



FNU FIJIANATIONAL UNIVERSITY

COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY

School of Agricultural Sciences and Forestry

Department of Crop Production

Trade Diploma in Agriculture – Year 1

AGO 411: Introductory Crop Production and Agro-Meteorology

Semester 1, 2018 Final Examination

[Total Marks: 100]

Time Allowed : 3 hours plus 10 minutes reading time

Instructions : This paper consists of 8 pages.

Please check to see that your paper is complete.

Answer ALL questions in the answer booklet. Number your answers correctly in the answer booklet.

Write your student ID number on all the pages that you use including any additional sheet of paper.

Printed or written material is not allowed into the examination hall.

Mark values appear at the end of each question or part thereof.

Non-programmable calculators are permitted.

“MOBILE PHONES ARE STRICTLY NOT ALLOWED”

SECTION	DESCRIPTION AND MARK ALLOCATION
SECTION A	Part 1 - Multiple Choice Questions – 10 Marks
	Part 2 – Matching – 10 Marks
	Part 3 – True or False – 15 Marks
	Part 4 – Fill in the Blanks – 15 Marks
SECTION B	Short Answer Questions – 20 Marks
SECTION C	Long Answer Questions – 30 Marks

Write the most appropriate answer of your choice in the answer booklet

1. The objective of tillage is to _____.
 - A. make the soil loose & porous
 - B. aerate the soil
 - C. control weeds
 - D. all of the above

2. Which one is the distinct phases of optimum plant stand?
 - A. Seed bed preparation and germination
 - B. Germination & seed bed preparation
 - C. Seed bed preparation, germination and emergence seedling establishment
 - D. None of the above

3. Which one of the agricultural research station is located at Vanua Levu?
 - A. Koronivia research station
 - B. Naduruloulou research station
 - C. Sigatoka research station
 - D. Wainiqata research station

4. What are the factors affecting seed germination?
 - A. Moisture and temperature
 - B. Temperature and oxygen
 - C. Oxygen, moisture and temperature
 - D. None of the above

5. The physical processes in the atmosphere that produce weather is known as _____.
 - A. zoology
 - B. meteorology
 - C. weathering
 - D. climate

6. Which country is the largest potato producer in the world?
- A. China
 - B. India
 - C. Fiji
 - D. Iraq
7. Which of the following tests is conducted to determine the quality of seed?
- A. Purity test and moisture test
 - B. Seed viability test
 - C. Purity test, seed viability test and moisture test
 - D. None of the above
8. What percentage of incoming solar radiation is absorbed by the land and oceans?
- A. 6%
 - B. 16%
 - C. 23%
 - D. 51%
9. A very strong wind is known as _____.
- A. windward
 - B. pressure
 - C. force
 - D. gale
10. Stress conditions occurring during the stand establishment process can result in _____.
- A. reduced vigor and reduced yield
 - B. reduced yield and delayed maturity
 - C. reduced vigor, reduced yield and delayed maturity
 - D. none of the above

PART 2

MATCHING

[10 Marks]

Match List A with the corresponding correct answer from List B and write the answer in the answer booklet provided.

#	Section A		Section B
1	Sea breeze	A	It is the loss of water from the plants.
2	Hail	B	When the cooler air moves over the water across the coast line from sea to land.
3	Prevailing wind	C	The average weather condition of a place taken over a long period of time is termed as _____.
4	Climate	D	Plants which grows in deserts and has adaptations to conserve water.
5	Transpiration	E	A violent thunderstorm.
6	Sun scald	F	The injury caused because of short period fluctuation (within a day highest in noon and lowest at early morning) in air temperature known as _____.
7	Force per unit area	G	Pressure.
8	Xerophyte	H	The dampness (wetness) of air is called _____.
9	Humidity	I	The wind which flows more frequently from one direction than any other is called as "_____".
10	Evaporation	J	A physical process in which liquid water is converted into its vapour.

PART 3

TRUE OR FALSE

[15 Marks]

In the Answer booklet provided write "TRUE or FALSE". If the statement is correct write "True" and "False" if the statement is incorrect.

Sl.no.	Statements	T or F
1	Soil analysis should be done before any application of fertilizer.	
2	Scarification is one method to break the dormancy.	
3	A person who studies the nature of climates local, regional or global is known as a botanist.	
4	Rainfall is also known as precipitation.	
5	Most transpiration occurs from the stems and branches.	
6	Weed is a plant growing where it is not wanted, unwanted plant, out of place, extremely noxious, useless, and poisonous.	
7	Weather is highly variable.	
8	Temperature changes with altitude.	
9	The lighter and finer operation carried out in tillage is known as secondary tillage.	
10	The process by which the dormant embryo wakes up & begins to grow is known as germination.	
11	The failure of mature viable seed to germinate under favorable condition of moisture is known as dormancy.	
12	Urea is an example of a straight fertilizer.	
13	Albedo is when light is reflected back to the outer space.	
14	Seed treatment is the application of chemicals or protectants (with fungicidal, insecticidal, bactericidal or nematocidal properties) to seeds that prevent the carriage of insect or pathogens in or on the seeds.	
15	Climacteric fruits are those that have the ability to continue to ripen even after they are detached from the parent plant.	

PART 4

FILL IN THE BLANKS

[15 Marks]

Fill in the blanks to complete the following statements. Choose the correct answer from the text box provided at the bottom to fill in the answers to the question.

1. A person who transmit information from researchers to people and relays the people's problems to the researchers is known as _____.
2. Mechanical manipulation of the soil at high moisture regime which reduces deep percolation losses is termed as _____.
3. Agriculture is the science, art, and _____ of cultivating soil, producing crops, and raising livestock.
4. _____ is the practice of using nutrients wisely for optimum economic benefit, while minimizing impact on the environment.
5. _____ is a fertilized ovule consisting of intact embryo, stored food (endosperm) and seed coat which is viable & has got the capacity to germinate.
6. _____ preparation is the initial step taken during production of crops.
7. _____ is the removal of grains from the panicles.
8. There are _____ essential nutrients required for plant growth.
9. Most plants are influenced by relative length of the day & night, especially for floral initiation, the effect on plant is known as _____.
10. Artificial application of fertilizers (esp. Nitrogenous fertilizers) that are water soluble and can be sprayed over the crops or pastures is known as _____.
11. _____ crops grows in one year and flowers, fructifies & perishes the next year, e.g. banana and papaya.
12. _____ increases the greenhouse effect of the earth surface and affects crop and livestock production.
13. _____ are those chemicals which kill all kinds of vegetation that they come in contact with that is, weed and crop plant.
14. _____ is the agricultural preparation of soil by mechanical agitation of various types, such as digging, stirring, and overturning.
15. The unit for measurement of wind speed is _____.

Knots, Tillage, Contact weedicides, Extension officer, Puddling, Business, Nutrient Management, Seed, Seed bed, Threshing, 17, Photoperiod, Foliar application, annual, CO ₂ .

SECTION B**SHORT ANSWER QUESTIONS****[20 Marks]**

All are compulsory

1. Differentiate between hypogeal and epigeal germination. (2 Marks)
2. Appraise how the clouds are formed in the atmosphere. (1 Marks)
3. Analyse and discuss puddling and one of its objective. (1 Marks)
4. Analyse and discuss three environmental factors affecting the rate of transpiration. (2 Marks)
5. Differentiate between 2 types of threshing. (2 Marks)
6. Convey the visible maturity indices of rice. (2 Marks)
7. Differentiate between climateric and non-climateric fruits with example. (2 Marks)
8. Illustrate 5 different methods of sowing seed. (2 Marks)
9. Appraise three characteristics of a good seed. (3 Mark)
10. Analyse and discuss at least 3 functions of light on the earth's surface. (3 Mark)

SECTION C

LONG ANSWER QUESTIONS

[30 Marks]

This section consists of 6 long answer questions. Answer any THREE questions.

1. Differentiate between cyclones and anti-cyclones with a suitable diagram. (10 Marks)
2. Distinguish how does low temperature causes injury to crop plants. (10 Marks)
3. Appraise agriculture, how it began and the importance of agriculture to the people and the country? (10 Marks)
3. Analyse and discuss the term tillage and tith, what is the importance of tillage, and with the help of diagram illustrate 3 types of tillage implements and its function. (10 Marks)
4. Contrast between weed and weed management, what are the major characteristics of weeds, losses, uses of weeds, and methods of weed control. (10 Marks)
5. Contrast between meteorology, climatology and agricultural meteorology and criticize how agro-meteorology can affect the production and yield of agriculture. (10 Marks)
6. Analyse and discuss at least 5 differences between manure and fertilizer, categorize the different types of soil nutrients with examples, and the function of N.P.K in plants. (10 Marks)

The End