

Syllabus for Aquarium Operations Assistant

Course Name	Aquarium Operations Assistant
Sector	AGRICULTURE
Course Code	AGR/2024/AQOA/289
Occupation	Urban and Peri-urban youths
Job Description	Aquarium Operations Assistant is responsible for fabrication, setting up, decoration, aqua-scaping, lighting and water filtration and even has clear understanding on handling of different freshwater ornamental fish like propagation, culture, nutrition and health management.
Anticipated Volume of Training	390 Hrs (Theory- 90 Hrs + Practical- 180 Hrs, Employability Skill – 60 Hrs, OJT: 60 Hrs.)
NSQF LEVEL	3
Trainees' Entry Qualification	1. Grad 10OR 2. Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 3. Grade 8 Pass with 2 years experience OR 4. 5th Grade Pass with 5 years experience
Trainers Qualification	Bachelor in Fishery Science (B.F.Sc) OR B. Sc. (Aquaculture)/B.Sc. (IFF) with 6 months experience

Structure of Course:

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	Total (Hrs) [Multiple of 30]
1	Fabrication, setting up, lighting and aeration	Fabricate an all-glass aquarium and set it up properly with lighting and aeration systems.	30	60	90
2	Water filtration systems and maintenance of freshwater aquarium	Demonstrate different water filtration systems to maintain freshwater aquarium.	20	40	60
3	Breeding and rearing of ornamental fishes	Describe different breeding habits and rearing techniques of ornamental fishes.	20	40	60
4	Common Diseases and Their Control	Identify the common diseases in the ornamental fish and their control.	20	40	60
5	OJT	Work in real job	--	60	60

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	Total (Hrs) [Multiple of 30]
		situation with special emphasis on basic safety and hazards in this domain (OJT).			
6	Employability Skill	As per guided curriculum	60	--	60
TOTAL:			150	240	390

SYLLABUS

Module No. 1: Fabrication, setting up, lighting and aeration

Outcome: Fabricate an all-glass aquarium and set it up properly with lighting and aeration systems.

Theory Content:

1.1 Fabrication: Fabrication of the different sizes of all glass aquarium with different glass thickness.

1.2 Setting up: The position, support materials, height from the floor based on location and setting up

1.3 Lighting: Different types of light, its importance and position

1.4 Aeration: Aeration facilities, different toys and dolls

Practical Content:

- Familiar with different materials required for all glass aquarium fabrication
- Hands on training on fabrication
- Hands on training setting up, aqua scaping, lighting and fixing of aeration facilities

Tools & Equipment needed:

- Glass panes
- Silicon rubber and squeezing gum
- Polythene tapes
- Adhesive tapes
- Glass cutter
- Scale
- Color stones
- Hoods
- light

Module No. 2: Water filtration systems and maintenance of freshwater aquarium

Outcome: Demonstrate different water filtration systems to maintain freshwater aquarium.

Theory Content:

2.1 Water filtration: Different water filtration systems, their importance and capacity

2.2 Cleaning: Regular cleaning and its importance

2.3 Species compatibility: The different species compatibility and stocking density

Practical Content:

- Identify the different filtration systems
- Hands on training on cleaning of aquarium

Tools & Equipment needed:

- UG filter set
- Power Filter set
- Scrubber
- Disinfectants
- Ornamental toys and dolls

Module No. 3: Breeding and rearing of ornamental fishes

Outcome: Describe different breeding habits and rearing techniques of ornamental fishes.

Theory Content:

3.1 Breeding: Different breeding types of fishes like egg layers, eggs scatters, egg depositors, egg buriers, nest builders and breeding of live bearers

3.2 Live feed culture: Different live feeds for freshwater aquarium and their culture technologies

3.3 Rearing: Different rearing techniques for different ornamental fishes

3.4 Artificial Feed: Different artificial feeds and their importance

Practical Content:

- Identify the different ornamental fishes with their behaviors and shape
- Hands on training on live feed culture
- Hands on training on artificial feed preparation

Tools & Equipment needed:

- Breeding tanks
- Breeding trap
- Breeding tray
- Rearing tanks
- Live feed culture tanks
- Feed preparation tray
- Feed ingredients

Module No. 4: Common Diseases and Their Control

Outcome: Identify the common diseases in the ornamental fish and their control.

Theory Content:

4.1 Different Ornamental Diseases:

- Overview of common diseases encountered in ornamental fish, including bacterial, fungal, parasitic, and viral infections.
- Detailed description of symptoms and signs associated with each disease.

4.2 The Control Measures of Diseases:

- Exploration of various control measures, including preventive measures, treatment options, and management strategies.

- Understanding the importance of quarantine procedures and biosecurity measures in disease control.

Practical Content:

- Identify Common Diseases Based on Symptoms:
- Recognize and diagnose common diseases in ornamental fish based on observable symptoms.
- Hands-on activities using reference materials and live specimens to practice disease identification.

Tools & Equipment needed: Aquarium or fish tanks, Ornamental fish species, Water quality testing kits, Fish nets, Magnifying glass or microscope, Syringes or droppers, Quarantine tank or isolation container, Aquarium heater and thermometer, Water dechlorinator or conditioner, Aquarium salt, Algae, scraper or brush, Clean towels or paper towels, Notebook and pen, Personal protective equipment (Gloves, Goggles).

Module No. 5: OJT

Outcome: Work in real job situation with special emphasis on basic safety and hazards in this domain

Practical Content:

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)

Module No. 6: Employability Skills (60 Hrs)

Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

3. 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
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 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.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

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

Career Development & Goal Setting Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills

Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion

Duration: 2.5 Hours

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

Financial and Legal Literacy

Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely

19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills

Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship

Duration: 7 Hours

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

Customer Service

Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs

Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Fabricate an all-glass aquarium and set it up properly with lighting and aeration systems.	<ul style="list-style-type: none"> • Identify different materials required for all glass aquarium fabrication • Classify different types of light and their importance • Identify Different decorating toys and dolls • Explain Aqua-scaping and its importance • Demonstrate different aerators used in aquarium and its functions
2	Demonstrate different water filtration systems to maintain freshwater aquarium.	<ul style="list-style-type: none"> • Classify the water filtration systems. • Demonstrate the cleaning techniques. • Make a note on the different groups of compatible species. • Set up the gravel filter.
3	Describe different breeding habits and rearing techniques of ornamental fishes.	<ul style="list-style-type: none"> • Classify the breeding types of ornamental fishes • Exhibit Breeding demo of live bearers • Demonstrate rearing techniques of ornamental fishes • Classify the ornamental feeds based on the source
4	Identify the common diseases in the ornamental fish and their control.	<ul style="list-style-type: none"> • Identify different ornamental diseases affecting fish. • Explain control measures and strategies to prevent and manage diseases. • Identify diseases based on symptoms. • Apply medicines and assess the effects on diseases.
5	OJT	Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 60 Hours.)
6	Employability Skills	As per guided curriculum

List of Tools, Equipment & materials needed for 30 Trainees:

SI No	Items with description	Qty
1.	Fabrication, setting up, lighting and aeration <ul style="list-style-type: none"> • Glaas panes • Silicon rubber and squeezing gum • Polythene tapes • Adhesive tapes • Glass cutter • Scale • Color stones • Hoods • light 	one one one one one one one one
2.	Water filtration systems and maintenance of freshwater <ul style="list-style-type: none"> • UG filter set • Power Filter set • Scrubber • Disinfectants • Ornamental toys and dolls 	one one one one one
3.	Breeding and rearing of ornamental fishes	
	Breeding tanks	four
	Breeding trap	one
	Breeding tray	one
	Rearing tanks	four
	Live feed culture tanks	two
	Feed preparation tray	two
	Feed ingredients	As per requirement
4.	Common Diseases and Their Control	
	Aquarium or fish tanks	5
	Ornamental fish species	As required
	Water quality testing kits	5
	Fish nets	5
	Magnifying glass or microscope	5
	Syringes or droppers	30
	Quarantine tank or isolation container	5
	Aquarium heater and thermometer	5
	Water dechlorinator or conditioner	2
	Aquarium salt	2
	Algae scraper or brush	5
	Clean towels or paper towels	As required
	Notebook and pen	30
	Personal protective equipment (Gloves, Goggles)	As required

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Fabricate an all-glass aquarium and set it up properly with lighting and aeration systems.	AGR/0264/OC1	60	200	0
Demonstrate different water filtration systems to maintain freshwater aquarium.	AGR/0264/OC2	30	150	0
Describe different breeding habits and rearing techniques of ornamental fishes.	AGR/0264/OC3	30	150	0
Identify the common diseases in the ornamental fish and their control.	AGR/0264/OC4	30	150	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	AGR/0264/OC5	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0