



## EXTERNAL INTEGRATED SUMMATIVE ASSESSMENT

### EXEMPLAR 1 PAPER 2

### VERBAL THEORETICAL ASSESSMENT

#### CANDIDATE INFORMATION

SURNAME													
NAMES													
ID NUMBER													
EISA REGISTRATION NUMBER													
ASSESSMENT CENTRE													
ASSESSMENT CENTRE ACCREDITATION NUMBER													

#### QUALIFICATION INFORMATION

QUALIFICATION TITLE	Occupational Certificate: Garden Worker
SAQA ID	99692
NQF LEVEL	02
CREDITS	69
DURATION	2 hours
TOTAL MARKS	90 Marks
PASS MARK	72 Marks (80%)
DATE OF EISA	

## PAPER 2: VERBAL THEORETICAL ASSESSMENT

Various types of fertilisers may be used to improve plant nutrients in the soil and to ensure healthy plant development. Some of these nutrient supplements are shown below. Take a careful look at each picture and read the descriptions of the types of fertilisers on the next page.



**Type:** Nitrogen Phosphate fertiliser



**Type:** Urea (Nitrogen-rich Fertiliser)



**Type:** NPK Fertiliser



**Type:** Granular Fertiliser

**Figure 1:** Different types of fertiliser in their various bags

Other types of fertilisers include:

- **Micronutrients.** Besides NPK, small quantities of other minerals are needed for plant growth. This includes sulphur, magnesium, calcium, iron, zinc, copper, and even boron. Typically, these are folded into other compound fertilizers, but occasionally may need to be added directly if there's a deficiency.
- **Slow-release.** As opposed to organic fertilizers like manure which are naturally slow-release, some synthetic fertilizers are coated in resins or polymers to slow their release over time. This can be useful during times of drought or other difficult planting situations.
- **Spikes and tablets.** Fertilizers can be delivered as spikes or tablets, stuck directly in the ground for a different form of slow-release at the root level. These are convenient as fertilizers used by farmers on smaller plots, but most commercial operations will use more direct fertilizing methods.
- **Liquid fertilizers** are fast-acting and often used as quick pick-ups. However, they're also vulnerable to evaporation and runoff, so they should only be used during times of moderate sun and rain.
- **Foliar fertilizer** is applied directly to the leaves, rather than the soil or roots. Most often, these are used to stimulate flower or fruit/seed growth in plants that are struggling to mature on their own. Care must be used: much like nitrogen, overuse of foliar fertilizers can scorch plants and harm them, and sometimes, inorganic foliar fertilizers may decrease nutrient absorption.



**Type:** Organic Fertiliser (slow release)



**Type:** Organic Fertiliser (compost)

**Figure 2:** Two types of Organic Fertiliser

### QUESTION 1:

1.1 Several types of fertilisers in different containers and bags are shown in Figures 1 and 2. These include organic and inorganic fertilisers, which have been described in the text following the figures. What type of fertilizer should be applied in the following situations:

1.1.1 Soil that has little depth, and is often waterlogged, and with no organic layer, roots.

3 Marks


1.1.2 Sandy soil that has too many weeds and stones

2 Marks


1.2 How would you apply the chosen fertilizer in scenarios 1.1.1. and 1.1.2?

5 Marks


1.3 When you are planting a Lemon Tree in an urban garden explain the consequences of applying too much or too little fertilizer.

5 Marks


1.4 Making compost requires the correct type of feedstock, namely leaves, roots, woody branches, kitchen waste, air and water. These elements must then be prepared with compost making equipment like a pitch fork, a hose to apply water, and a system to maintain the correct temperature in the compost heap. Describe the ingredients of compost and discuss the equipment used in compost making. What is compost and how do you make it? What should a gardener do to make good compost and prevent it from being contaminated? How often should do it? 5 Marks


1.5 Imagine that you have been asked to work in a garden with 5 different areas. Area 1 has a kikuyu lawn, Area 2 has several large trees and shrubs, Area 3 has flowering plants and herbs, Area 4: has fruit trees and some bamboo, Area 5 has a mixture of indigenous trees and bulb plants with flowers. Explain how to water each of these 5 garden sections. 5 Marks


1.6 Discuss the environmental challenges and issues that you would encounter in caring for and maintaining the garden areas described in question 1.5. 5 Marks


**Marks Total marks for Question 1: 30 Marks**

## QUESTION 2:

Lawns are an important feature in any urban and suburban garden. Lawns may be made of kikuyu, an extremely vigorous, fast-growing, bright green, coarse texture, excellent wear tolerant grass; Buffalo grass or LM Berea, which is indigenous to coastal regions of South Africa (Eastern Cape, KwaZulu-Natal), Mozambique, and Madagascar; and Bermuda grass, a very popular warm-season turfgrass known that spreads by stolons and rhizomes, which make it very strong and drought-resistant. Its extensive root system allows it to recover quickly when water returns. In South Africa, it is most commonly known by its Afrikaans name "Kweekgras". In some cases, artificial grass may be used. Lawn maintenance is often difficult due to challenges such as pests (like caterpillar worm), fungal diseases, environmental and maintenance issues. LM grass has excellent shade tolerance compared to most other warm-season grasses. It thrives in areas with dappled sunlight or even moderate shade, making it perfect for gardens with large trees or north-facing walls.

As a gardener your job involves caring for various types of lawns and solving typical gardening problems that you can experience in the cultivation and maintenance of lawns. Imagine that you are given (5) different situations: (i) Kikuyu Lawn in a Johannesburg suburb, (ii) Bermuda Grass Lawn in Pietermaritzburg, (iii) Buffalo Lawns on a farmhouse in rural Kwazulu-Natal, (iv) artificial grass in an indoor soccer arena and a (v) selection of sports turfs (such as sports fields in a public park) in Cape Town.

2.1 What are the various types of problems you can find as a garden worker who is responsible for a Kikuyu lawn in Johannesburg? Explain how each of these problems can be solved. 5 Marks


2.2 Discuss the best watering practices for each type of lawn in the given situations (i to v).

10 Marks

--



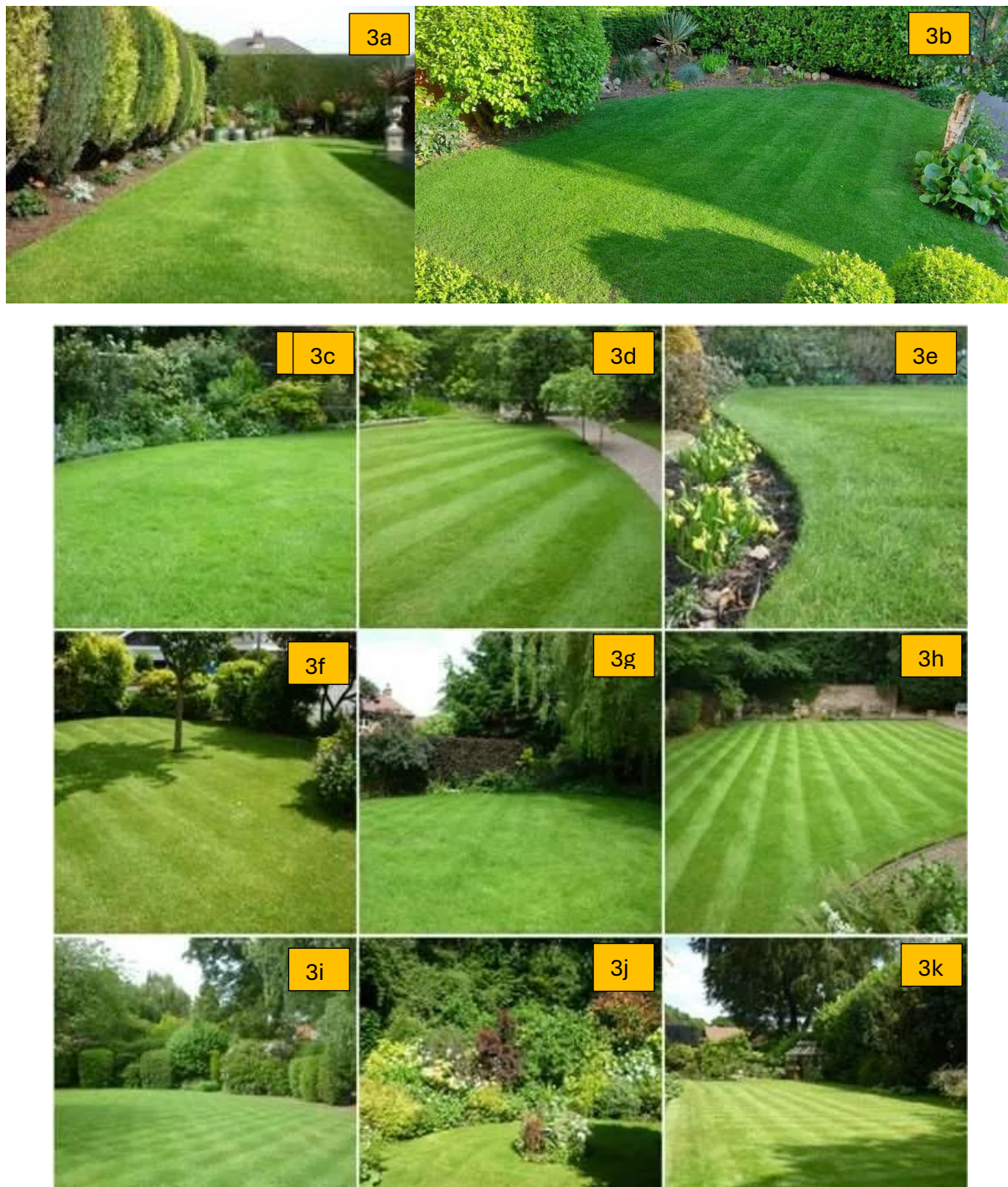

2.3 Given the types of lawns described in this question (i to v), explain what type of fertilizer should be applied to each of these types of lawns (i – v). Discuss how the fertilizer should be applied. 5 Marks


2.4 Explain when and how top dressing should be used on a lawn and why. What are the practices to be avoided and what should be encouraged when applying top dressing? 10 Marks


**Total Marks for Question 2: 30 Marks**

### QUESTION 3:

**Figure 3** shows several different lawn scenarios. Figure 3a presents a lawn area surrounded by tall hedges plants with a rough edges at the bottom. Figure 3b is a small enclosed lawn area, with rocks and other plants on the sides. Figure 3c shows a lawn with various bushes on the sides. Figure 3d is a lawn with a paved sidewalk along it. Figure 3e shows a rough lawn with well-trimmed edges on the side. In Figure 3f a small shrub occurs in the middle of the lawn. Figures 3h to 3k are all similar: they are lawns with medium to tall bushes on the sides.



**Figure 3: Different types of lawn situations**

3.1 Identify the different tools that must be used for any 5 of the given lawn conditions in **Figure 3**. Explain why these tools or equipment were chosen for the job. 5 Marks


3.2 A petrol lawn mower is a powered machine used for cutting grass, which relies on an internal combustion engine (typically a two-stroke or four-stroke engine) that runs on gasoline (petrol). It is designed for cutting larger areas of grass more quickly and efficiently than manual or electric mowers, especially where there's no access to an electrical outlet. The electric lawn mower is suitable for Small to Medium-sized Lawns and is Ideal for suburban gardens where the grass isn't excessively thick. A lawn trimmer is a handheld power tool with a rotating head that uses a monofilament line or small plastic/metal blades to cut grass and weeds. It is available in petrol, electric corded, and battery-powered versions.

Looking at the equipment in **Figure 4**, imagine that you have been asked to mow the grounds of the sports fields used for rugby and soccer in a local school. What are the typical hazards that you need to avoid while mowing the school's sports fields. What will you do to ensure that you avoid these hazards while mowing the fields? 5 Marks


3.3 **Figure 4** shows various types of motorized equipment used in gardening. Explain how each of the following motorized equipment works:



**Figure 4: Various types of motorized gardening equipment and tools**

**3.3.1 Petrol Lawn Mower**

**5 Marks**


**3.3.2 Electric Lawn Mower**

**5 Marks**



10 Marks

3.4 What are the hazards and risks of using the motorized lawn mowers or lawn care equipment shown in **Figure 2** (question 3.3)?

5 Marks


3.5 Given that the situation in Figure 3a shows the lawn area has rough edges which may have small stones, list all items to be used to prevent damage to your body during lawn mowing or grass-cutting. What could happen if you do not use the personal protective equipment correctly?


5 Marks

**Total Marks for Question 3: 30 Marks**

**TOTAL MARKS FOR PAPER 2: 90 MARKS**