



FIJI NATIONAL UNIVERSITY
College of Agriculture, Fisheries & Forestry
School of Agriculture & Forestry
Department of Crop Production
Bachelor of Science in Agriculture- Year III
Trimester III- Final Examination – 2017

GPB 701: PRINCIPLES OF SEED TECHNOLOGY

Time Allowed: 3.00 hours (including reading time)

Total Marks: 100

INSTRUCTIONS:

1. This paper consists of four pages including one page of answer sheet.
2. Please check to see that all your paper is complete.
3. Answer all the Objective Type Questions on the Answer Sheet and the Descriptive Type Question in the Answer Booklet only.
4. No written or printed material and mobile phones are allowed in the examination hall.
5. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Two Parts. First part contains Objective Type Questions which has three sections – A, B and C. All questions of this part are compulsory. Second part is Descriptive Type which has three sections D, E and F.

I. OBJECTIVE TYPE QUESTIONS (40 marks)

To be answered only on the “Answer Sheet” provided.

Section A	Apply the best answer	(10 Marks)
Section B	Fill in the blanks	(10 Marks)
Section C	State true or false	(10 Marks)
Section D	Terminology	(10 Marks)

II. DESCRIPTIVE TYPE QUESTIONS (60 marks)

To be answered only on the “Answer Booklet” provided.

Section E	Definition	(10 Marks)
Section F	Short notes	(20 Marks)
Section G	Essay questions	(30 Marks)

I. Objective type questions**Total Marks: 40****Note: Please answer only on the Answer Sheet provided.****A. Apply the best answer****(5 × 2 = 10 Marks)**

- A1. The isolation distance in rice for certified seed production
(A) 50 m (B) 100 m
(C) 200 m (D) 400 m
- A2. Generally which test is conducted to determine the quality of seeds?
(A) Purity test (B) Germination/Viability test
(C) Moisture content test (D) All the above
- A3. The goal of generation system of seed multiplication is the production of:
(A) A particular class of seed (B) Using a specific seed source
(C) Seeds up to certified seed stage (D) All the above
- A4. The cleanliness of seed from other seeds, debris, inert matter, diseased seed and insect damaged seed is termed as:
(A) Morphological quality (B) Genetic quality
(C) Physiological quality (D) Physical quality
- A5. The nucleus seed can be produced by:
(A) By breeder who developed the variety (B) Seed technologist
(C) Seed testing agency (D) None of the above

B. Fill in the blanks**(5 × 2 = 10 Marks)**

- B1. _____ ensures standards, quality, and quantity.
- B2. The breeder seed should have _____ percentage genetic purity.
- B3. _____ is the optimum moisture content of castor during harvest.
- B4. Cytoplasmic male sterile lines can be utilized for the development of commercial _____.
- B5. _____ seed production requires two to many parents.

C. State True or False**(5 × 2 = 10 Marks)**

- C1. The certified seeds must be free of seed borne diseases.
- C2. Defective seeds can be classified as inert material.
- C3. Meristem is a region of plant tissue, actively dividing cells forming new tissue.
- C4. Human domestication has created major crop species that we consume nowadays unlike selective breeding.
- C5. Rice is a cross-pollinated crop.

D. Please provide the correct terminology**(5 × 2 = 10 Marks)**

- D1.** _____ is the sum of seed with required genetic and physical purity that is accompanied with physiological soundness and health status.
- D2.** _____ refers to any plant part, which is used for raising an identical plant.
- D3.** _____ is the splitting at maturity along a built-in line of weakness in a plant structure in order to release its contents.
- D4.** _____ farm is one of the organic methods to produce rice.
- D5.** _____ sterile systems are followed to produce commercially successful hybrids in many crops.

II. Descriptive type questions**Total Marks: 60****Note: Please answer only on the Answer Booklet provided.****E. Provide the definition for the following terms – Please answer any five****(5 × 2 = 10 Marks)**

- | | |
|----------------------------|----------------------------------|
| E1. Seed | E6. Flint corn |
| E2. Genetic purity | E7. Volunteer plants |
| E3. Nucleus seed | E8. Roughing |
| E4. Restorer line | E9. Genetic deterioration |
| E5. Physical purity | E10. Objectionable weed |

F. Analyze below descriptions and provide short answers – Answer any four**(4 × 5 = 20 Marks)**

- F1.** Various classes of seeds.
- F2.** Hybrid seeds and why this could be important?
- F3.** The characteristics of a quality seed.
- F4.** Maize and teosinte, the evolutionary adaptations.
- F5.** The factors causing genetic deterioration.
- F6.** What is a seed test?
- F7.** Selective breeding and why do we need it?
- F8.** Comparing pollination strategies, self- vs. open-pollination.

G. Based on the knowledge you learned this trimester, synthesize and write an essay on the following – Please answer any two**(2 × 15 = 30 Marks)**

- G1.** Why do we need seed certification?
- G2.** How can we solve the food and population issue when 2050 arrives?
- G3.** How can we establish a significant seed industry in Fiji, and how would this influence the agriculture in Fiji?

The End

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Date:

Marks obtained:

Name:

Student ID No.:

B.Sc. in Agriculture, Trimester III, Final Examination 2017**Unit Code/Title: GPB701: Principles of Seed Technology****Objective Type Questions - Answer Sheet****Total Marks: 40**

A.	A1.		
	A2.		
	A3.		
	A4.		
	A5.		
B.	B1		
	B2		
	B3		
	B4		
	B5		
C.	C1		
	C2		
	C3		
	C4		
	C5		
D	D1		
	D2		
	D3		
	D4		
	D5		

The End

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