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**University Examinations 2015/2016**

FOURTH YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF CROP PROTECTION

**SBT 2451: PESTCIDE SCIENCE APPLICATION AND SAFETY**

**DATE: NOVEMBER 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. In view of the pest concept, describe a pest (3 Marks)
2. What is the difference between LD50 and LC50 (5 Marks)
3. Pests do not exist in nature yet they cause significant economic damage in agriculture ecosystems. Explain the origin of these pests (5 Marks)
4. Name any five spray additives used with pesticides and state their uses (5 Mar
5. Why would you discourage a nursery attendant from using high volume spray application when managing pest problems? (5 Marks)
6. Muturi is growing tomatoes in greenhouse and regularly uses pesticides. However, he is concerned about his health and the effect of pesticides on the environment. Advise Muturi on pesticide selection criteria in regard to safety (7 Marks)

**QUESTION TWO (20 MARKS)**

1. Pesticide application equipment are categorized according to the energy involved in breaking down the spray liquid. Describe.
2. Hydraulic sprayers (5 Marks)
3. Fogging machines (5 Marks)
4. Describe ways in pesticides enter the insect body (5 Marks)

**QUESTION THREE (20 MARKS)**

1. Differentiate between organophosphates and organ chlorines (5 Marks)
2. Mutwiri has worked in a greenhouse for the last ten years; he has specialized as a pesticide spray operator. He has not been able to sire a child and now he suffers uncontrollable nervous tremors. What conditions could Mutwiri be suffering from? (5 Marks)
3. What do you understand by the following terms;
4. Pre-harvest interval (PHI)
5. Maximum residue limits (MRLs)
6. Re-entry period

**QUESTION FOUR (20 MARKS)**

1. Describe the following pesticide formulations stating three advantages and disadvantages of each.
2. Emulsifiable Concentrates
3. Wettable powder
4. Describe three major pest problems associated with continued use of pesticides (5 Marks)