



T003

08:30 – 11:30 AM

Names

Index number

TVET NATIONAL EXAMINATIONS, RTOF LEVEL 5, 2020-2021

QUESTIONS and ANSWERS BOOKLET

OPTION/TRADE: CROP PRODUCTION

SUBJECT: Soil Conservation

ACADEMIC YEAR: 2020-2021

Read carefully the instructions on page (i) 8; (ii)

FOR EXAMINER'S USE ONLY

[illegible]



TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).
2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.
3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.
4. A candidate should answer in the language in which the examination is set. (See page **(ii)**)
5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.
6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.
7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.
8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).
9. Use the last non-lined pages as draft.
10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

OPTION/TRADE: CROP PRODUCTION

SUBJECT: Soil Conservation

DURATION: 3 hours

INSTRUCTIONS TO CANDIDATES: PART II (Question paper)

The paper is composed of two (2) main Sections as follows:

Section I: Attempt all the Twelve (12) questions (60 marks)

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

Allowed materials:

- Ruler and square
- Calculator

Note:

Every candidate is required to carefully comply with the provided assessment instructions.

01. Define the following terms:

a) Contour line. **(2 marks)**

b) Index contour. **(2 marks)**

c) Datum. **(1 mark)**

02. DUTERANINKUNGA Cooperative needs to measure distances: the length and width of its field.

a) What are the possible elementary surveying tools to use? **(2 marks)**

b) Determine the number of persons required and precise the position to be taken during operation. **(3 marks)**

03. Fertilization is the most important action for soil replenishment where this one involves the use of organic and inorganic fertilizers.

a) What are the three (3) sources of organic fertilizers?

b) The following agriculture practices are mainly done for increasing crop production. Which one of them, the application of urea is recommended?

i. Land preparation

ii. Sowing or transplanting

iii. Weeding.

(5 marks)

04. Organic and inorganic fertilizers are used by the majority of the farmers for the fertilization purpose in order to get more income from agriculture activities.

a) What is the difference between organic and inorganic fertilizers?

b) In terms of their composition, inorganic fertilizers are divided into straight and compound fertilizers; explain the difference between the two terms.

(5 marks)

05. Match the following types of erosion with most common agent using an arrow: **(5 marks)**

Types of erosion	Agent of erosion
1.Saltation	a. Human activities
2.Sheet	b. Rain drops
3.Rill	c. Moving water
4.Gully	d. Wind
5.Splash	

06. Soil erosion refers to the detachment and transportation of soil and soil materials from the place of origin and it is deposited to another place.

a) Give the two (2) types of soil erosion.

b) List out the four (4) human activities which cause the soil erosion.

(5 marks)

07. How can you know if a given organic fertilizer is ready for use?

(5 marks)

08. a) State any three (3) characteristics of fertile soil.

(3 marks)

b) Complete the following sentences.

(2 marks)

Nutrient deficiencies cause symptoms such as or browning, sometimes in distinctive patterns. This may be accompanied by and poor flowering and fruiting.

09. Fill in the missing information for the following table.

(5 marks)

Crop	Fertilizers	Kg/are	Application time	Application methods
Rice	DAP + Urea			
Beans	NPK			
Tomatoes				

10. Crop rotation and permanent cover crops effectively protect the soil from the impact of raindrops. The thick, fibrous root systems associated with cover crops also bind the soil particles together. Give the four (4) advices (factors or parameters) to consider while applying the crop rotation.

(5 marks)

11. The biological (cultural) soil erosion control measures, as well as mechanical soil erosion control measures, must be maintained in order to achieve their sustainability.
- a) List out the three (3) practices applied to maintain the biological soil erosion control measures.
- b) Give four (4) practices conducted to maintain mechanical soil erosion control measures. **(5 marks)**
12. After digging the ditches, they must be protected from damages, give the main causes of deterioration of ditches. **(5 marks)**

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

13. a) Discuss the following terms: **(5 marks)**
- i) Soil Erosion
- ii) A terrace
- b) During the construction of terraces and ditches, different tools and equipment are needed. Give the types of tools and equipment used in terraces creation. **(5 marks)**
14. SENYONI predicts to grow beans in season B 2020 in his field of 110mx60m. Calculate the amount of Urea (46%), Single super phosphate (16%) and Muriate of potash (60%) that will satisfy the crop needs, knowing that nutrient recommendations to this crop are 120 kg of N/ha, 50kg of P_2O_5 /ha and 35kg of K_2O /ha. **(10 marks)**
15. Wind erosion occurs in dry season when loose and sand soil is blown away by the action of fast-moving wind or air. Give and explain the three (3) different forms of wind erosion? **(10 marks)**
16. Water erosion is the breakdown of soil into smaller particles and its removal by water. List out and explain the five (5) forms of water erosion. **(10 marks)**

17. A) The distance on the ground and the vertical intervals between pegs are given in the table below:

Horizontal distance between pegs(m)	1.75	1.80	2.2	2.00	1.80	2.20
Vertical interval between pegs(cm)	30	35	55	50	46	52

- a) Determine the slope in percentage. **(3 marks)**
- b) Determine the angle on the horizontal distance. **(2 marks)**

B) A plot of land acquired for a drying yard site measures

25cmX20cm on village map drawn on a scale of 1cm=100m. What is its area in hectares?

What would be its area in mm² on a toposheet of 1: 50,000 scale.

(5 marks)

18. The data above were taken using the N-frame

Between pegs	Back readings(m)	Front readings(m)
A and C	0.75	1.25
C and D	0.52	1.48
D and B	1.23	0.77
E and B	0.41	1.59

- a) Determine the difference in elevation between A and B. **(5 marks)**
- b) Conclude about the position between A and B. **(2 marks)**
- c) How can you adjust N-Frame before using it to ensure that the data taken are accurate? **(3 marks)**

