

IMMUNOLOGY AND VACCINES

ISCED UNIT CODE: 0912 541 16A

TVET CDACC UNIT CODE: HE/CU/AHP/CC/10/6/MA

Relationship to Occupational Standards

This unit addresses the Unit of Competency: Apply knowledge of immunology in animal vaccination

Unit Duration: 50 Hours

Unit Description

This unit specifies the competencies required by animal health and production technologist to apply knowledge of immunology in animal vaccination. It involves applying knowledge of immunology, knowledge of serology in disease diagnosis, and applying knowledge of vaccines and immunization.

Summary of Learning Outcomes

By the end of this unit, the learner should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	Apply knowledge of immunology	20
2.	Apply knowledge of serology in disease diagnosis	10
3.	Apply knowledge of vaccinology and immunization	20
Total		50

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Methods of assessment
1. Apply knowledge of immunology	1.1. Definition of terminologies 1.1.1. Immunology 1.1.2. Vaccine	<ul style="list-style-type: none">• Practical• Project• Portfolio of

	<p>1.1.3. Immunogenicity</p> <p>1.1.4. Immune system</p> <p>1.1.5. Immunological principles</p> <p>1.2. Types of immunity</p> <p>1.2.1. Acquired</p> <p>1.2.2. Innate</p> <p>1.2.3. Humoral</p> <p>1.2.4. Cell mediated</p> <p>1.3. Immune reactions</p> <p>1.4. Antigen antibody reactions</p> <p>1.5. The complement system</p> <p>1.6. Autoimmune diseases of animals</p>	<p>evidence</p> <ul style="list-style-type: none"> • Third party report • Written assessment • Oral questioning
<p>2. Apply knowledge of serology in disease diagnosis</p>	<p>2.1. Define serology</p> <p>2.2. Serological principles</p> <p>2.3. Types of serological tests</p> <p>2.3.1. ELISA</p> <p>2.3.2. CFT</p> <p>2.3.3. PCR</p> <p>2.4. Importance of serology</p>	<ul style="list-style-type: none"> • Practical • Project • Portfolio of evidence • Third party report • Written assessment • Oral questioning
<p>3. Apply knowledge of vaccinology and immunization</p>	<p>3.1. Types of vaccines</p> <p>3.1.1. Live</p> <p>3.1.2. Killed</p> <p>3.1.3. Attenuated</p> <p>3.1.4. Toxoids</p> <p>3.2. Mode of action of vaccines</p> <p>3.3. Adjuvants and vaccines</p> <p>3.4. Vaccine storage and handling</p> <p>3.5. Vaccines for veterinary use. (Rabies, FMD, LSD, RVF, NCD, fowl pox, ASF, Fowl Typhoid,</p>	<ul style="list-style-type: none"> • Practical • Project • Portfolio of evidence • Third party report • Written assessment • Oral questioning

	Anthrax)	
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Suggested Methods of delivery

- Practical
- Projects
- Demonstrations
- Group discussion
- Direct instructions

Recommended Resources for 25 trainees

S/No.	Category/Item	Description/ Specification	Quantity	Recommended Ratio (Item: Trainee)
	Learning materials			
1.	Projector		1	1:25
2.	Whiteboard/Smart board		1	1:25
3.	Desktop/computer		1	1:25
4.	Lecture/Theory room		1	1:25
5.	Laboratory	As guided by KVB	1	1:25
6.	Animal farm	As guided by KVB	1	1:25
7.	Library		1	1:25
8.	E-Library		1	1:25