Model Curriculum

QP Name: Astro Tour Guide

QP Code: THC/Q8703

QP Version: 1.0

NSQF Level: 4

Model Curriculum Version: 1.0

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Training Parameters

Sector	Tourism & Hospitality
Sub-Sector	Adventure Tourism
Occupation	Land Based Activities
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 5113.9900
Minimum Educational Qualification & Experience	12th grade pass OR Completed 3rd year of 3-year diploma after 10th (NTC/CTS) OR 10th Grade Pass with 3 -years relevant experience in Tourism & Hospitality
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	**07.10.2025**
Next Review Date	**07.10.2028**
NSQC Approval Date	**07.10.2025**
Version	**1.0**
Model Curriculum Creation Date	**07.10.2025**
Model Curriculum Valid Up to Date	**07.10.2028**
Model Curriculum Version	**1.0**
Minimum Duration of the Course	510 Hrs. (including OJT & 60 hrs. of Employability Skills)
Maximum Duration of the Course	510 Hrs. (including OJT & 60 hrs. of Employability Skills)

Program Overview

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

Training Outcomes

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

- Identify prominent constellations and planets in the sky and understand how they move,
- Operate amateur telescopes to see celestial objects, including motorised pointing and tracking,
- Plan, promote, and conduct astro-tours,
- Address tourists' questions regarding basic astronomical topics.
- Promote cultural astronomy of the region,

Compulsory Modules -

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
THC/N8711 (v1.0): Plan for an astro-tourism event	**45:00**	**45:00**	**00:00**	**00:00**	**90:00**
Module 1: Introduction to astronomy	30:00	20:00	00:00	00:00	50:00
Module 2: Introduction to Celestial dynamics and seasonal sky	15:00	25:00	00:00	00:00	40:00
THC/N8712 (v1.0): Prepare for the domain knowledge needed for an astro-tourism event	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 3: Observe the night sky.	12:00	18:00	00:00	00:00	30:00
THC/N8713 (v1.0): Conduct the astro-tourism event	**18:00**	**22:00**	**50:00**	**00:00**	**90:00**
Module 4: Planning an astro-tour: astronomy	08:00	12:00	20:00	00:00	40:00
Module 5: Planning for astro-tour: logistics	10:00	10:00	30:00	00:00	50:00
THC/N8714 (v1.0): Operate a telescope	**05:00**	**15:00**	**10:00**	**00:00**	**30:00**
Module 6: Telescopes - principles and its usage.	05:00	15:00	10:00	00:00	30:00
THC/N8715 (v1.0): Incorporate local Astronomy knowledge	**30:00**	**40:00**	**50:00**	**00:00**	**120:00**
Module 7: Constituents of the Universe	05:00	10:00	12:00	00:00	27:00
Module 8: Dark sky reserves and astro-tourism	10:00	10:00	12:00	00:00	32:00
Module 9: Astrophotography	07:00	10:00	14:00	00:00	31:00

Module 10: Cultural and historical Astronomy	08:00	10:00	12:00	00:00	30:00
THC/N8716 (v1.0): Engage with homestays, hotels, etc about promoting astro-tourism	**10:00**	**10:00**	**10:00**	**00:00**	**30:00**
Module 11: Astro-tourism entrepreneurship	10:00	10:00	10:00	00:00	30:00
THC/N9910 – Ensure to Maintain Organizational Confidentiality and Guest's Privacy	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 12: Organizational Confidentiality and Guest's privacy	12:00	18:00	00:00	00:00	30:00
THC/N9906 – Follow Health, Hygiene and Safety practices NOS Version No. 2.0 NSQF Level 4	**12:00**	**18:00**	**00:00**	**00:00**	**30:00**
Module 13: Basic Health and Safety Standards	12:00	18:00	00:00	00:00	30:00
DGT/VSQ/N0102: Employability Skills (60 Hours)	**24:00**	**36:00**	**00:00**	**00:00**	**60:00**
Module 14. Introduction to Employability Skills	0:30	01:00	00:00	00:00	01.30
Module 15. Constitutional values – Citizenship	0:30	01:00	00:00	00:00	01.30
Module 16. Becoming a Professional in the 21st Century	01:00	01:30	00:00	00:00	02.30
Module 17. Basic English Skills	04:00	06:00	00:00	00:00	10:00
Module 18. Career Development & Goal Setting	01:00	01:00	00:00	00:00	02:00
Module 19. Communication Skills	02:00	03:00	00:00	00:00	05:00
Module 20. Diversity & Inclusion	01:00	01:30	00:00	00:00	02.30
Module 21. Financial and Legal Literacy	02:00	03:00	00:00	00:00	05:00
Module 22. Essential Digital Skills	04:00	06:00	00:00	00:00	10:00
Module 23. Entrepreneurship	03:00	04:00	00:00	00:00	07:00
Module 24. Customer Service	02:00	03:00	00:00	00:00	05:00
Module 25. Getting ready for Apprenticeship & Jobs	03:00	05:00	00:00	00:00	08:00
Total	**168:00**	**222:00**	**120:00**	**00:00**	**510:00**

Module Details

Module 1: Introduction to astronomy

Mapped to THC/N8711

Terminal Outcomes:

- Understand the celestial sphere, directions, motion, etc.
- Understanding the motion of stars, planets, Moon, Sun on the celestial sphere.
- Identify bright stars and constellations, planets, on the sky
- Identify various types of deep sky objects

Duration: *30:00*	**Duration**: *20:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Understand the celestial sphere, directions, motion, etc. • Explain the motion of stars, planets, Moon, Sun on the celestial sphere • Understand the phases of the Moon, sunrise and sunset, seasons • Explain the concept of day and night, rotation and revolution.	• Tell directions in the sky, • Identify bright stars and constellation, planets, on the sky • Predict how stars and planets will move on the sky during the night
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Globe, Green laser pointer, flashlights for night observations, stellarium app installed on laptop, star charts, star map apps installed on participants phones,	

Module 2: Introduction to Celestial Dynamics and Seasonal Sky

Mapped to THC/ N8711

Terminal Outcomes:

- Monthly and annual motion of celestial objects
- Coordinate system on the celestial sphere
- How the sky changes over a year

Duration: *15:00*	**Duration**: *25:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain Annual motion of Sun on the sky and its implications, • Describe Altitude-azimuth and RA-Dec coordinate systems, reading sky maps • Explain Constellations over the entire year • Discuss Motion of planets over a year	• Identify constellations on the sky throughout the year • Relate coordinate systems to the motion on the sky • Observe and identify major constellations for each season
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed	
Tools, Equipment and Other Requirements	
Globe, Green laser pointer, flashlights for night observations, Stellarium app installed on laptop or smart phones, star charts, star map apps installed on participants phones,	

Module 3: Observe the night sky

Mapped to THC/ N8712

Terminal Outcomes:

- How to observe planets, Moon, and Sun
- How to observe interesting objects in the night sky
- How to observe transient objects like meteors, satellites, etc

Duration: *12:00*	**Duration**: *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Elaborate on what can be seen on planets and the Moon through a telescope and when? • Explain how to Observe nebulae, star clusters, etc. • Explain Meteor showers, natural satellites, ISS, and other seasonal or periodic objects - how to predict and observe them. • Describe safe ways to see the Sun • Explain different types of deep sky objects. • Elaborate asterisms in the sky.	• Identify prominent features on the Moon, according to its phase • Identify and observe star clusters and bright nebulae • Observe the Milky Way • Define and discuss deep sky catalogues • Observe the ISS and other satellites with naked eyes • Observe and identify samples of deep sky objects and asterisms.
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Globe, Green laser pointer, flashlights for night observations, telescopes, maps or lists of bright objects in the sky, Moon poster, Sky maps, Solar filter, Solar goggles.	

Module 4: Planning an Astro-Tour: Astronomy

Mapped to THC/ N8713

Terminal Outcomes:

- Create a plan for list of objects to see on a particular night
- Prepare the participants
- Use internet-based resources for astro tours

Duration: *08:00*	**Duration**: *12:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain how to identify which planets will be available on a given day, and the phase of the Moon • Discuss how to determine the list of star clusters, nebulae etc to observe, as well as any other special events. • Explain how to determine ISS and other bright satellite passing times for the night • Describe how to look up weather prediction for the night.	• Demonstrate astro-tour for the night based on the plan generated • Demonstrate the plan to participants and guide their observations. • Identify and apply internet-based resources for the planning
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Telescopes, outdoor power supply for the telescopes, green laser, Planisphere and Ventusky software(optional)	

Module 5: Planning for an Astro-tour: Logistics

Mapped to THC/ N8713

Terminal Outcomes:

- Prepare for the location of the astro-tour
- Prepare for the availability of telescopes
- Prepare for the comfort of participants

Duration: *10:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain parameters that determine the location of the event from astronomy considerations • Describe parameters from the logistics standpoint to take care of • Elaborate preparation of the participants for the event • Prepare itinerary and scripting for activities. • Explain how to Prepare the telescope location and its access and other requirements.	• Set up an astro-tour event at a site, which is ready to use • Prepare information sheets for the participants • Prepare checklists for planning the logistics. • Prepare for backup plans. • Prepare for any contingency (health emergencies, disabilities, clouds etc) • Practice preparing itineraries and scripting for activities.
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed	
Tools, Equipment and Other Requirements	
Telescopes, outdoor power supply, chair or stool, dummy participants for exercises, first-aid kit, etc	

Module 6: Telescopes - Principles and its usage

Mapped to THC/ N8714

Terminal Outcomes:

- How does a binocular & telescope work
- Assemble, align, collimate of telescope
- Perform 2- and 3-point alignment of telescopes for automated tracking and pointing

Duration: *05:00*	**Duration**: *15:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain binoculars and telescopes • How does a telescope work • Explain Principles of alignment, collimation and tracking of telescopes • Describe different types of telescopes and their mounts. • Discuss types of lenses and their uses. • Explain safe usage of telescopes and their care	• Demonstrate the working of binoculars and telescopes • Set up a telescope and understand its motion • View-finder alignment • Point to bright objects manually • 2- and 3-point alignment • Automated tracking and pointing • Demonstrate how to show a group of people through a telescope • Demonstrate how to use a pair of binoculars
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Telescopes, outdoors power supply for all available telescopes, flashlights, chair or stool, binoculars, Optics kits with different types of lenses.	

Module 7: Introduction to constituents of the Universe

Mapped to THC/ N8715

Terminal Outcomes:

- Understand the constituents of the Universe
- Understand the range of sizes and masses in the Universe
- Explain the nature of objects that can be seen in the sky

Duration*: 05:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Elaborate Solar system and the Sun. • Explain objects exist in the Universe - Powers of Ten series. • Describe Stars - colours, brightness, formation and death, sizes, masses. • Diffuse objects - star forming regions, planetary nebula, supernova remnants, galaxies. • Explain Milky Way Galaxy - size, shape, what do we observe. • Describe Black holes, Big Bang, and other interesting topics in the news. • Differentiate between Science and Pseudo-science.	• Demonstrate talks on selected objects to participants. • Practice how to address Q&A sessions. • Demonstrate various techniques to explain basic concepts. • How to guide participants for more information. • Roleplay talks and outdoor sessions on the universe and its constituents.
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Cosmic address and cosmic calender	

Module 8: Dark sky reserves and Astro-tourism

Mapped to THC/ N8715

Terminal Outcomes:

- Explain the need for dark skies, light pollution, and how to control it
- Explain International Dark-sky Association and Starlight Foundation
- Describe Astro-tourism concepts and links to IAU OAD, UN SDGs, and dark skies
- Elaborate Hanle Dark Sky Reserve and other initiatives in India

Duration: *10:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the benefits of dark skies, and causes of light pollution, • Elaborate Light pollution management methods, and effects of pollution. • Describe International efforts against light pollution (IDA and SF), • Explain principles of Astro-tourism as a sustainable concept, IAU OAD, UN SDG, • Explain Hanle Dark Sky Reserve and its model, and other Indian initiatives.	• Identify light pollution sources in the neighborhood and its mitigation and measuring its effect on sky darkness. • Make presentations on astro-tourism and SDGs • Discuss HDSR concept with the stakeholders and present strategies for your own locality.
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	

Module 9: Astrophotography

Mapped to THC/ N8715

Terminal Outcomes:

- Demonstrate what can be photographed with mobile cameras
- Explain what can be done with DSLRs

Duration: *07:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain Photographing the Milky Way with a phone camera, and accessories needed. • Outline Photographing with phone camera through a telescope eyepiece • How to use a DSLR for night sky photography • Explain basics of DSLR astro photography	• Practical demonstration of mobile phone camera photography • Practical sessions with DSLR
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, DLSR	
Tools, Equipment and Other Requirements	
Mobile phone, phone stand, adaptor for mobile phone for eyepieces, DLSR, DSLR stand and adaptor. Astrophotography wheel,	

Module 10: Cultural and historical astronomy

Mapped to THC/ N8715

Terminal Outcomes:

- Explain History of astronomy
- Explain Traditional astronomy knowledge in India its history
- Unearthing local knowledge

Duration: *08:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the history of astronomy around the world • Elaborate History of Indian astronomy • Explain Indian stories of stars, constellations and nakshatras. • How to identify and incorporate local astronomy knowledge	• Practical exercise in talking to the older generation in your locality to extract knowledge of astronomy in local culture. • Demonstrate local astronomical knowledge through a roleplay-based storytelling activity.
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Copy of Panchang or almanac, voice recorder.	

Module 11: Astro-tourism entrepreneurship

Mapped to THC/ N8716

Terminal Outcomes:

- How to start one's own astro-tourism business or working with other businesses.
- Prepare publicity and tourism material and promoting one's initiative.

Duration: *10:00*	**Duration**: *10:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain various models of astro-tourism in India and the stakeholders involved • How to set up an astro-tourism business • How to promote and publicize	• Setting up a business model • Create promotion material and a publicity campaign
Classroom Aids	
LCD projector, laptop, projection screen, whiteboard, marker pens, mic and speakers if needed.	
Tools, Equipment and Other Requirements	
Printing flyers, etc.	

Module 12: Organizational Confidentiality and Guest's Privacy

Mapped to THC/N9910 v 4.0

Terminal Outcomes:

- Explain how to protect the confidentiality of the organization
- Perform the activities to protect the privacy of guest information

Duration: *12:00*	**Duration**: *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of ensuring organizational confidentiality and guest privacy in the hospitality industry • Discuss the Intellectual Property issues and policies affecting the organization and guest privacy • Explain the procedures to protect the infringement of IPR to the person concerned • Discuss the usage, storage and disposal procedures of confidential information as per specification	• Employ appropriate ways to ensure usage, storage and disposal of the organizational and guest information
Classroom Aids	
Training kit (Trainer guide, Presentations), White board, Marker, Projector, Laptop, Participant Handbook and Related Standard Operating Procedures	
Tools, Equipment and Other Requirements	
Handouts of IPR guidelines and regulations	

Module 13: Basic Health and Safety Standard

Mapped to THC/N9906 v 2.0

Terminal Outcomes:

- Employ appropriate health, hygiene, and safety practices at workplace
- Apply precautionary health measures
- Employ effective waste management practices

Duration: *12:00*	**Duration:** *18:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the concept and importance of personal and workplace hygiene • Discuss best practices to maintain personal hygiene • Explain the ways to clean and sanitize the workplace and related equipment • Describe standard safety procedures to be followed while handling tools, material, and equipment • Outline the purpose and usage of various Personal Protective Equipment (PPE) if required at the workplace • Describe the causes of risks and potential hazards in the workplace and ways to prevent them • List different safety warning signs and labels at workplace • Discuss ways to identify hazards at the workplace • List the components of the first-aid kit • Explain the procedure to report accident and other health related issues as per SOP	• Demonstrate the procedure of routine cleaning and sanitization of tools, equipment, and other articles • Employ different ways to keep work area clean, hygienic and hazard free • Perform basic first-aid procedures • Dramatize a situation on mock safety drills for emergency situations • Dramatize a situation on mock safety drills for emergency situations • Perform waste disposal procedures at the workplace depending on the types of waste • Role play a situation on reporting safety and security breaches to the supervisor • Prepare a sample incident report
Classroom Aids	
Training kit (Trainer guide, Presentations), White board, Marker, Projector, Laptop, Participant Handbook and Related Standard Operating Procedures	
Tools, Equipment and Other Requirements	
Personal Protection Equipment: Safety glasses, Head protection, Rubber gloves, Safety footwear, Warning signs and tapes, Fire extinguisher, First aid kit, Relevant Standard Operating Procedures and Sample reports	

Module 14: Introduction to Employability Skills

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements

Duration: *00:30*	**Duration***: 01:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the importance of Employability Skills in meeting the job requirements	• Demonstrate Employability Skills
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 15: Constitutional values - Citizenship

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about constitutional values to be followed to become a responsible citizen

Duration: *00:30*	**Duration**: *01:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen	• Show how to practice different environmentally sustainable practices.
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 16: Becoming a Professional in the 21st Century

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate professional skills required in 21st century

Duration: *01:00*	**Duration**: *01:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss 21st century skills	• Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 17: Basic English Skills

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic English speaking.
- Understand different and unique ways of communication.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of basic English skills • Understand basic rules of English grammar, sentence structure, and commonly used vocabulary. • Demonstrate comprehension of simple English texts and workplace-related instructions.	• Use appropriate basic English sentences/phrases while speaking • Write simple sentences, messages, and short notes related to daily tasks.
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 18: Career Development & Goal Setting

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate Career Development & Goal Setting skills

Duration: *01:00*	**Duration***: 01:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of career development plan	• Create a career development plan with well-defined short- and long-term goals
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 19: Communication Skills

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic communication skills

Duration: *02:00*	**Duration***: 03:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss need of communication skills • Describe importance of teamwork	• Demonstrate how to communicate in a well-mannered way with others. • Demonstrate working with others in a team
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 20: Diversity & Inclusion

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Describe PwD and gender sensitization

Duration: *01:00*	**Duration**: *01:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of reporting sexual harassment issues in time	• Show how to conduct oneself appropriately with all genders and PwD
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 21: Financial and Legal Literacy

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of managing expenses, income, and savings.

Duration: *02:00*	**Duration**: *03:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of using financial products and services safely and securely • Explain the importance of managing expenses, income, and savings • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws	• Demonstrate ways of managing expenses, income, and savings
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 22: Essential Digital Skills

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate procedure of operating digital devices and associated applications safely.

Duration: *04:00*	**Duration**: *06:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely • Explain basic concepts of digital technology, devices, and internet safety. • Describe the use of digital tools and applications for communication and productivity.	• Show how to operate digital devices and use the associated applications and features, safely and securely • Operate digital devices to perform basic tasks such as typing, file handling, and connecting to the internet. • Use digital communication tools such as email, messaging apps, and video conferencing platforms.
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 23: Entrepreneurship

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Describe opportunities as an entrepreneur

Duration: *03:00*	**Duration**: *04:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the need to identify opportunities for potential business. • Define sources for arranging money and potential legal and financial challenges	• Demonstrate ways for identifying opportunities for potential business. • Identify sources for arranging money and potential legal and financial challenges
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 24: Customer Service

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of maintaining customer

Duration: *02:00*	**Duration**: *03:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately	• Show how to maintain hygiene and dressing appropriately • Handle customer queries, complaints, and feedback in a courteous and solution-oriented manner. • Demonstrate effective communication skills while interacting with customers. Maintain a professional and customer-friendly demeanor during service delivery.
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module 25: Getting ready for Apprenticeship & jobs

Mapped to: DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: *03:00*	**Duration**: *05:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities • Understand the expectations and structure of apprenticeships and entry-level jobs	• Create a biodata • Use various sources to search and apply for jobs • Identify key employability skills and workplace norms. • Complete job application forms and follow workplace protocols.
Classroom Aids	
LCD Projector for PPT and Video Presentation, Speakers, and Whiteboard & marker	
Tools, Equipment and Other Requirements	

Module: On-the-Job Training

Mandatory Duration: *120:00*	**Recommended Duration:** *00:00*
Location: On Site	
Terminal Outcomes • Create a plan for a list of objects to see on a particular night • Prepare the participants for the astro tour. • Use internet-based resources for astro tours • Prepare for the location of the astro-tour • Prepare for the availability of telescopes • Prepare for the comfort of participants • Explain how does a binocular & a telescope work • Assemble, align, collimate of telescope • Perform 2-and 3-star (point) alignment of telescopes for automated tracking and pointing • Understand the constituents of the Universe • Understand the range of sizes and masses in the Universe • Explain the nature of objects that can be seen in the sky • Explain the need for dark skies, light pollution, and how to control it • Explain International Dark-sky Association and Starlight Foundation • Describe Astro-tourism concepts and links to IAU OAD, UN SDGs, and dark skies • Elaborate Hanle Dark Sky Reserve and other initiatives in India • Demonstrate what can be photographed with mobile cameras • Explain what can be done with DSLRs • Explain History of astronomy • Explain Traditional astronomy knowledge in India its history • Unearthing local knowledge • Describe how to start one's own astro-tourism business or working with other businesses. • Prepare publicity and tourism material and promote one's initiative.	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
B.Sc. or B.E./B. Tech OR 5 years' experience as an amateur astronomer or astronomy educator	Physics, maths, computer science, electronics	3	Astronomy (Research, amateur astronomy, science communicator and educator, telescope manufacturer)	3	Astronomy (Research, amateur astronomy, science communicator and educator, telescope manufacturer	Should be involved in astronomy education, communication, or research. Can include amateur Astronomers of at least 5 years of experience irrespective of educational qualification.

Trainer Certification	
Domain Certification	**Platform Certification**
Minimum accepted score is 80%	"Trainer", "MEP/Q2601, V1" with a scoring of minimum 80%

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
B.Sc. or B. Tech/B.E.	Physics, maths, computer science, electronics	3	Physics, astronomy, maths, computer science, electronics	3	Physics, astronomy, maths, computer science, electronics	Can include amateur astronomers of at least 5 years of experience irrespective of educational qualification

Assessor Certification	
Domain Certification	**Platform Certification**
Minimum accepted score is 80%	"Assessor", "MEP/Q2701, V1" with the scoring of minimum 80%

Assessment Strategy

PLEASE NOTE THAT MOST PRACTICAL EXAMS AS WELL AS PRACTICAL SESSIONS WILL BE AFTER DARK

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

1. Assessment System Overview:
    - Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email
    - Assessment agencies send the assessment confirmation to VTP/TC looping SSC
    - Assessment agency deploys the ToA certified Assessor for executing the assessment
    - SSC monitors the assessment process & records
    - If the batch size is more than 30, then there should be 2 Assessors.

2. Testing Environment: Assessor must:
    - Confirm that the centre is available at the same address as mentioned on SDMS or SIP
    - Check the duration of the training.
    - Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
    - Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
    - Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
    - Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
    - Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:
    - Question papers created by the Subject Matter Experts (SME)
    - Question papers created by the SME should be verified by the other subject Matter Experts along with the approval required from THSC
    - Questions are mapped with NOS and PC
    - Question papers are prepared considering that level 1 to 3 is for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
    - Assessor must be ToA certified
    - Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:
    - Time-stamped & geotagged reporting of the assessor from assessment location
    - Centre photographs with signboards and scheme specific branding
    - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
    - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:
    - Surprise visit to the assessment location
    - Random audit of the batch
    - Random audit of any candidate

6. Method for assessment documentation, archiving, and access
    - Hard copies of the documents are stored
    - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage and are stored in the Hard Drives

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, effective 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
TVET	Technical and Vocational Education and Training
SOP	Standard Operating Procedure
OH&S	Occupational Health and Safety
PPE	Personal Protective Equipment
HACCP	Hazard Analysis and Critical Control Points
FSSAI	Food Safety and Standards Authority of India
ISO	International Standards Organization
IPR	Intellectual Property Rights