APPLY HERBARIUM, MUSEUM, AQUARIUM AND VIVARIUM TECHNIQUES

UNIT CODE: APB/OS/AB/CR/04/6/A

UNIT DESCRIPTION

This unit specifies the competencies required to apply herbarium, museum, aquarium and vivarium techniques. It involves carrying out herbarium techniques and carrying out museum techniques. It also involves carrying out aquarium techniques, applying aquaculture techniques and carrying out vivarium techniques.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the **key outcomes** which make up workplace function (to be stated in active)	**PERFORMANCE CRITERIA** These are **assessable statements** which specify the required level of performance for each of the elements (to be stated in passive voice) ***Bold and italicized terms are elaborated in the Range***
1 Carry out herbarium techniques	1.1 A plant presser is constructed as per herbarium requirements 1.2 Plant specimens are collected as per herbarium requirements 1.3 Plants are pressed and dried as per herbarium procedures 1.4 Preservation and mounting of herbarium specimen are carried out according to herbarium procedures 1.5 Plant specimens are classified according to taxonomic classification system 1.6 Plant specimens are filed and maintained as per herbarium procedures
2 Carry out museum techniques	2.1 Specimen for museum work are identified as per museum procedures. 2.2 ***Museum specimens*** are collected as per museum requirements 2.3 Museum specimens are prepared as per museum requirements 2.4 ***Preservation*** of museum specimen is carried out according to museum procedures 2.5 Museum specimens are classified according to taxonomic classification system

	2.6 Museum specimens are maintained as per museum procedures
3 Carry out aquarium techniques	3.1 ***Components of an aquarium*** are identified as per aquarium requirements 3.2 An aquarium is set up as per aquarium requirements 3.3 Aquarium organisms are introduced in the aquarium as per aquarium requirements 3.4 ***Management of an aquarium*** is carried out as per aquarium requirements
4 Apply aquaculture techniques	4.1 Construction of a fish pond is carried out based on site requirements 4.2 ***Introduction of fish*** into the fish pond is carried out based on fish family 4.3 ***Fish feeding*** is carried out as per fish family requirements 4.4 Fish breeding is carried out based on fish species 4.5 Fish are harvested as per fishing requirements 4.6 Fish diseases are managed based on fish health requirements
5 Carry out vivarium techniques	5.1 Construction of vivarium is carried out based on type of organism. 5.2 Introduction of organisms is carried out based on type of vivarium. 5.3 Vivarium diseases are identified based on organism health requirements. 5.4 Management of vivarium is done based on type of vivarium.

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

VARIABLE	RANGE
Museum specimens includes but not limited to:	• Zoological • Botanical • Pathological • Pre-clinical

Preservation includes but not limited to:	• Fluid • Dry • Treatment after preservation
Components of an aquarium include but not limited to:	• Air pump • Substrate • Thermometer • Aquatic plants • Filter • Heater • Decoration
Management of an aquarium include but not limited to:	• Feeding of fish • Hygiene • Temperature regulation
Introduction of fish includes but not limited to:	Fingerlings are introduced by use of • Nets • Containers
Fish feeding includes but not limited to:	• Dried stuff • Live foods

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Communication
- Analytical
- Maintenance
- Problem solving
- Technical
- Critical thinking
- Observation
- Interpretation
- Measurement

Required Knowledge

The individual needs to demonstrate knowledge of:

- Aquarium techniques

- Museum techniques
- Herbarium techniques
- Aquaculture techniques
- Vivarium techniques

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1 Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Constructed a plant presser 1.2 Collected plants specimens 1.3 Pressed and dried plants 1.4 Preserved and mounted herbarium specimens 1.5 Classified, filed and maintained plant specimens 1.6 Collected, prepared, preserved, classified and maintained museum specimens 1.7 Identified components of an aquarium 1.8 Set up an aquarium and introduced organisms in the aquarium 1.9 Managed an aquarium 1.10 Constructed a fish pond and introduced fish to the pond 1.11 Carried out fish feeding and breeding 1.12 Harvested fish 1.13 Managed fish diseases 1.14 Constructed a vivarium and introduced organisms in the vivarium 1.15 Managed a vivarium
2 Resource Implications	The following resources should be provided: 2.1 Well functional biology laboratory 2.2 Workshop tools 2.3 Laboratory chemicals and reagents 2.4 Biology laboratory manuals 2.5 PPEs
3 Methods of Assessment	Competency in this unit may be assessed through: 3.1 Oral 3.2 Written 3.3 Third party report

		3.4 Observation 3.5 Practical test
4	Context of Assessment	Competency may be assessed on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
5	Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.