EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

AGRICULTURE **6882/02**

Paper 2 **Specimen Paper October/November 2024-2026**

Confidential

MARK SCHEME

{6882/02}

MARKS: 100

Section A

1. (a) (i) ensuring production of adequate/ sufficient, nutritious, food is available to people [1]

(ii) reduces production costs; efficient use of land; provides insurance [3]

(iii) causes pollution; reduces biodiversity/ harm ecosystems; land degradation [2]

(b) promotes pollination; increases transpiration/ lowers humidity [2]

(c) provide credit to farmers; alleviate poverty through agriculture business initiatives; encourages cooperative work/ partnership. [2]

[10 marks]

2 (a) (i) organic matter [1]

(ii) provides food for micro-organisms; provides nutrients; improves soil structure [1]

(b) C [1]

(c) well drained/ good aeration; easy to cultivate [2]

(d) platy – aggregates have longer horizontal faces
prismatic – aggregates have longer vertical faces [2]

(e) flocculates the soil/ improves soil structure [2]

(f) high/ low temperatures expands/contracts rocks; causing formation of cracks [1]

(g) reduces farm land; lowers soil fertility [1]

[11 marks]

3. (a) **A** = nitrogen fixation [1]

D = nitrification [1]

(b) (i) yellow leaves; stunted growth [1]

(ii) animal manure [1]

(c) 22/100 x 50kg = 11kg

2/7 x 11kg = 3.14kg N [2]

(d) nutrients carried in gravitational water from the root zone; down the soil profile [2]

(e) (i) A; no fertilizer/treatment added [2]

(ii) reduces potato yields [1]

[11 marks]

4. (a) (i) A = anther; **C** = ovary [2]

(ii) B = stigma, receives/ traps pollen and provides suitable environment [1]

(b) pollen divides into pollen tube and reproductive nucleus; pollen tube formed; reproductive nucleus travels along pollen tube; enters ovary through micropyle; the nuclei fuse [3]

(c) ensures success of selectively bred species; desirable characteristics have high chances of being transferred; guaranteed pollination; synchronisation of breeding programme/all
processes occur at same time; applied where wind and insect pollination is not possible [2]

(d) maintains traits; early maturity; high survival rate [3]

[11 marks]

5. (a) (i) transpiration [1]

(ii) transpiration pull [1]

(iii) water molecules evaporate from the plant leaves; attract water molecules in the plant; this help to pull water up through the stem from the roots. [3]

(b) (i) stomata close; plasmolysis/ flaccid [2]

(ii) reduces water loss/ less wilting [2]

[9 marks]

6. **(a)** pest and disease resistance; climatic conditions; yield potential; soil [2]

(b) to determine soil pH; nutrient status; to correct the soil; to allow appropriate use of fertilizer. [2]

(c) kill weeds; improves aeration [1]

(d) cuts young plants; at the base of the stem; using mandibles (biting and chewing mouthparts) [3]

(e) chemical control/ herbicides [2]

[10 marks]

7. (a) (i) spread of parasites and diseases; malnourished livestock; uncontrolled breeding; poor fertility [2]

(ii) improved crop yield; insurance; good soil cover; efficient use of land [2]

(b) development of super weeds [1]

(c) (i) to reduce acidity [1]

(ii) mulch suppress weed growth [1]

(iii) decomposition of organic matter produces heat [1]

[8 marks]

Section B

8. (a) Cultural methods of weed control.

the use of non-chemical management practices to kill or suppress weeds. e.g. selection of crop variety; soil cultivation; intercropping; tillage; good crop cover; mulching: crop rotation; early planting: use of clean seeds. [5]

(b) Adverse effects of weeds.

competition for nutrients, light energy, water and air; harbour pests and diseases; lowers crop quality; makes crop management difficult; reduces crop yield; reduces market value of crops. [5]

(c) Safety precautions when mixing herbicides.

correct/ recommended amount; safety/ protective clothing; mixing techniques/ dilution; adherence to instructions. [5]

[15 marks]

9. (a) Adverse effects of sprinkler irrigation

encourages weeds' growth; water areas with no crop plants: high water wastage due to evaporation in the air: fungal diseases/ crop diseases due to water splash; high energy costs/ operational costs due to fixing/ pumping/ movement. [5]

(b) Irrigation contribution to food security

scale of production increased; ensures water availability; improves crop quality/ growth; promotes continuous supply of a crop. [5]

(c) Roles of drip irrigation in soil water conservation

water directed to root zone/ increases water availability; minimizes evapotranspiration; prevent soil salinity: prevent water loss by seepage/ leaching: prevent weed growth: economic usage of water. [5]

[15 marks]

11. (a) Importance of farm credit

buying inputs; capital expenditure; increase productivity; paying workers; provide financial support; allows farmers to diversify their operation; enable adoption of agricultural technology; prevent reliance on non-formal credit institution. [5]

(b) Law of diminishing returns

for any increase in the variable input (x), there is a corresponding increase on the output (y) until a point is reached where a further increase in variable input result into a decrease in output. [5]

(c) Importance of record keeping

facilitate proper planning; guide farm operations; allows proper decision making; allows proper action; improves efficiency; cost saving. [5]

[15 marks]