | Certificate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 8.     | Brief Description of the Qualification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Azure Data Scientist Associate validates expertise in managing data ingestion, preparation, model training, deployment, and monitoring using Python, Azure Machine Learning, and MLflow. They demonstrates proficiency in building and operationalizing machine learning solutions on Azure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
| 9.     | Eligibility Criteria for Entry for Student/Trainee/Learner/Employee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td></td> <td> 1.Any degree with ability to analyze and solve business problems using technology.<br/> 2.Any basic degree with understanding of basic IT concepts and terminology.<br/> 3.Pursuing first year of 2-year PG program after completing 3-year UG degree with intermediate knowledge of Azure.<br/> 4. Pursuing 1-year PG diploma after 3-year UG degree with intermediate knowledge of Azure.<br/> 5. Completed 4th year UG (in case of 4-year UG) with intermediate knowledge of Azure.<br/> 6. Pursuing 4th year UG (in case of 4-year UG) and continuing education </td> <td>NA</td> </tr> </tbody> </table> |                       |                                                        | S. No. | Academic/Skill Qualification (with Specialization - if applicable) | Required Experience (with Specialization - if applicable) |  | 1.Any degree with ability to analyze and solve business problems using technology.<br>2.Any basic degree with understanding of basic IT concepts and terminology.<br>3.Pursuing first year of 2-year PG program after completing 3-year UG degree with intermediate knowledge of Azure.<br>4. Pursuing 1-year PG diploma after 3-year UG degree with intermediate knowledge of Azure.<br>5. Completed 4th year UG (in case of 4-year UG) with intermediate knowledge of Azure.<br>6. Pursuing 4th year UG (in case of 4-year UG) and continuing education | NA |
| S. No. | Academic/Skill Qualification (with Specialization - if applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Required Experience (with Specialization - if applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |
|        | 1.Any degree with ability to analyze and solve business problems using technology.<br>2.Any basic degree with understanding of basic IT concepts and terminology.<br>3.Pursuing first year of 2-year PG program after completing 3-year UG degree with intermediate knowledge of Azure.<br>4. Pursuing 1-year PG diploma after 3-year UG degree with intermediate knowledge of Azure.<br>5. Completed 4th year UG (in case of 4-year UG) with intermediate knowledge of Azure.<br>6. Pursuing 4th year UG (in case of 4-year UG) and continuing education | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                                                        |        |                                                                    |                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |

|                         |                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 | with intermediate knowledge of Azure.<br><br>5. Completed 3-Year UG Degree (1 year relevant experience in Azure . |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------|--|-------------------------|----------------|-------------------|-----------------------|-------------------------|---------------|---------------------|--|--|--|--|--|--------|----|----|--|--|----|
|                         |                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
|                         |                                                                                                                                                              | b. Age: NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 10.                     | Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))                                                      | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 11. Common Cost Norm Category (I/II/III) (wherever applicable): |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 12.                     | Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)                                                              | Azure Subscription/Credits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 13.                     | Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification) | <input type="checkbox"/> Offline <input checked="" type="checkbox"/> Online <input type="checkbox"/> Blended<br><table border="1"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>OJT Recommended (Hours)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Online</td><td>15</td><td>15</td><td></td><td></td><td>30</td></tr> </tbody> </table> (Refer Blended Learning Annexure for details) |                                                                 |                                                                                                                   |               |  | Training Delivery Modes | Theory (Hours) | Practical (Hours) | OJT Mandatory (Hours) | OJT Recommended (Hours) | Total (Hours) | Classroom (offline) |  |  |  |  |  | Online | 15 | 15 |  |  | 30 |
| Training Delivery Modes | Theory (Hours)                                                                                                                                               | Practical (Hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | OJT Mandatory (Hours)                                           | OJT Recommended (Hours)                                                                                           | Total (Hours) |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| Classroom (offline)     |                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| Online                  | 15                                                                                                                                                           | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |                                                                                                                   | 30            |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 14.                     | Aligned to NCO/ISCO Code/s (if no code is available mention the same)                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 15.                     | Progression path after attaining the qualification (Please show Professional and Academic progression)                                                       | Career Progression: Azure Data Scientist Associate → Machine Learning Engineer → AI/ML Specialist → Data Science Lead → AI Solution Architect                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 16.                     | Other Indian languages in which the Qualification & Model Curriculum are being submitted                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 17.                     | Is similar Qualification(s) available on NQR-if yes, justification for this qualification                                                                    | <input type="checkbox"/> Yes <input type="checkbox"/> No URLs of similar Qualifications:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 18.                     | Is the Job Role Amenable to Persons with Disability                                                                                                          | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>If "Yes", specify the applicable type of Disability: Physical Disability. Hearing and speech-impaired                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |
| 19.                     | How Participation of Women will be Encouraged                                                                                                                | Organizations are increasingly prioritizing gender diversity and actively recruiting women from rural India to meet ESG compliance standards. Tailored, industry-relevant programs can equip women with the skills and confidence needed to succeed in multinational companies.                                                                                                                                                                                                                                                                                              |                                                                 |                                                                                                                   |               |  |                         |                |                   |                       |                         |               |                     |  |  |  |  |  |        |    |    |  |  |    |

|     |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                 |
|-----|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 20. | Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)                                      | <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |
| 21. | Is Qualification Suitable to be Offered in Schools/Colleges                                                                            | Schools <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                         |                                 |
| 22. | Name and Contact Details of Submitting / Awarding Body SPOC<br>(In case of CS or MS, provide details of both Lead AB & Supporting ABs) | <p>Name: Manju Dhasmana <b>Contact No.: +91 (124) 6561069(India)</b><br/> Email: manjud@microsoft.com</p> <p>Name: Kishore Kumar Thangavelu <b>Contact No: +91 (124) 6561069(India)</b><br/> Email: Kishore.Thangavelu@microsoft.com</p> <p><b>Name:</b> Jennifer Filarski<br/> <b>Email:</b> <a href="mailto:jennifb@microsoft.com">jennifb@microsoft.com</a> <b>Contact No.:</b> 425-704-7872 (USA)</p> <p><b>Website:</b> <a href="https://www.microsoft.com/en-us/">https://www.microsoft.com/en-us/</a></p> |                                 |
| 23. | Final Approval Date by NSQC: 8 <sup>th</sup> May,2025                                                                                  | 24. Validity Duration: 3 Years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 25. Next Review Date:6 May,2025 |

## Section 2: Training Related

|    |                                                                                                                         |                                                                                                                                                                                                             |
|----|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <b>Trainer's Qualification and experience in the relevant sector (in years)</b> <i>(as per NCVET guidelines)</i>        | A minimum of 3 years' experience in Azure Data Scientist Associate or in a related Field                                                                                                                    |
| 2. | <b>Master Trainer's Qualification and experience in the relevant sector (in years)</b> <i>(as per NCVET guidelines)</i> | A minimum of 5 years' experience in Azure Data Scientist Associate or in related Field Equivalent professional experience will also be considered                                                           |
| 3. | <b>Tools and Equipment Required for the Training</b>                                                                    | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If "Yes", details to be provided in Annexure)</i><br><b>Laptop with Windows 10 or 11 Enterprise or Pro Software to perform Labs</b> |
| 4. | <b>In Case of Revised NOS, details of Any Upskilling Required for Trainer</b>                                           | NA                                                                                                                                                                                                          |

## Section 3: Assessment Related

|    |                                                                                                                                     |                                                                                                                                                                                                 |
|----|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <b>Assessor's Qualification and experience in relevant sector (in years)</b> <i>(as per NCVET guidelines)</i>                       | Graduate with at least 3 years' experience in Azure Data Scientist Associate or equivalent.                                                                                                     |
| 2. | <b>Proctor's Qualification and experience in relevant sector (in years)</b> <i>(as per NCVET guidelines), (wherever applicable)</i> | Graduate with at least 3 years' experience in Azure Data Scientist Associate or equivalent.                                                                                                     |
| 3. | <b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)</b> <i>(as per NCVET guidelines)</i>        | Educational Qualification: Diploma in Computers/ Electronics / Electrical Engg/ B.E/ B.Tech /MBA<br>With a minimum of 3 years' Azure Data Scientist Associate or equivalent.                    |
| 4. | <b>Assessment Mode</b> <i>(Specify the assessment mode)</i>                                                                         | Online Home/Office and at Registered Test Centers offline both options are available.                                                                                                           |
| 5. | <b>Tools and Equipment Required for Assessment</b>                                                                                  | <input checked="" type="checkbox"/> Same as for training <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(details to be provided in Annexure-if it is different for Assessment)</i> |

## Section 4: Evidence of the Need for the Standalone NOS

Provide Annexure/Supporting documents name.

|    |                                                                            |
|----|----------------------------------------------------------------------------|
| 1. | Government /Industry initiatives/ requirement (Yes/No):Industry Initiative |
|----|----------------------------------------------------------------------------|

|    |                                                                                                                                            |
|----|--------------------------------------------------------------------------------------------------------------------------------------------|
| 2. | Number of Industry validation provided: NA                                                                                                 |
| 3. | Estimated number of people to be trained: Approx. 15,000 learners to be trained in the year 2025                                           |
| 4. | Evidence of Concurrence/Consultation with Line/State Departments (In case of regulated sectors): (Yes/No): <i>NA as per OEM Guidelines</i> |

## Section 5: Annexure & Supporting Documents Check List

*Specify Annexure Name / Supporting document file name*

|    |                                                                                                                                                                       |                                                   |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 1. | <b>Annexure:</b> NCrF/NSQF level justification based on NCrF/NSQF descriptors ( <i>Mandatory</i> )                                                                    | Annexure: Evidence of Level.                      |
| 2. | <b>Annexure:</b> List of tools and equipment relevant for NOS ( <i>Mandatory, except in case of online course</i> )                                                   | Annexure: Tools and Equipment                     |
| 3. | <b>Annexure:</b> Performance and Assessment Criteria ( <i>Mandatory</i> )                                                                                             | Annexure: Performance and Assessment Criteria     |
| 4. | <b>Annexure:</b> Assessment Strategy ( <i>Mandatory</i> )                                                                                                             | Annexure: Assessment Strategy                     |
| 5. | <b>Annexure:</b> Blended Learning ( <i>Mandatory, in case selected Mode of delivery is Blended Learning</i> )                                                         | Annexure: Blended Learning                        |
| 6. | <b>Annexure:</b> Acronym and Glossary ( <i>Optional</i> )                                                                                                             | Annexure: Acronym and Glossary                    |
| 7. | <b>Annexure/Supporting Document:</b> Standalone NOS- Performance Criteria Details Annexure/Document with PC-wise detailing as per NOS format (Mandatory- Public view) | Annexure: Standalone NOS Performance Criteria     |
| 8. | <b>Supporting Document:</b> Model Curriculum ( <i>Mandatory – Public view</i> )                                                                                       | Model Curriculum – Azure Data Scientist Associate |

### Annexure: Evidence of Level

| NCrF/NSQF Level Descriptors                                                 | Key requirements of the job role/ outcome of the qualification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | How the job role/ outcomes relate to the NCrF/NSQF level descriptor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NCrF/NSQF Level |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Professional Theoretical Knowledge/Process</b>                           | Understanding Azure Data Science & Machine Learning: Participants will develop a comprehensive understanding of Azure Machine Learning, covering various aspects such as data ingestion, preparation, model training, deployment, and monitoring. This includes knowledge of Python, MLflow, responsible AI principles, and Azure ML services for building and operationalizing machine learning solutions. Learners will gain expertise in feature engineering, hyperparameter tuning, model evaluation, and automation of ML workflows using Azure AI tools. | The Azure Data Scientist Associate certification equips participants with deep theoretical and practical knowledge of machine learning, AI model development, and MLOps practices within the Azure ecosystem. It provides a solid foundation in machine learning lifecycle management, enabling learners to build, deploy, and optimize AI solutions that drive data-driven decision-making across industries. This qualification aligns with industry-recognized AI and data science competencies, preparing professionals to contribute effectively to data science, AI strategy, and cloud-based AI solutions in organizations. | 6               |
| <b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b> | Upon completing the Microsoft Certified: Azure Data Scientist Associate course, individuals will acquire professional and technical skills in                                                                                                                                                                                                                                                                                                                                                                                                                  | After completing the Azure Data Scientist Associate course, individuals will develop professional and technical skills in machine learning, AI model development, and cloud-based AI deployment. They will gain expertise                                                                                                                                                                                                                                                                                                                                                                                                          | 6               |

|                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                                    | <p>developing, training, deploying, and monitoring machine learning models using Azure Machine Learning, Python, and MLflow. They will gain expertise in data ingestion, preparation, feature engineering, hyperparameter tuning, and model evaluation, enabling them to build scalable and efficient AI solutions. Additionally, they will develop skills in MLOps, responsible AI practices, and integrating machine learning models into business applications, helping organizations drive data-driven decision-making.</p> | <p>in automating ML workflows, monitoring model performance, and ensuring fairness and interpretability in AI solutions. This will prepare them for roles such as Machine Learning Engineer, Data Scientist, AI/ML Specialist, MLOps Engineer, and AI Solution Architect, enabling them to contribute effectively to enterprise AI strategies and cloud-based AI implementations.</p>                                              |   |
| <p><b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b></p> | <p>The Microsoft Certified: Azure Data Scientist Associate course equips individuals with proficiency in machine learning model development, data preparation, model evaluation, and deployment using Azure Machine Learning, Python, and MLflow. The course emphasizes analytical</p>                                                                                                                                                                                                                                          | <p>The job role/outcomes of an Azure Data Scientist align with the NCrF/NSQF level descriptor by demonstrating competency in machine learning model development, data engineering, and AI deployment within cloud environments. The course fosters critical thinking, problem-solving, and the ability to translate data into actionable insights, which are essential for AI-driven decision-making, automation, and business</p> | 6 |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                           | thinking, problem-solving, and effective communication of AI-driven insights. These skills enable individuals to excel as Data Scientists, Machine Learning Engineers, AI Specialists, and MLOps Engineers, contributing to AI-powered decision-making and innovation in various industries.                                                                                                                                                                                                                                                                                                          | intelligence. This role requires individuals to develop, deploy, and optimize machine learning solutions, ensuring ethical AI practices and leveraging cloud-based AI technologies to drive business transformation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| <b>Broad Learning Outcomes/Core Skill</b> | Upon completing the Microsoft Certified: Azure Data Scientist Associate course, individuals will gain core skills in data science, machine learning, and artificial intelligence, with a focus on using Azure Machine Learning services, Python, and MLflow. They will develop the ability to ingest, prepare, and transform data for machine learning workflows, train and optimize models, and deploy models into production environments. Additionally, they will gain skills in model evaluation, hyperparameter tuning, and model monitoring, equipping them to create scalable and effective AI | The Azure Data Scientist Associate course will enable individuals to develop broad core skills in data science, AI model development, and cloud technologies, ensuring they can contribute to data-driven solutions and machine learning initiatives within organizations. The outcomes align with the NCrf/NSQF level descriptor by preparing learners for roles that demand advanced technical knowledge and problem-solving abilities in data science, AI operations, and cloud deployment, such as Data Scientist, Machine Learning Engineer, MLOps Specialist, and AI Solution Architect. This qualification ensures proficiency in advanced technical tasks, supporting data science transformation across industries. | 6 |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                       | solutions. They will also develop a strong understanding of MLOps and responsible AI practices, which are crucial for managing the machine learning lifecycle in real-world applications.                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |
| <b>Responsibility</b> | The key requirements of the job role/outcome of the qualification for a Microsoft Certified: Azure Data Scientist Associate include responsibly developing, training, deploying, and monitoring machine learning models using Azure Machine Learning, Python, and MLflow. This role is responsible for ensuring data integrity, model accuracy, ethical AI implementation, and compliance with security and governance standards. Additionally, data scientists in this role must collaborate with stakeholders to translate business problems into AI solutions, optimize workflows, and drive data-driven decision-making. | The job role/outcomes of an Azure Data Scientist align with the NCrF/NSQF level descriptor by demonstrating responsibility in designing, implementing, and managing AI/ML solutions that enhance business efficiency and intelligence. This includes adhering to responsible AI principles, ensuring fairness, transparency, and security in AI models, collaborating with cross-functional teams, and leveraging machine learning best practices to drive organizational success. | 6 |

## Annexure: Tools and Equipment (lab set-up)

List of Tools and Equipment

**Batch Size:**NA, as it is on a Cloud-based lab

| S. No. | Tool / Equipment Name  | Specification                                           | Quantity for specified Batch size        |
|--------|------------------------|---------------------------------------------------------|------------------------------------------|
| 1      | Computer with Internet | Windows 10 or 11 Pro /Enterprise                        | One per learner                          |
| 2      | LODS Key               | Azure Subscription*                                     | One per learner                          |
| 3      | Installed Browser      | Latest Google Chrome/Microsoft Edge Browser             | Installed on the computer of the learner |
| 4      | Internet               | Stable internet connection with a minimum 40 Mbps speed | Internet access for the learners         |

\*It is not mentioned on Microsoft Learn portal.

Classroom Aids

The program is virtual classroom-enabled.

The aids required to conduct sessions in the classroom / virtual are:

1. MS Teams (for virtual) with Wi-Fi Connectivity
2. Computer system (1 per learner), LODs key for performing Labs.

## Annexure: Industry Validations Summary

Not Applicable - vide Guidelines for Creditisation of Skilling and Training Courses  
and Qualifications of MNCs and Leading Indian Enterprises

## Annexure: Training Details

### Training Projections:

| Year | Estimated Training # of Total Candidates | Estimated training # of Women | Estimated training # of People with Disability |
|------|------------------------------------------|-------------------------------|------------------------------------------------|
|      |                                          |                               |                                                |
|      |                                          |                               |                                                |

Data to be provided year-wise for next 3 years.

## Annexure: Blended Learning

### Blended Learning Estimated Ratio & Recommended Tools:

| S. No. | Select the Components of the NOS                                                                                        | List Recommended Tools – for all Selected Components                          | Offline: Online Ratio |
|--------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------|
| 1      | <input checked="" type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge                   | MS Learn Links of the course will be provided, Internet Connection, Computers | 0:100                 |
| 2      | <input checked="" type="checkbox"/> Imparting Soft Skills, Life Skills and Employability Skills /Mentorship to Learners |                                                                               |                       |
| 3      | <input checked="" type="checkbox"/> Showing Practical Demonstrations to the learners                                    | LODS Key is required, Computer, Internet Connection, Projector                | 30:70                 |
| 4      | <input checked="" type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training        | LODS Key is required, Computer, Internet Connection, Projector                | 30:70                 |
| 5      | <input checked="" type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice                                             |                                                                               |                       |

|   |                                                                                                 |                                                                                                  |       |
|---|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------|
| 6 | <input checked="" type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations  | Proctored Exam, Computer with good Camera, Microphone, Internet Connectivity and One Vue support | 0:100 |
| 7 | <input type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Candidate Training | MS Learn Links of the course will be provided, Internet Connection, Computers                    | 0:100 |

## Annexure: Standalone NOS- Performance Criteria details

### 1. Description:

This course aims to certify individuals as Microsoft Certified: Azure Data Scientist Associate. The qualification is designed to prepare professionals to build, deploy, and monitor machine learning models on Microsoft Azure. As an Azure Data Scientist, you will be responsible for data ingestion, preparation, feature engineering, and model training using Azure Machine Learning, Python, and MLflow. You will develop and optimize machine learning pipelines, ensure model interpretability and fairness, and deploy scalable AI solutions. Collaborating closely with data engineers, AI developers, and business stakeholders, you will help drive data-driven decision-making and enhance organizational AI capabilities.

### 2. Scope:

The scope covers the following:

- Data Ingestion and Preparation – Collecting, cleaning, and transforming data for machine learning using Azure Machine Learning and Python.
- Model Training and Evaluation – Developing, training, and optimizing machine learning models using MLflow and Azure ML pipelines.
- Model Deployment and Monitoring – Deploying models as scalable services and implementing continuous monitoring for performance and fairness.
- Operationalizing AI Solutions – Automating workflows, integrating ML models into business applications, and ensuring responsible AI practices.

### 3. Elements and Performance Criteria

To be competent, the user/individual on the job must be able to:

#### Module 1: Design a machine-learning solution

- Design a data ingestion solution for machine learning projects
- Design a machine learning model training solution
- Design a model deployment solution

- Design a machine learning operations (MLOps) solution

**Module 2: Explore the Azure Machine Learning workspace**

- Explore the Azure Machine Learning workspace resources and assets
- Explore developer tools for workspace interaction
- Make data available in Azure Machine Learning
- Work with compute resources in Azure Machine learning
- Work with environments in Azure Machine Learning

**Module 3: Experiment with Azure Machine Learning**

- Explore Automated Machine Learning
- Find the best classification model with Automated Machine Learning
- Track model training in notebooks with MLflow

**Module 4: Optimize model training with Azure Machine Learning**

- Run a training script as a command job in Azure Machine Learning
- Track model training with MLflow in jobs
- Perform hyperparameter tuning with Azure Machine Learning
- Run pipelines in Azure Machine Learning

**Module 5: Manage and evaluate models in Azure Machine Learning**

- Register an MLflow model in Azure Machine Learning
- Create and explore the Responsible AI dashboard

**Module 6: Deploy and consume models with Azure Machine Learning**

- Deploy a model to a managed online endpoint
- Deploy a model to a batch endpoint

## Annexure: Assessment Criteria

Detailed PC-wise assessment criteria and assessment marks for the NOS are as follows:

| S. No.      | Assessment Criteria for Performance Criteria   | Percentage |
|-------------|------------------------------------------------|------------|
| 1.          | Design and prepare a machine learning solution | (20–25%)   |
| 2.          | Explore data, and run experiments              | (20–25%)   |
| 3.          | Train and deploy models                        | (25–30%)   |
| 4.          | Optimize language models for AI applications   | (25–30%)   |
| Total Marks |                                                | 1000       |

Note: Based on Release Changes the Percentages vary. MS Learn Links for the respective course will be able to provide the respective percentages. All technical exam scores are reported on a scale of 1 to 1,000. A passing score is 700 or greater. As this is a scaled score, it may not equal 70% of the points. A passing score is based on the knowledge and skills needed to demonstrate competence as well as the difficulty of the questions.

- Exam Duration and Number of Questions: 100 minutes to answer 40 to 60 questions
- Format of the questions: multiple-choice, true/false, drag and drop, list builds, and case studies.
- Delivery method: Pearson VUE center or online proctored exam.

## Annexure: Assessment Strategy

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

### Assessment System Overview:

- As its Online Proctored exam. It's important to the test the computer with Good Camera, microphone, and internet connections.
- Need to check OnVUE software id working properly as firewall can block them.
- Need a valid Govt recognized id and a closed and quite room for taking up exam.
- Explore the exam sandbox to learn more about the exam UI and the different types of questions you may encounter. Before taking the exam.

### 2. Testing Environment:

- Candidates register for the exam and schedule a date and time for taking up the exam.
- Assessment agencies send the assessment confirmation to participants via email.
- Assessment agency deploys the Microsoft Certification on Power Platform Fundamentals on successful completion of the certificate.
- Multiple-choice, true/false, drag and drop, list builds, and case studies are given for assessment.

### 3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME
- Questions are mapped to the specified assessment criteria

### 4. Types of evidence or evidence-gathering protocol:

- Need a valid Govt identification card.

### 5. Method of verification or validation:

- Proctor can anytime ask you to rotate the system and cancel the exam if found suspicious.
- Sign into your Microsoft Learn profile. In the photo avatar drop-down menu, choose Profile and then choose Certifications inside the profile menu, to check the status of the exam

### 6. Method for assessment documentation, archiving, and access

- Sign into your Microsoft Learn profile. In the photo avatar drop-down menu, choose Profile and then choose Certifications inside the profile menu, to check the status of the exam

## Annexure: Acronym and Glossary

### Acronym

| Acronym | Description                              |
|---------|------------------------------------------|
| AA      | Assessment Agency                        |
| AB      | Awarding Body                            |
| NCrF    | National Credit Framework                |
| NOS     | National Occupational Standard(s)        |
| NQR     | National Qualification Register          |
| NSQF    | National Skills Qualifications Framework |

## Glossary

| Term                                         | Description                                                                                                                                                                                                                            |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>National Occupational Standards (NOS)</b> | NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.                                               |
| <b>Qualification</b>                         | A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards                                                       |
| <b>Qualification File</b>                    | A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification. |
| <b>Sector</b>                                | A grouping of professional activities on the basis of their main economic function, product, service or technology.                                                                                                                    |