

 W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**SBT 2309: PHYTOCHEMISTRY**

**DATE: MAY 2021 TIME: 2HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (30 MARKS)**

a)i) Outline the precautions that should be taken during packaging of plant tissues picked from

 the wild to be used in phytochemical analysis. (3 marks)

 ii) Highlight the importance of authentication of plants selected for phytochemical analysis.

 (3 marks)

b)i) State precautions taken during preparation of good TLC plates. (3 marks)

 ii) State advantages of TLC over PC (3 marks)

c)i) Outline the economic importance of Saponins. (3 marks)

 ii) Outline the reasons behind some herbivores avoiding to feed on Sorghum leaves.

 (3 marks)

d) State two, useful and two harmful effects of the following alkaloids:

 i) Quinine (2 marks)

 ii) Nicotine (2 marks)

 iii) Colchicine (2 marks)

e) Explain the following;

 i) Some leaves appear red in colour (2 marks)

 ii) Flower petals fade in colour before they fall off (2 marks)

iii) Flower extracts are added to herbal medicine. (2 marks)

**QUESTION TWO (20 MARKS)**

Discuss the methods used by herbalists in administering medicine to human patients.

**QUESTION THREE (20 MARKS)**

Discuss allelopathy.

**QUESTION FOUR (20 MARKS)**

Discuss the use of secondary metabolites by man under the following categories;

1. Poisons (10 marks)
2. Medicine (5 marks)
3. Stimulants (5 marks)