



MURANG'A UNIVERSITY COLLEGE  
(A Constituent College of Jomo Kenyatta University College of Technology)

SCHOOL OF PURE AND APPLIED SCIENCES

DIPLOMA IN APPLIED BIOLOGY

ASB 1311 AS/BIO/13D

PLANT HUSBANDRY, ENTOMOLOGY AND PLANT PATHOLOGY

PHARMACOLOGY TOXICOLOGY, & PLANT PATHOLOGY EXAM

DATE: 25<sup>TH</sup> MARCH 2015

TIME: 3HRS

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Answer ALL questions in section A and any THREE in section B.

SECTION A

1. Explain the damaging effect of insect pests with piercing mouth parts on the plants (4mks)
2. Describe holometabolous life cycle in insects (4mks)
3. Name the pathogens associated with the following plant diseases (4mks)
  - a) Wart disease of potatoes
  - b) White rust of crucifers

- c) Late blight of potatoes
- d) Powdery mildew of peas
- 4. State four control measures of the early blight of potato disease (4mks)
- 5. Outline four aims of plant breeding (4mks)
- 6. Differentiate between the Quonset and the A-frame designs of a green house (4mks)
- 7. a)List four of liquid dosage (2mks)  
b)Name four binding forces involved in drug-receipt or interaction (2mks)
- 8. a)Name four sources of drugs (2mk)  
b.)Define pharmacokinetics (2mks)
- 9. a)State the role of hyduronidose enzyme in drug absorption (2mks)  
b.)Name two inorganic elements that may pollute the environment (2mks)
- 10. List any four advantages of glass as a packaging materials for pharmaceutical products (4mks)

### SECTION B

- 11. Write short notes on corn smut under the following topics (20mks)
  - a) Name of pathogen
  - b) Dissemination
  - c) Type of symptoms

d) Control measures

12. Explain the process of moulting and increase in the size of insects (20mks)
13. Discuss the various variations to the normal pattern of reproduction in insects (20mks)
14. what are the advantages and disadvantages of the oral route drug administration (10mks)
- b) List both drug and client related factors that affect drug action (10mks)
15. Define bio availability (2mks)
- b.) Outline on the various ways through which drugs are passed across the cell membrane (18mks)