



*“Investing in Africa’s future”*

**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES**

**ACP 208: WEED SCIENCE**

**END OF SECOND SEMESTER EXAMINATIONS**

**JULY/AUGUST 2020**

**LECTURER: MR. MTAITA T. A.**

**DURATION: 48 HRS**

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### **INSTRUCTIONS**

1. Answer **one** question
2. Each question carries 100 marks
3. Download the question paper and work offline
4. Upload your answer in PDF form

### Question One

- a) Weeds and crop plants grow under similar environments, obtaining their requirements from one and the same source. Discuss why weeds do relatively better than crop plants in terms of their withstanding rigors of weather or soil conditions. **[30]**
- b) Two fields are side by side. Both have been sprayed with the same herbicide on the same rate on the same day. Control was good in one field and poor in the other. Give some possible reasons for these results. **[10]**
- c) Explain what steps you will take to ensure appropriate rate of spraying using a knapsack sprayer. **[10]**
- d) You have been posted as an agricultural instructor at Lubumbashi farm. According to your observation, identification of the common weeds and considering the crop being grown you recommend the use of herbicide X. The chemical is said to 80% a.i. The recommended rate of application in the field is 1 kg/ha. The estate has 200 ha of the crop. What amount of commercial product will you buy in order to apply 1 kg/ha of the a.i.? **[10]**
- e) If you were assigned the responsibility to design weed control measures for a commercial farm in North Katanga, clearly suggest to the farm owner details of the different options available and recommend one of them with reasons. **[40]**

### Question Two

- a) Why should an integrated approach to weed control be recommended to farmers? **[10]**
- b) Explain the “critical period” as it relates to wee-crop competition. **[10]**
- c) Discuss the possible reasons for using more than one herbicide on a crop. **[10]**
- d) Discuss the major factors contributing to the competitive ability (success) of weeds and suggest how farmers can benefit from such information. **[30]**
- e) Given what you know about the characteristics that make a plant ‘weedy’. Please use your imagination to invent the ‘perfect weedy’. Be creative, but try adhering to realistic traits within biological limits. Describe in detail what your weed looks like, how it grows and reproduces, how it spreads, and any other unique adaptation that will allow your plant to become the world’s worst weed. **[40]**

### **Question Three**

- a) Critically analyze the concepts of herbicide formulation and classification of herbicides. Make sure to include why the two practices are adopted in agriculture. **[30]**
- b) As a weed scientist, advise farmers on calibration of sprayers. **[10]**
- c) Advise the steps that farmers can take to swart introduction, establishment and spread of a specified weed species into an area not currently infested with that species. **[30]**
- d) As a weed scientist attending a workshop on use of herbicides in agriculture, convince other participants on why herbicides should be formulated. **[10]**
- e) Discuss the practice and benefits of diverse cultural practices in managing weeds. **[20]**

**END OF EXAMINATION PAPER**