



**UNIVERSITY OF ESWATINI
MAIN EXAMINATION PAPER**

PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR 2
BACHELOR OF SCIENCE IN AGRONOMY YEAR 4

COURSE CODE: CPR208/CP 407

TITLE OF PAPER: SUGARCANE PRODUCTION

TIME ALLOWED: 2 HOURS

INSTRUCTIONS: ANSWER QUESTION 1 [COMPULSORY] AND ANY
OTHER THREE [3] QUESTIONS OF YOUR CHOICE

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THE CHIEF INVIGILATOR**

QUESTION 1

THIS IS A COMPULSORY QUESTION

Write short notes on the following words or phrases, reference should be made to sugarcane. Each question carries five marks

- a) Pressmud/filter cake
- b) Stillage
- c) Settlings
- d) Bud chips
- e) Tillering

[25 marks]

QUESTION 2

- a) Name 3 (three) systemic sugarcane diseases and state how each one can be prevented and controlled. (10 marks)
- b) Why is the variety NCo376 losing popularity in Eswatini? (5 marks)
- c) Planting of sugarcane is carried out by a team of 13 people, describe in detail their different roles (10 marks)

[25 marks]

QUESTION 3

- a). What do you understand by soil salinity and sodicity? (4 marks)
- b). What are the causes of soil salinity and sodicity? (4 marks)
- c). Discuss two preventive measures that can be used for the two conditions mentioned above. (10 marks)
- d). Discuss the use of sunnhemp (*Crotalaria juncea*) in the sugarcane industry and explain why it is the most favoured as a green manure crop in the sugarcane industry (7 marks)

[25 marks]

QUESTION 4

- a) Which irrigation system would you recommend to a resource-poor sugarcane farmer whose field has sandy soils and on a steep slope? [2 marks]
- b) Give reasons for your recommendation above (a) (4 marks)
- c) Discuss the two main factors that affect the amount of water used by a sugarcane crop. (4 marks)
- c). Sugarcane is harvested from April to around onwards. Give a justification of this timing in terms of rainfall and temperature. (10 marks)
- d) Describe visual symptoms that can be used to assess sugarcane maturity. (5 marks)

QUESTION 5

- a) Discuss five effects of spraying sugarcane with ethephon [10 marks]
- b) Explain why Whitegrub is rarely controlled in Eswatini sugarcane [5 marks]
- c) Discuss cultural practices that can be employed to reduce the incidence of *Eldana saccharina* in sugarcane. [10 marks]
- [25 marks]