



Model Curriculum

QP Name: Water Resource Coordinator

Electives: Watershed/Springshed/Groundwater

QP Code: AGR/Q6606

Version: 2.0

NSQF Level: 4.5

Model Curriculum Version: 1.0

Agriculture Skill Council of India || Agriculture Skill Council of India (ASCI), 6th Floor, GNG Tower, Plot No. 10, Sector – 44

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Training Parameters

Sector	Agriculture
Sub-Sector	Forestry, Environment and Renewable Energy Management
Occupation	Watershed Management
Country	India
NSQF Level	4.5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2142.1000
Minimum Educational Qualification and Experience	<p>Completed 1st year of UG OR Pursuing 1st year of UG and continuous education OR Pursuing 3rd year of 3-year diploma after 10th and continuous education OR Completed 3-year diploma after 10th OR Completed 2nd year of 2-year diploma after 12th OR Pursuing 2nd year of 2- year diploma after 12th and continuous education OR Previous relevant qualification of NSQF Level 3.5 and with minimum education as 8th grade pass with 3 years of experience OR Previous relevant qualification of NSQF Level 4 and with minimum education as 8th grade pass with 1.5 years of experience</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	21 Years
Last Reviewed On	29/03/2023
Next Review Date	29/03/2026

NSQC Approval Date	29/03/2023
QP Version	2.0
Model Curriculum Creation Date	29/03/2023
Model Curriculum Valid Up to Date	29/03/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	480 Hours
Maximum Duration of the Course	540 Hours

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 to:

- Describe the process of supporting in managing the water resource development projects and teams.
- Explain the process of building technical capacities of water resource assistants, community mobilizers, para geo-hydrologists, and facilitators.
- Demonstrate the process of performing project monitoring and reporting.
- Demonstrate various practices to ensure health and safety at work.
- Describe the process of guiding in the watershed planning and implementation.
- Describe the process of guiding in the springshed planning and implementation.
- Describe the process of guiding in the planning and implementation of groundwater resource development.

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	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	05:00	00:00	0:00	00:00	05:00
Module 1: Introduction to the role of a Water Resource Expert	05:00	00:00	0:00	00:00	05:00
AGR/N6644: Support in managing the water resource development projects and teams NOS Version- 1.0 NSQF Level- 4.5	50:00	35:00	0:00	00:00	85:00
Module 2: Process of supporting in managing the water resource development projects and teams	50:00	35:00	0:00	00:00	85:00
AGR/N6637: Build technical capacities of water resource assistants, community mobilizers, and para geo-hydrologists NOS Version- 1.0 NSQF Level- 4.5	45:00	45:00	0:00	00:00	90:00

Module 3: Process of building technical capacities of water resource assistants, community mobilizers, para geo-hydrologists	45:00	45:00	0:00	00:00	90:00
AGR/N6646: Perform project monitoring and reporting NOS Version- 1.0 NSQF Level- 4.5	45:00	45:00	0:00	00:00	90:00
Module 4: Process of performing project monitoring and reporting	45:00	45:00	0:00	00:00	90:00
AGR/N9903 Maintain health and safety at the workplace NOS Version- 3.0 NSQF Level- 4	05:00	25:00	0:00	00:00	30:00
Module 5: Hygiene and cleanliness	02:00	10:00	0:00	00:00	12:00
Module 6: Safety and emergency procedures	03:00	15:00	0:00	00:00	18:00
DGT/VSQ/N0103: Employability Skills NOS Version- 1.0 NSQF Level- 5	90:00	00:00	0:00	00:00	90:00
Module 7: Employability Skills	90:00	00:00	0:00	00:00	90:00
Total Duration	240:00	150:00	0:00	00:00	390:00
OJT: 60 Hours					

Elective Modules

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

Elective 1: Watershed

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
AGR/N6647: Guide in watershed planning and implementation NOS Version- 1.0 NSQF Level- 4.5	10:00	20:00	0:00	00:00	30:00

Module 8: Process of guiding in watershed planning and implementation	10:00	20:00	0:00	00:00	30:00
Total Duration	10:00	20:00	0:00	00:00	30:00

Elective 2: Springshed

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
AGR/N6648: Guide in springshed planning and implementation NOS Version- 1.0 NSQF Level- 4.5	10:00	20:00	0:00	00:00	30:00
Module 9: Process of guiding in springshed planning and implementation	10:00	20:00	0:00	00:00	30:00
Total Duration	10:00	20:00	0:00	00:00	30:00

Elective 3: Groundwater

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
AGR/N6649: Guide in the planning and implementation of groundwater resource development NOS Version- 1.0 NSQF Level- 4.5	10:00	20:00	0:00	00:00	30:00
Module 10: Process of guiding in planning and implementation of groundwater resource development	10:00	20:00	0:00	00:00	30:00
Total Duration	10:00	20:00	0:00	00:00	30:00

Module Details

Module 1: Introduction to the role of a Water Resource Coordinator

Bridge Module

Terminal Outcomes:

- Discuss the job role of a Water Resource Coordinator.

Duration: 05:00	Duration: 0:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the size and scope of the agriculture industry and its sub-sectors. • Discuss the role and responsibilities of a Water Resource Coordinator. • Identify various employment opportunities for a Water Resource Coordinator. 	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of supporting in managing the water resource development projects and teams

Mapped to AGR/N6644 v1.0

Terminal Outcomes:

- Elucidate ways to support in managing the water resource development teams.
- Explain how to handhold the team and project implementing committees.

Duration: 50:00	Duration: 35:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss effective project management practices. • Explain different types of available maps, their source, and how to read them. • Explain how to prepare composite maps. • Describe different methods of data analysis and the tools required. • Describe different methods of impact assessment. • Explain how to draw graphs. • Explain the use of relevant software tools and mobile applications. • Describe the process of allocating work responsibilities to water resource assistants, community mobilizers, para geo-hydrologists, facilitators, etc. • Explain how to plan the work schedule for team members. • Explain the importance of identifying the training needs of team members based on their job role and organizing training and exposure visits for them to enhance their knowledge, skills, and attitude • Explain the importance of reviewing work through regular team meetings. • Explain the importance of evaluating the performance of team members periodically and supporting them to improve their performance. • Discuss the recommended conflict 	<ul style="list-style-type: none"> • Roleplay how to organize training and exposure visits for team members to enhance their knowledge, skills, and attitude. • Roleplay how to conduct periodic team meetings to plan and review work. • Demonstrate how to evaluate the performance of team members. • Demonstrate the process of carrying out the administrative functions, such as maintaining team member attendance and leave records, giving different kinds of approvals, etc.

<p>resolution practices to be followed to resolve conflict among team members.</p> <ul style="list-style-type: none"> • Explain the importance of ensuring the transparency of processes, plan, and achievement in physical and financial terms in the project. • Elucidate the requirement of visits from various stakeholders, such as funding agencies, government officials, etc. • Describe the process of organizing learning workshops and events for the team members and committee members. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>White Board, Measuring Tape, Hammer, Audio/ Visual Aids, Installed Video camera with high resolution and recording facility, L Scale, A Frame Construction model, Computer, Mason pipe, Wooden Pole for pipe level, Survey of India Topo sheet, Cadastral Maps, Plum bob</p>	

Module 3: Process of building technical capacities of water resource assistants, community mobilizers and para geo-hydrologists

Mapped to AGR/N6637 v1.0

Terminal Outcomes:

- Explain the process of assisting in preparing for the training.
- Demonstrate the process of delivering the training.

Duration: 45:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the principles of pedagogy, including how to engage with the learners, such as ice-breakers. • Explain the importance of determining the role and background of learners. • Describe the relevant health and safety facilities required for training, such as first aid box, fire extinguishers, etc. • Explain the importance of selecting the appropriate training material according to the learners. • Explain different formats and templates for various forms and reports. • Elucidate the importance and process of conducting a need assessment in the learners project areas. • State the appropriate arrangements required for the delivery of training, such as audio-visual aids, projector, training hall, seating arrangement, stationery, health and safety facilities, etc. • Explain how to mobilize learners and organize them into batches for the training. • Describe different methods of conducting training, such as classroom training or field demonstrations. • Explain the importance and process of taking feedback from the cadre to identify the scope of improvement in training programs. • Explain the importance of recording the evidence of training, e.g. participant 	<ul style="list-style-type: none"> • Demonstrate how to conduct a need assessment in the learners' project areas. • Demonstrate the process of preparing the training modules and calendar. • Demonstrate the process of assisting in preparing the training material, e.g. presentations, posters, reference booklets, etc. • Roleplay how to conduct training for the learners, following an appropriate training method, such as classroom training or field demonstration • Prepare a sample training report.

<p>registration, photographs, bills, etc.</p> <ul style="list-style-type: none"> • Elucidate the importance of regularly interacting with the learners to resolve any issues they experience after the training and the benefit of doing it virtually. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Installed Video camera with high resolution and recording facility, Hammer, Mason pipe, Measuring Tape, White Board, Wooden Pole for pipe level, A Frame Construction model, Cadastral Maps, Survey of India Topo sheet, Audio/ Visual Aids, Computer, Plum bob, L Scale</p>	

Module 4: Process of performing project monitoring and reporting

Mapped to AGR/N6646 v1.0

Terminal Outcomes:

- Explain the importance of monitoring the project regularly.
- Elucidate ways to report the project progress.
- Elucidate ways to optimise resource utilisation.
- Describe the process of performing waste management.
- Explain the importance of practising inclusion at work.

Duration: 45:00	Duration: 45:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain different ways of conducting IEC activities and the materials used. • Discuss various project milestones, budget and applicable Key Performance Indicators (KPIs). • State technical specifications of different water conservation structures. • Describe different frameworks for assessing the performance of field functionaries and ways of encouraging them. • Explain the use of relevant monitoring and reporting software tools and mobile applications, such as MIS, GIS-based tools, etc. • Explain the importance of conducting regular monitoring to ensure good quality implementation of physical structures. • Explain the importance of monitoring the physical and financial progress of the project. • Elucidate the importance of making appropriate changes in the program design, capacity building and other areas based on the feedback from field functionaries. • Describe the appropriate record-keeping system to maintain the project records. • List the relevant data/report(s) to be 	<ul style="list-style-type: none"> • Demonstrate how to design appropriate formats, templates, and frameworks to conduct regular monitoring. • Roleplay how to conduct regular monitoring to ensure good quality implementation of physical structures. • Roleplay how to monitor the physical and financial progress of the project. • Demonstrate the process of analysing the performance of field functionaries. • Prepare sample periodic physical and financial reports. • Show how to use water and other resources optimally in various tasks and processes. • Demonstrate the process of recycling of recyclable waste and disposal of the non-recyclable waste in an environment-friendly manner.

<p>taken from field functionaries.</p> <ul style="list-style-type: none"> • Describe the process of preparing the periodic physical and financial reports and submitting them to the relevant authority. • Explain the importance of establishing a system for monitoring the project impact. • Explain the benefit of resource optimisation and the relevant resource optimization practices to be followed. • Explain the criteria for segregating waste into appropriate categories. • Elucidate how to recycle and dispose different types of waste. • Discuss the recommended practices to be followed to ensure an inclusive environment for all genders and PwD at work. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>White Board, Measuring Tape, Hammer, Audio/ Visual Aids, Installed Video camera with high resolution and recording facility, L Scale, A Frame Construction model, Computer, Mason pipe, Wooden Pole for pipe level, Survey of India Topo sheet, Cadastral Maps, Plum bob</p>	

Module 5: Hygiene and cleanliness

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Discuss how to adhere to personal hygiene practices.
- Demonstrate ways to ensure cleanliness around the workplace.

Duration: 02:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the requirements of personal health, hygiene and fitness at work. • Describe common health-related guidelines laid down by the organizations/ Government at the workplace • Explain the importance of good housekeeping at the workplace. • Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases. 	<ul style="list-style-type: none"> • Demonstrate personal hygiene practices to be followed at the workplace. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Demonstrate the steps to follow to put on and take off a mask safely. • Show how to sanitize and disinfect one's work area regularly. • Demonstrate adherence to the workplace sanitization norms. • Show how to ensure the cleanliness of the work area.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

Module 6: Safety and emergency procedures

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Describe how to adhere to safety guidelines.
- Show how to administer appropriate emergency procedures.

Duration: 03:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the Personal Protective Equipment (PPE) required at the workplace. • Describe the commonly reported hazards at the workplace. • Describe the hazards caused due to chemicals/pesticides/fumigants. • Describe the basic safety checks to be done before the operation of any equipment/machinery. • Describe the common first aid procedures to be followed in case of emergencies. • State measures that can be taken to prevent accidents and damage s at the workplace. • Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures • State common health and safety guidelines to be followed at the workplace. 	<ul style="list-style-type: none"> • Check various areas of the workplace for leakages, water-logging, pests, fire, etc. • Demonstrate how to safely use the PPE and implement it as applicable to the workplace. • Display the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits, etc. • Sanitize the tools, equipment and machinery properly. • Demonstrate the safe disposal of waste. • Demonstrate procedures for dealing with accidents, fires and emergencies. • Demonstrate emergency procedures to the given workplace requirements. • Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements. • Demonstrate the administration of first aid. • Prepare a list of relevant hotline/emergency numbers
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator’s Guide, Participant’s Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, First Aid Kit, Equipment used in Medical Emergencies.	

Module 7: Employability Skills

Mapped to NOS DGT/VSQ/N0103 v1.0

Duration: 90:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 3 Hours

After completing this programme, participants will be able to:

1. Outline the importance of Employability Skills for the current job market and future of work
2. List different learning and employability related GOI and private portals and their usage
3. Research and prepare a note on different industries, trends, required skills and the available opportunities

Constitutional values – Citizenship Duration: 1.5 Hours

4. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
5. Demonstrate how to practice different environmentally sustainable practices

Becoming a Professional in the 21st Century Duration: 5 Hours

6. Discuss relevant 21st century skills required for employment
7. Highlight the importance of practicing 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life
8. Create a pathway for adopting a continuous learning mindset for personal and professional development

Basic English Skills Duration: 10 Hours

9. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
10. Read and understand text written in basic English
11. Write a short note/paragraph / letter/e -mail using correct basic English

Career Development & Goal Setting Duration: 4 Hours

12. Create a career development plan
13. Identify well-defined short- and long-term goals

Communication Skills Duration: 10 Hours

14. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette
15. Write a brief note/paragraph on a familiar topic
16. Explain the importance of communication etiquette including active listening for effective communication
17. Role play a situation on how to work collaboratively with others in a team

Diversity and Inclusion Duration: 2.5 Hours

18. Demonstrate how to behave, communicate, and conduct appropriately with all genders and PwD
19. Discuss the significance of escalating sexual harassment issues as per POSH act

Financial and Legal Literacy Duration: 10 Hours

20. Discuss various financial institutions, products, and services

21. Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement
22. Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deductions
23. Calculate income and expenditure for budgeting
24. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 20 Hours

25. Describe the role of digital technology in day-to-day life and the workplace
26. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
27. Demonstrate how to connect devices securely to internet using different means
28. Follow the dos and don'ts of cyber security to protect against cyber crimes
29. Discuss the significance of displaying responsible online behavior while using various social media platforms
30. Create an e-mail id and follow e-mail etiquette to exchange e-mails
31. Show how to create documents, spreadsheets and presentations using appropriate applications
32. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

33. Explain the types of entrepreneurship and enterprises
34. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
35. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
36. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 9 Hours

37. Classify different types of customers
38. Demonstrate how to identify customer needs and respond to them in a professional manner
39. Discuss various tools used to collect customer feedback
40. Discuss the significance of maintaining hygiene and dressing appropriately

Getting ready for apprenticeship & Jobs Duration: 8 Hours

41. Draft a professional Curriculum Vitae (CV)
42. Use various offline and online job search sources to find and apply for jobs
43. Discuss the significance of maintaining hygiene and dressing appropriately for an interview
44. Role play a mock interview
45. List the steps for searching and registering for apprenticeship opportunities

Module 8: Process of guiding in watershed planning and implementation

Mapped to AGR/N6647 v1.0

Terminal Outcomes:

- Describe the process of arranging and analysing the relevant maps.
- Explain the process of guiding in watershed planning and preparing the DPR.
- Describe the process of guiding in the implementation.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the watershed concept, including the ridge area, ridge line, drainage line, etc. • Elucidate the geological and hydrogeological mapping. • Describe the process of identification and delineation of recharge and discharge area. • Describe the process of compiling data and preparing a DPR. • Explain the significance of geohydrology in watershed planning. • Describe the procedures related to socio-technical concepts and practices in participatory and integrated watershed management. • Explain the relevant watershed planning exercises followed by the organization. • Discuss the soil and water conservation technologies, social mobilization tools, research methodologies, and the appropriate watershed planning tools. • Explain the basics of handling teams of different expertise. • Explain the use of relevant maps for analysis and watershed planning • Elucidate the importance of ensuring the correct demarcation of the watershed boundary on the toposheet and the calculation of watershed area on the toposheet. • Describe the process of conducting the field survey, selecting the appropriate 	<ul style="list-style-type: none"> • Demonstrate how to analyse the relevant maps and record the findings for the team. • Demonstrate the process of calculating of watershed area on the toposheet. • Roleplay how to supervise the detailed technical surveys, such as L-section, cross-section, and estimation of major water harvesting structures. • Show how to guide the compilation and analysis of relevant data for the preparation of DPR. • Roleplay how to supervise the maintenance of relevant records, preparation of work completion report and payment sheet, and disbursement of wages.

<p>site, and estimating the applicable costs for watershed planning.</p> <ul style="list-style-type: none"> • Explain the relevant types of data required for preparing the DPR and how to prepare a DPR. • Describe the process of assessing the water quality for watershed planning. • Explain the importance of explaining the DPR to field functionaries and taking feedback from the community and watershed committee. • Describe the process of preparing the seasonal calendar for the implementation of watershed interventions. • Discuss effective worksite management practices. • Describe the process of maintaining the relevant records, preparing the work completion report and payment sheet, and disbursing wages to field workers. 	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	

Module 9: Process of guiding in springshed planning and implementation

Mapped to AGR/N6648 v1.0

Terminal Outcomes:

- Describe the process of arranging and analysing the relevant maps.
- Explain the process of guiding in springshed planning and preparing the DPR.
- Describe the process of guiding in the implementation.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the procedures related to socio-technical concepts and practices in participatory and integrated springshed management. • Explain the relevant springshed planning exercises followed by the organization. • Discuss the soil and water conservation technologies, social mobilization tools, research methodologies, and the appropriate springshed planning tools. • Explain the basics of handling teams of different expertise. • List the relevant maps required for analysis and springshed planning. • Explain the importance of ensuring the correct demarcation of springshed boundary and calculation of springshed area. • Explain the importance of ensuring correct baseflow measurement, field survey, site selection, and cost estimation. • List different types of data required for the preparation of DPR for a springshed project. • Describe the process of preparing a DPR for a springshed project. • Describe the process of conducting detailed technical surveys for spring chamber, catchment protection measures, diversion-based water distribution system, and estimation 	<ul style="list-style-type: none"> • Demonstrate the process of analyzing the maps and record the findings for the team. • Roleplay how to supervise the detailed technical surveys for spring chamber, catchment protection measures, diversion-based water distribution system, and estimation of different water conservation and distribution structures. • Roleplay how to guide the compilation and analysis of data for DPR preparation. • Demonstrate how to supervise the preparation of the seasonal calendar for the implementation of springshed interventions. • Show how to supervise the maintenance of relevant records, verification of work completion, preparation of work completion report and payment sheet, and disbursement of wages.

<p>of different water conservation and distribution structures.</p> <ul style="list-style-type: none"> • Describe the process of assessing the water quality for springshed planning. • Explain the importance of presenting the DPR to the community and springshed committee. • List the relevant records to be maintained, such as the records concerning the verification of work completion, preparation of work completion report and payment sheet, and disbursement of wages. 	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	

Module 10: Process of guiding in planning and implementation of groundwater resource development

Mapped to AGR/N6649 v1.0

Terminal Outcomes:

- Describe the process of arranging and analysing the relevant maps.
- Explain the process of guiding in groundwater resource development planning.
- Explain the process of assisting and guiding in preparing the DPR.
- Describe the process of assisting and guiding in the implementation.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the geological and hydrogeological mapping. • Explain the significance of geohydrology in groundwater resource planning. • Describe the procedures related to socio-technical concepts and practices in participatory and integrated groundwater resource management. • Discuss the relevant groundwater resource development and planning exercises followed by the organization. • Explain the soil and water conservation technologies, social mobilization tools, research methodologies, and the appropriate groundwater resource development and planning tools. • Explain the basics of handling teams of different expertise and the appropriate linkage-building expertise. • List the relevant maps required for the analysis and groundwater resource development and planning, such as the aquifer, geological, cadastral, spatial and other thematic maps for analysis. • Describe the process of analysing the water table contour lines. • Describe the process of conducting field surveys, site selection, and cost estimation for groundwater resource development and planning. • Describe the process of assessing the water quality for groundwater resource 	<ul style="list-style-type: none"> • Demonstrate how to analyse the water table contour lines. • Roleplay how to supervise the process of field survey, site selection, and cost estimation. • Roleplay how to supervise the technical surveys for recharge and discharge structures, catchment protection measures, water distribution/ sharing system, and estimation of different water conservation and distribution structures. • Show how to guide the field functionaries in maintaining different records, such as the cashbook, ledger, stock register, attendance sheet, measurement book, etc. • Prepare sample work completion report. • Prepare sample payment sheet and disbursement of wages.

<p>development and planning.</p> <ul style="list-style-type: none"> • Describe the process of carrying out well inventory. • List the different types of data required for preparing a DPR and the process of preparing one. • Explain the importance of explaining the DPR and taking feedback from the community and groundwater management committee or other relevant committees. • Explain the preparation of the seasonal calendar for the implementation of groundwater resource development interventions • Discuss various effective worksite management practices. • List the different records to be maintained. • Describe the process of verifying the completion of work and preparing the work completion report. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p></p>	

Module 11: On-the-Job Training

Mapped to Water Resource Coordinator

Mandatory Duration: 60:00	Recommended Duration: 00:00
Location: On-Site	
<p>Terminal Outcomes</p> <ul style="list-style-type: none"> • Explain different types of available maps, their source, and how to read them. • Carry out the administrative functions, such as maintaining team member attendance and leave records, giving different kinds of approvals, etc. • Conduct classroom/ virtual/ practical training for the facilitators and other stakeholders, such as government officials. • Design appropriate formats, templates, and frameworks to conduct regular monitoring. • Analyze the maps and record the findings for the team. • Guide the compilation and analysis of data for DPR preparation. • Supervise the process of field survey, site selection, and cost estimation. • Prepare work completion report. • Prepare payment sheet and disbursement of wages. • Use PPE and implement it as applicable to the workplace. 	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate	Graduate in Natural Resource Management, Commerce/ Agriculture/ Agriculture Engineering/ Civil Engineering/ Agri-Business Management	2	Watershed Management	0		For school Program minimum qualification of Trainer should be Graduate (Natural Resource Management, Commerce/ Agriculture/ Agriculture Engineering/ Civil Engineering/ Agri-Business Management). Their Teaching experience will be considered industry experience
Post Graduate	Post Graduate in Natural Resource Management, Commerce/ Agriculture/ Agriculture Engineering/ Civil Engineering/ Agri-Business Management / Watershed Engineering	0		0		

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role “ Water Resource Coordinator ”, mapped to QP: “AGR/Q6606, v1.0”, Minimum accepted score is 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 as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduation	B. Sc (Environmental Science & Ecology/ Agriculture/ Geoscience/ Natural Resource Management/ Biological Sciences/ Ecology and Conservation/ Agriculture engineering/ Agriculture or related streams and fields)	5	In Watershed/ Agriculture/ Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
Graduation	B. Tech (Agricultural engineering and related streams)	5	In Watershed/ Agriculture/ Agriculture Engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
Post-Graduation	M. Tech (Agricultural engineering and related streams)	2	In Watershed/ Agriculture/ Agriculture Engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management

Post-Graduation	M.Sc (Agriculture/ Environmental Science & Ecology/ Geoscience/ Natural Resource Management/ Biological Sciences/ Ecology and Conservation/ Agriculture engineering/ Agriculture or related streams and fields)	2	In Watershed/ Agriculture/ Agriculture Engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
PhD	Ph.D (Agriculture/ Environmental Science & Ecology/ Geoscience/ Natural Resource Management/ Biological Sciences/ Ecology and Conservation/ Agriculture engineering/ Agriculture or related streams and fields)	1	In Watershed/ Agriculture/ Agriculture Engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role “ Water Resource Coordinator ”, mapped to QP: “AGR/Q6606, v1.0”, Minimum accepted score is 80%	Certified for the Job Role: “Assessor (Vet and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, v2.0”, with a minimum score of 80%.

Assessment Strategy

Assessment System Overview

In Agriculture Sector it is of ultimate importance that individuals dealing with crop production or livestock have the requisite knowledge and competencies to undertake the task. Based on the Assessment Criteria, SSC in association with empaneled AAs, define the test structure for the given job roles to cover the required skills and competencies. Assessment strategy consists of the following:

1. Multiple Choice Questions: To assess basic knowledge (Objective/Subjective)
2. Viva: To assess awareness on processes (Oral and/or written questioning)
3. Practical: To evaluate skills and identify competencies. (Observation)

Assessments for knowledge and awareness on processes may be conducted through 'real-time' internet-based evaluation or by conducting the same 'offline' through TABs. Skills and competencies are to be assessed by conducting 'practical' on the ground through qualified and ToA certified assessors.

An individual must have adequate knowledge and skills to perform a specific task, weightage for different aspects of the assessment is given as follows:

- Multiple Choice Questions: 20%-30%, depending on the specific QP
- Viva: 20%
- Practical: 50% - 60% (Involves demonstrations of applications and presentations of procedures/tasks and other components)
- Assessment will be carried out by certified assessors through empaneled assessment partners. Based on the results of the assessment; ASCI will certify the learners/candidates

Testing Environment

Assessments are conducted on laptops, Mobiles and android tablets via both offline and online mode depending on the internet connectivity at the assessment location.

In remote locations/villages, assessments get delivered through tablets without the requirement of the Internet.

- Multilingual assessments (ASCI is conducting the assessments in 13 + languages pan India)
- Rubric driven assessments in Practical/Viva sections and responses recorded accordingly
- All responses, data, records and feedback stored digitally on the cloud
- Advanced auto-proctoring features – photographs, time-stamp, geographic-tagging, toggle- screen/copy-paste disabled, etc.
- Android-based monitoring system
- End to end process from allocation of a batch to final result upload, there is no manual intervention

- Assessment will normally be fixed for a day after the end date of the training / within 7 days of completion of training.
- Assessment will be conducted at the training venue
- The room where assessment is conducted will be set with proper seating arrangements with enough space to curb copying or other unethical activities
- Question bank of theory and practice will be prepared by ASCI /assessment agency and approved ASCI. Only from approved Question Bank assessment agency will prepare the question paper. Theory testing will include multiple-choice questions, pictorial questions, etc. which will test the trainee on his theoretical knowledge of the subject.

Assessment			
Assessment Type	Formative or Summative	Strategies	Examples
Theory	Summative	MCQ/Written exam	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks/Demonstration	Practical application /Demonstration /Application tasks
Viva	Summative	Questioning and Probing	Mock interviews on the usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling the job situation

- The theory, practical and viva assessments will be carried out on the same day. In case of a greater number of candidates, the number of assessors and venue facilitation be increased and facilitated

The question paper pre-loaded in the computer /Tablet and it will be in the language as requested by the training partner.

Assessment Quality Assurance framework

Assessment Framework and Design:

Based on the Assessment Criteria, SSC in association with AAs will define the test structure for the given roles to cover the required skills and competencies. ASCI offer a bouquet of tools for multi-dimensional evaluation of candidates covering language, cognitive skills, behavioural traits and domain knowledge.

Theoretical Knowledge - Item constructs and types are determined by a theoretical understanding of the testing objectives and published research about the item types and constructs that have shown statistical validity towards measuring the construct. Test item types that have been reported to be coachable are not included. Based on these, items are developed by domain experts. They are provided with comprehensive guidelines of the testing objectives of each question and other quality measures.

Type – Questions based on Knowledge Required, Case-based practical scenario questions and automated simulation-based questions.

Practical Skills - The practical assessments are developed taking into consideration two aspects: what practical tasks is the candidate expected to perform on the job and what aspects of the job cannot be judged through theoretical assessments. The candidates shall be asked to perform either an entire task or a set of subtasks depending on the nature of the job role

Type – Standardized rubrics for evaluation against a set of tasks in a demo/practical task

Viva Voce - Those practical tasks which cannot be performed due to time or resource constraints are evaluated through the viva mode. Practical tasks are backed up with Viva for thorough assessment and complete evaluation

Type – Procedural questions, dos and don'ts, subjective questions to check the understanding of practical tasks.

The assessor has to go through an orientation program organized by the Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. The assessor shall be given a NOS and PC level overview of each QP as applicable. The overall structure of assessment and objectivity of the marking scheme will be explained to them. The giving of marks will be driven by an objective framework that will maintain the standardization of the marking scheme.

Type of Evidence and Evidence Gathering Protocol:

During the assessment the evidence collected by AAs and ASCI are:

- GeoTagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidence (photos and videos) to the assessor one day before the assessment. The list is mentioned below:
 - Signed Attendance sheet
 - Assessor feedback sheet

- Candidate feedback sheet
- Assessment checklist for assessor
- Candidate Aadhar/ID card verification
- Pictures of the classroom, labs to check the availability of adequate equipment's and tool to conduct the training and assessment
- Pictures and videos of Assessment, training feedback and infrastructure.
- Apart from the Assessor, a Technical assistant is popularly known as Proctor also ensures the proper documentation and they verify each other's tasks.
- To validate their work on the day of the assessment, regular calls and video calls are done.
- On-boarding and training of assessor and proctor is done on a timely basis to ensure that the quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

Methods of Validation

- Morning Check (Pre-Assessment): Backend team of AA calls and confirms assessor/technical SPOC event status. Assessor/Technical SPOC are instructed to reach the centre on time by 9:30 AM / as decided with TC and delay should be highlighted to the Training Partner in advance.
- Video Calls: Random video calls are made to the technical SPOC/assessor so as to keep a check on assessment quality and ensure assessment is carried out in a fair and transparent manner
- Aadhar verification of candidates
- Evening Check (Post Assessment): Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.
- TP Calling: To keep a check on malpractices, an independent audit team calls the TP on a recorded line to take confirmation if there was any malpractice activity observed in the assessment on part of the AA/SSC team. If calls are not connected, an email is sent to TP SPOC for taking their confirmation
- Video and Picture Evidence: Backend team collects video and pictures for assessment on a real-time basis and highlights any issue such as students sitting idle/ trainer helping the candidates during the assessment.
- Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and conduct a surprise audit for the assessment carried out by the ground team.
- Geo Tagging: On the day of the assessment, each technical SPOC is required to login into our internal app which is Geotagged. Any deviation with the centre address needs to be highlighted to the assessment team on a real-time basis.

Method for assessment documentation, archiving, and Access:

- ASCI have a fully automated result generation process in association with multiple AAs
- Theory, Practical and Viva marks form the basis of the results and encrypted files generated to avoid data manipulation. All responses were captured and stored in the

System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.

- Maker Checker concept: One person prepares the results and another audit result which is internally approved by AA at first and then gets vetted at the end of SSC
- All softcopies of documents are received from the on-ground tech team over email. The same is downloaded by our internal backend team and saved in Repository. The repository consists of scheme-wise folders. These scheme-wise folders have two job role-specific folders. These specific folders have Year wise and Month wise folders where all documents are saved in Batch specific folders. All Hard copies are filed and stored in the storeroom.

Result Review & Recheck Mechanism –

- Time-stamped assessment logs
- Answer/Endorsement sheets for each candidate
- Attendance Sheet
- Feedback Forms: Assessor feedback form, Candidate feedback form, TP feedback form
- The results for each of the candidate shall be stored and available for review (retained for 5 years/ till the conclusion of the project or scheme)

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
AGR	Agriculture
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment