Student template for after exam notes/breakdown:

**Level 1 Agricultural and Horticultural Science**

Senior Exams, Term Four, 2016.

There are TWO EXAMS in this booklet:

**90919: Demonstrate knowledge of soil management practices.**

**90921: Demonstrate knowledge of livestock management practices.**

**Demonstrate knowledge of soil management practices.**

**Question 1: Clay Soil.**

1. **A farmer with ‘heavy’ clay soil wants to improve it. Describe the TWO best things they can do to improve the clay soils properties. 4**
2. **Choose ONE of the options from above and describe how it will effect the properties of the soil and plant growth. 6**

c**). After repairing the clay soil using the option described above the farmer is deciding on wether to apply fertiliser in a liquid or a solid form.**

**Compare and contrast (discus the advantages and disadvantages of each method)these two methods of fertilising.**

**In your answer, consider:**

* **The effectiveness of the method**
* **The soil properties**
* **The effects on plant growth. 8**

**Question 2: Irrigation.**

1. **Describe three different methods of irrigation on a farm or garden plot and descibe where it is best suited and why. 4**

b**). Explain how irrigation effects soil properties and how these properties influence plant growth. 6**

**c). A dairy farm has a sandy loam soil with poor pasture growth in summer. Two management practices that can be used to improve plant growth are irrigation and the application of effluent.**

**Select one of these two methods and justify why it would be more effective than the other.**

**In your answer consider:**

* **Soil texture**
* **Soil properties**
* **Soil nutrients**
* **Cost, efficiency and overall effectiveness. 8**

**Question 3: Liming and cultivation.**

**a). Describe how lime might be applied to a pasture. 4**

b**). Describe the effects liming has on soil properties and plant growth. 6**

**c). A farmer who wants to replant an old pasture in a sandy loam soil is deciding wether to cultivate and sow (prepare a seedbed) or direct drill. Discuss the advantages and disadvantages of each method and justify how and why the farmer might choose one method over the other.**

**In your answer consider:**

* **Time and cost**
* **Soil structure**
* **Soil drainage**
* **Soil nutrients and health**
* **Plant growth success (germination and emergence). 8**

**Demonstrate knowledge of livestock management practices:**

**Question 1: Vaccination.**

**Vaccination is a management practice used to maintain healthy animals.**

**a) In the table below, describe 3 actions undertaken when vaccinating a sheep and explain why each action should be carried out in the way you described.**

|  |  |
| --- | --- |
| **Description of the action** | **Reason for the action** |
| Action 1: |  |
| Action 2: |  |
| Action 3: |  |

1. **Explain how vaccination improves animal production**.

**c). Scabby mouth is a viral disease that effects sheep, particulalry lambs, and their production. A farmer is considering two management practices for controlling it, either selecting and breeding from the most resistant rams or treating with a scabby mouth ‘scratch’ vaccine.**

**Select the better management practice for controlling the viral disease and justify your choice by comparing and contrasting it with the other practice. In your answer consider:**

* **The long and short term benefits**
* **Cost and ease of management**
* **Animal welfare**

**Question 2: Artificial Insemination.**

**a). Select 3 steps taken in the artificial insemination (A.I.) process and explain how they are done and why they effect the success of the procedure.**

**1.**

2.

3.

**A.I. is particulalry popular with dairy farmers.**

**b). Explain why a dairy farmer would choose to artificially inseminate his cows over running bulls on his farm.**

**Discuss the advantages and disadvantages of each and justify the famers decision to artificially inseminate.**

* **Consider:**
* **Long term gains**
* **Handling and management**
* **Traits and characteristics**

**Question 3:**

**A farmer has brought all his lambs into his yards and is going to drench them and draught them off according to body condition.**

1. **Descibe why drenching effects animal production.**

**After drenching he Body Condition Scores all of them.**

**b). Describe how body condition scoring is done.**

**After he has assessed their condition he draughts of the lambs into three seperate mobs according to their B.C.S. (Body Condition Score).**

**c). Describe and explain what he will do with each separate mob and how this will effect their production. In your answers consider:**

* **Nutritional requirements**
* **Supplementary/preferential feeding**
* **Efficiency and production**

**Mob 1 (B.C.S. = 2):**

**Mob 2 (B.C.S. = 3 and 4):**

**Mob 3 (B.C.S.=5):**

**d). To meet the christmas markets and the best prices he aims to grow heavy, lean and fast growing lambs.**

**He is running romney ewes on his cold, hilly farm and is considering what ram to select and why. Advise him on a breed and how he will know it is his best choice and explain to him why he should be selecting it.**