

**SIR ARTHUR LEWIS COMMUNITY COLLEGE**

Division of Agriculture

END OF SEMESTER TWO EXAMINATION – April/May – 2018-2019

PROGRAMME TITLE : General Agriculture – Associate Degree (Year Two)  
COURSE TITLE : Crop Protection and Pest Management  
COURSE CODE : CPR212  
DATE : 2<sup>nd</sup> May, 2019  
TIME : 1:00 p.m.  
DURATION : 2 hours  
ROOM :  
INVIGILATOR(S) :

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Instructions:

Do **All Four (4)** Questions



1. The College Farm manager has called on you to assist with the **Yellow leafcurl virus** affecting tomatoes.
  - (i) **Identify the insect vector responsible for transmitting the virus identified above.**  
(b) Indicate the **Family** to which the vector belongs. (5 marks)
  - (ii) Explain how this disease is featured in the disease triangle. (10 marks)
  - (iii) Develop an Integrated management plan for the control of this disease. (10 marks)
  
2. Pesticides have been used in agriculture to combat major pests and diseases.
  - (i) Define the term **active ingredient**. (3 marks)
  - (ii) Identify an advantage of an **inert ingredient**. (2 marks)
  - (iv) Discuss five safety precautions that one should take into consideration when using pesticides. (10 marks)
  - (v) Some pesticides can be formulated as Wettable powders. Identify one pesticide trade name with this formulation. (2 marks)
  - (vi) Discuss two advantages and two disadvantages of **Wettable powders**. (8 marks)
  
3. (i) Wing shape, texture, and venation are quite distinctive among the insect taxa and are useful for identification. Which insect orders show the following wing modifications?
  - a. Elytra b. hemelytra c. tegmina d. halteres e. scales (5 marks)
  - (ii) Discuss the characteristics of the Order Lepidoptera. (10 marks)
  - (iii) Identify the parts of the insect leg labeled A-E (5 marks)



- (iv) Insect legs are highly modified for different functions, depending on the environment and lifestyle of an insect. Identify five leg modification types giving an example of an insect which has the modification.

(5 marks)

4. A farmer complained about the poor performance of his pumpkin crop. Visual examination of the crop showed the presence of root nodules.
  - (i) Give the scientific name for the plant parasitic nematode responsible for these symptoms. (2 marks)
  - (ii) Explain how these parasitic nematodes would affect his crop. (10 marks)
  - (iii) Discuss the method of extraction of these nematodes from the soil. (8 marks)
  - (iv) Explain one (1) prevent method used to prevent the movement of this pest. (5 marks)