

Product
cataloguing
using
AI



Model Curriculum

NOS Name: Basics of Product Catalogue Using AI Tools

NOS Code: RAS/N0315

NOS Version: 1.0

NSQF Level: 4.5

Model Curriculum Version: 1.0

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Training Parameters

Sector	Retail
Sub-Sector	Retail operations; E-Commerce
Occupation	Store operations; Sales operations
Country	India
NSQF Level	4.5
Aligned to NCO/ISCO/ISIC Code	NA
Minimum Educational Qualification and Experience	<ul style="list-style-type: none"> Completed or pursuing 1st year of 3 year/ 4 year UG or equivalent in any discipline, with basic digital literacy skill. 12th grade pass with 1.5 -year relevant experience relevant experience in product catalogue creation and digital literacy skills. Previous relevant Qualification of NSQF Level 4.0 with 1.5-year relevant experience in Retail Operations. Previous relevant Qualification of NSQF Level 3.5 with 3-year relevant experience in Retail Operations.
Pre-Requisite License or Training	NIL
Minimum Job Entry Age	-
Last Reviewed On	NA
Next Review Date	08/05/2028
NSQC Approval Date	08/05/2025
QP Version	1.0
Model Curriculum Creation Date	19/10/2024
Model Curriculum Valid Up to Date	08/05/2028
Model Curriculum Version	1.0
Minimum Duration of the Course	90 hours
Maximum Duration of the Course	90 hours

Program Overview

This qualification equips the individual with the essential skills and knowledge to manage and optimize product listings and catalogues for e-commerce platforms effectively. With the rapid growth of online retail, accurate, dynamic, and well-maintained product catalogues are crucial for driving sales, enhancing customer experience, and maintaining a competitive edge.

Training Outcomes

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

- Demonstrate the steps to manage product listings and categories on e-commerce platforms effectively.
- Prepare and optimize product descriptions, images, and attributes for searchability.
- Show how to collaborate with vendors and marketing teams to maintain accurate product data.
- Evaluate compliance of listings with platform policies and address inconsistencies promptly.
- Prepare reports and suggest updates based on product performance insights.

Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	OJT Duration (Mandatory)	Total Duration
Module 1: Introduction to Product Listing in E-Commerce	04:00	06:00	-	10:00
Module 2: Product Tagging, Imaging, and Categorization	06:00	08:00	-	14:00
Module 3: Managing Product Variations and Attributes	05:00	08:00	-	13:00
Module 4: Seasonal Updates and Promotional Campaigns	05:00	06:00	-	11:00
Module 5: Compliance and Error Monitoring	05:00	07:00	-	12:00
Module 6: Digital Asset Management using AI Tools	05:00	-		05:00
Module 7: IoT Integration, Metadata Enrichment and Quality Control	05:00	-		05:00
Module 8: Personalization Strategies and Security Measures	05:00	-		05:00
Module 9: Practical - Project work on Smart Catalogue: AI-Powered Tagging and Categorization	-	15:00		15:00
Total Duration	40:00	50:00	-	90:00

Module Details

Module 1: Introduction to Product Listing in E-Commerce

Terminal Outcomes:

Describe product listings' components and **explain** their role in enhancing the e-commerce experience.

<i>Duration: 04:00</i>	<i>Duration: 06:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Describe the essential elements of product listings (e.g., title, description, price). Explain the relationship between accurate listings and customer experience. Illustrate how SEO-friendly descriptions improve product visibility. Outline the steps to create product listings using platform tools. Discuss the impact of listing errors on customer satisfaction and order fulfillment. 	<ul style="list-style-type: none"> Demonstrate the steps to create a product listing with correct descriptions, pricing, and attributes. Assess sample product listings for errors and suggest corrections.
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, and duster	
Tools, Equipment and Other Requirements	
E-commerce Software (e.g., Shopify) 10 Licenses 10 qty for batch size of 30, Image Editing Software (e.g., Photoshop) Full access licenses 05 qty for batch size of 30, Computers with Internet Access, CRM Software - Demo accounts, Compliance Monitoring Software - Access for tracking errors and flags	

Module 2: Product Tagging, Imaging, and Categorization

Terminal Outcomes:

- Explain product categorization strategies.
- Evaluate product images based on platform standards.
- Apply tagging methods for enhanced discoverability.
- Identify and utilize key product information for accurate categorization.

<i>Duration: 06:00</i>	<i>Duration: 08:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain image requirements for resolution, size, and background consistency. • Differentiate between various categorization strategies for product visibility. • Illustrate the use of filters, tags, and attributes to organize products. • Summarize customer behavior patterns and their impact on product categorization. • Discuss the benefits of efficient categorization for searchability. • Explain tagging methods and their role in product discoverability. • Identify key product information (e.g., specifications, USPs, variants) essential for effective tagging and categorization. 	<ul style="list-style-type: none"> • Demonstrate the steps to upload product images according to platform requirements. • Prepare a product batch using appropriate categories, filters, and tags. • Apply tagging methods to improve product searchability and platform visibility. • Use product information to select accurate categories, tags, and attributes.
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, and duster	
Tools, Equipment and Other Requirements	
E-commerce Software (e.g., Shopify) 10 Licenses 10 qty for batch size of 30, Image Editing Software (e.g., Photoshop) Full access licenses 05 qty for batch size of 30, Computers with Internet Access, CRM Software - Demo accounts, Compliance Monitoring Software - Access for tracking errors and flags	

Module 3: Managing Product Variations and Attributes

Terminal Outcomes:

Analyze product variations and configure them accurately within the platform.

<i>Duration: 05:00</i>	<i>Duration: 08:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Identify product variations (e.g., size, color, material) and their importance. Analyze the role of stock availability in managing product variations. Explain how inaccurate configurations impact orders and customer satisfaction. Illustrate how product variations are handled across different platforms. Discuss techniques to avoid listing errors in complex product catalogues. 	<ul style="list-style-type: none"> Prepare a Configuration with product variations for size, color, and stock availability using the platform. Demonstrate the steps for updating stock levels for a product batch with multiple variations.
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
Tools, Equipment and Other Requirements	
E-commerce Software (e.g., Shopify) 10 Licenses 10 qty for batch size of 30, Image Editing Software (e.g., Photoshop) Full access licenses 05 qty for batch size of 30, Computers with Internet Access, CRM Software - Demo accounts, Compliance Monitoring Software - Access for tracking errors and flags	

Module 4: Seasonal Updates and Promotional Campaigns

Terminal Outcomes:

Outline strategies for seasonal updates and analyze promotional campaigns' effectiveness.

<i>Duration: 05:00</i>	<i>Duration: 06:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Describe the importance of seasonal product updates (e.g., festive offers). Outline steps to implement promotional pricing strategies. Analyze the impact of campaigns on product performance using sales data. Discuss coordination strategies with marketing teams for seamless execution. Summarize key metrics for evaluating the effectiveness of promotional campaigns. 	<ul style="list-style-type: none"> Demonstrate the steps to add promotional pricing to a batch of products. Prepare a seasonal campaign performance report based on simulated data. Analyze the impact of campaigns on product performance using sample sales data.
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
Tools, Equipment and Other Requirements	
E-commerce Software (e.g., Shopify) 10 Licenses 10 qty for batch size of 30, Image Editing Software (e.g., Photoshop) Full access licenses 05 qty for batch size of 30, Computers with Internet Access, CRM Software - Demo accounts, Compliance Monitoring Software - Access for tracking errors and flags	

Module 5: Compliance and Error Monitoring

Terminal Outcomes:

Explain platform compliance requirements and resolve listing errors promptly

<i>Duration: 05:00</i>	<i>Duration: 07:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Identify platform policies and common compliance requirements. Explain the consequences of non-compliance for product listings. Summarize error correction protocols used by platforms. Outline the steps to prepare compliance reports. 	<ul style="list-style-type: none"> Show how to resolve flagged errors for a product batch. Prepare a compliance report for internal use based on simulated errors. Prepare a report after analyzing flagged errors and identify their root causes.
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
Tools, Equipment and Other Requirements	
E-commerce Software (e.g., Shopify) 10 Licenses 10 qty for batch size of 30, Image Editing Software (e.g., Photoshop) Full access licenses 05 qty for batch size of 30, Computers with Internet Access, CRM Software - Demo accounts, Compliance Monitoring Software - Access for tracking errors and flags	

Module 6: Digital Asset Management using AI Tools

Terminal Outcomes:

- Develop and implement a comprehensive digital asset management system that helps AI and machine learning algorithms to automate tagging, cataloguing, and categorisation of digital assets.

<i>Duration: 05:00</i>	<i>Duration: 00:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the basic principles and concepts of artificial intelligence. • Discuss the features and benefits of types of machine learning and their applications. • List the different types of digital assets and their purpose which are part of digital cataloguing. • Explain the principles of digital asset management. • Discuss the significance of metadata, content context, and organization. • Explain the fundamentals and applications of image recognition algorithms. • Explain the importance of deployment and optimization of image recognition models. • Discuss the basics of natural language processing (NLP) and its role in digital asset management. • Discuss the advantages of advanced search algorithms incorporating NLP and machine learning. • Explain the principles behind dynamic adjustment of catalogue structures. • Explain the role of user behaviour and usage patterns in influencing catalogue evolution. • Discuss the strategies to ensure evolution of digital asset catalogue to meet changing user needs. • State the benefits of leveraging user feedback and behaviour analytics for iterative improvements. • Explain the need for application of predictive analytics to forecast popular or in-demand digital assets. 	

- List the machine learning techniques along with their applications in predictive analytics.

Classroom Aids

LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards

Tools, Equipment and Other Requirements

Hi-speed internet connection, Computer/Laptop/Tab/Smart Phone with built in software - MS Office, Photo editing software, Ecommerce Website, Camera, Product catalogue (just to give an idea of how product detailing is done)

Module 7: IoT Integration, Metadata Enrichment and Quality Control

Terminal Outcomes:

- Discuss the benefits of IoT devices in asset tracking capabilities and recognize the importance of incorporating external data sources to enrich metadata.
- Employ various techniques for extracting information from external sources and implement quality control measures utilizing AI algorithms.

Duration: 05:00	Duration: 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the fundamentals of the Internet of Things (IoT) and its applications. • Discuss the benefits of using IoT devices for real-time asset tracking in digital cataloguing. • Discuss the contribution of external data in enriching the metadata. • List the techniques for extracting information from external sources. • Discuss the quality control measures that can be implemented using AI algorithms in digital asset management. 	
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
Tools, Equipment and Other Requirements	
Hi-speed internet connection, Computer/Laptop/Tab/Smart Phone with built in software - MS Office, Photo editing software, Ecommerce Website, Camera, Product catalogue (just to give an idea of how product detailing is done)	

Module 08: Personalization Strategies and Security Measures

Terminal Outcomes:

- Outline the principles of AI-driven analysis of user preferences and behaviors, enabling them to develop strategies for delivering tailored content recommendations.
- Explore and implement AI-based security measures to detect and prevent unauthorized access, ensuring the integrity and safety of digital systems.

Duration: 05:00	Duration: 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the principles of AI-driven analysis of user preferences and behaviours. • Discuss the strategies adapted for delivering personalized content recommendations. • Discuss the advantages of techniques used for continuous improvement based on user feedback. • Explain the importance of implementing anomaly detection for access control. • Explore AI-based security measures to detect and prevent unauthorized access. 	
Classroom Aids	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers, Trainer Chair & Table, Demonstration Table, Pin Up Boards	
Tools, Equipment and Other Requirements	
Hi-speed internet connection, Computer/Laptop/Tab/Smart Phone with built in software - MS Office, Photo editing software, Ecommerce Website, Camera, Product catalogue (just to give an idea of how product detailing is done)	

Module 9: Practical - Project work on Smart Catalogue: AI-Powered Tagging and Categorisation

(Duration – 15 Hours)

Project Overview: Design and implement an advanced Digital Asset Management System utilizing AI and machine learning techniques to automate tagging, categorization, and enhance overall organization and accessibility for associated products and services on the digital catalogue.

Project Outcomes:

- 1. Automated Tagging and Categorization (AI/ML Application):**
 - Select and implement AI algorithms for automated tagging and categorization of digital assets.
 - Achieve a specified accuracy rate in automated tagging processes.
- 2. Efficient Organization Strategies (Digital Asset Evaluation):**
 - Evaluate and implement strategies for efficient organization of digital assets.
 - Demonstrate the ability to organize assets based on content, context, and metadata.
- 3. Multimedia Content Recognition (Image and Text Recognition):**
 - Implement image and text recognition algorithms for multimedia content identification.
 - Oversee the deployment and optimization of recognition models.
- 4. Intelligent Search System (Search System Construction and Maintenance):**
 - Integrate and maintain an intelligent search system incorporating natural language processing (NLP) and machine learning.
 - Implement user-friendly search interfaces for rapid and precise retrieval of digital assets.
- 5. Dynamic Cataloguing (Adaptation of Catalogue Structures):**
 - Establish systems for dynamic adjustment of catalogue structures based on user behaviour and usage patterns.
 - Demonstrate how catalogue structures evolve to meet changing user needs over time.
- 6. User Behaviour Analysis and Predictive Analytics:**
 - Analyse user behaviour, historical data, and trends using machine learning techniques.
 - Implement predictive analytics to forecast popular or in-demand digital assets.
- 7. IoT Integration for Asset Tracking:**
 - Integrate IoT devices for real-time tracking of physical assets.
 - Demonstrate seamless linking of physical assets to their digital counterparts for accurate representation and accessibility on the digital catalogue.
- 8. External Data Integration and Metadata Enrichment:**
 - Extract information from external sources and update fields for improved catalogue organization.
 - Focus on enriching metadata associated with digital assets.
- 9. Quality Control Measures (Quality Assurance with AI):**
 - Apply AI algorithms to conduct quality control checks on digital assets.
 - Identify and rectify issues related to image resolution, file format compliance, or broken links to maintain high asset quality standards.
- 10. AI-Driven User Analysis and Security Measures:**
 - Implement AI-driven analysis of user preferences and behaviours for personalized content recommendations.
 - Employ anomaly detection and user behaviour analysis to ensure robust access control mechanisms.
 - Integrate AI-based security measures to detect and prevent unauthorized access to sensitive digital assets.

Annexure

Trainer Requirement

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
For Trainers						
Graduate	Business, E-Commerce, or related field	3	Product listing and catalogue management			Expertise in e-commerce platforms and product tools

Trainer Certification	
Domain Certification	Platform Certification
Certified for the NOS "Basics of Product Catalogue Using AI Tools" RAS/N0315 with minimum pass percentage: 80%	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score is 80%.

Assessor Requirements

Assessors Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
For Assessors						
Graduate	Digital Marketing, E-Commerce, or related field		Retail Store Operations or Sales	3	e-commerce operations and assessments	Knowledge of compliance and platform policies

Assessor Certification	
Domain Certification	Platform Certification
Certified for the NOS "Basics of Product Catalogue Using AI Tools RAS/N0315 with minimum pass percentage: 80%	Recommended that the Assessor is certified for the Job Role "Assessor (VET and skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0". The minimum accepted score is 80%.

Assessment Strategy

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

Assessment will be done by RASCI-affiliated assessment agencies. The assessors / proctors will be trained & certified by SSC through Training of Assessors / Proctors program. The emphasis will be on practical skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME), as per the 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 sets are then reviewed by SSC official for consistency.

Testing Tools

- Carry out assessments under realistic work pressures that are found in the normal industry workplace.
- Ensure that the range of materials, equipment and tools that learners use are current and of the type routinely found in the normal industry workplace environments.

Assessment Type	Formative or Summative	Strategies
Theory	Summative	(Web proctoring/Paper pencil/Tab based): Written test will be Multiple Choice Questions (MCQ) based. In case of availability of internet connectivity, the test will be hosted on web (online). In case of absence of internet connectivity, the test will be administered in offline mode on a tablet or via paper pencil.
Practical	Summative	This test will be administered by the assessor. The assessment shall be based on Case Studies/ Scenario based tasks/ activities in a simulated environment. The learners' will be assessed and graded based on the pre-designed and AB approved rubrics by the assessor.

The assessment results are backed by evidences collected by assessors.

1. The assessor / proctor 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 / proctor 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 / proctor needs to punch the trainee's roll number on all the evidences.
4. The assessor / proctor can take a photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
5. The assessor also needs to carry his/her photo ID card.

The assessment agencies are instructed to hire assessors / proctors 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.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards