

Fiji National University  
College of Agriculture, Fisheries and Forestry  
Final Examination: 2014  
Bachelor of Science in Agriculture – Year 3: Trimester I  
**PPA 601 - Plant Diseases and Their Management**

TOTAL MARKS: 50

TIME ALLOWED: 3:10 HOURS

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**INSTRUCTIONS:**

**Answer all questions in the answer booklet.**

- Number your answers correctly in the provided answer booklet.
- Write your student ID number on all pages including additional sheets.
- Write your student ID number on question paper.
- Don't write answers on question paper; write answers only in answer book let.

**“MOBILE PHONES ARE PROHIBITED IN THE EXAMINATION HALL”**

SECTION NO.	TYPE	TOTAL MARKS
I	MULTIPLE CHOICES	10
II	FILL IN THE BLANKS	10
III	SHORT ANSWER QUESTIONS	10
IV	MATCH THE FOLLOWING	5
V	DIFFERENTIATE	5
VI	LONG ANSWER QUESTIONS	10
<b>TOTAL MARKS</b>		<b>50</b>

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## Multiple Choices

Q I. Choose the correct answer from the following (0.5 marks each)

10 Marks

1. *Helminthosporium* belongs to
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes
2. *Puccinia* belongs to
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes
3. *Sclerospora* belongs to
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes
4. *Pythium* belongs to
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes
5. *Phytophthora* belongs to
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes
6. Spores germinate to form
  - a. Hyphae
  - b. Thallus
  - c. Mycelium
  - d. Germ tube
7. Green ear is the main symptoms caused by
  - a. *Phytophthora*
  - b. *Sclerospora*
  - c. *Pythium*
  - d. *Aspergillus*
8. Setae is present in
  - a. *Phytophthora*
  - b. *Sclerospora*
  - c. *Pythium*
  - d. *Colletotrichum*
9. Cleistothecium is present in
  - a. Oomycetes
  - b. Ascomycetes
  - c. Deuteromycetes
  - d. Basidiomycetes

10. Colocasia leaf blight is caused by
- a. *Phytophthora colocasiae*
  - b. *Sclerospora graminicola*
  - c. *Phytophthora infestans*
  - d. *Helminthosporium oryzae*
11. Brown spot disease in rice is caused by
- a. *Phytophthora colocasiae*
  - b. *Sclerospora graminicola*
  - c. *Phytophthora infestans*
  - d. *Helminthosporium oryzae*
12. Smut disease is caused by
- a. *Phytophthora*
  - b. *Sclerospora*
  - c. *Ustilago* sps.
  - d. *Colletotrichum*
13. Damping off disease is caused by
- a. *Phytophthora*
  - b. *Sclerospora*
  - c. *Pythium*
  - d. *Colletotrichum*
14. Deuteromycetes fungi also called
- a. Fungi perfecti
  - b. Both
  - c. fungi imperfecti
  - d. none
15. Bengal famine occurs in
- a. Rice
  - b. Sorghum
  - c. Wheat
  - d. Pearl millet
16. Setae is found in
- a. Acervulus
  - b. Zoospore
  - c. cleistothecium
  - d. ascospore
17. Rust fungi are
- a. Obligate
  - b. Saprophyte
  - c. endo parasite
  - d. none
18. Citrus canker is disease caused by
- a. Virus
  - b. Fungi
  - c. bacteria
  - d. none
19. Tobacco leaf curl disease caused by
- a. Virus
  - b. Fungi
  - c. bacteria
  - d. none
20. Green ear disease is caused
- a. *Phytophthora*
  - b. *Sclerospora*
  - c. *Ustilago* sps.
  - d. *Colletotrichum*

**Q. II Fill in the blanks: (0.5 marks each)**

**10 Marks**

1. Oomycetes group of fungi is sensitive to -----fungicide.
2. Leaf blotch of Turmeric is caused by -----
3. Taro leaf blight is caused by -----
4. Rust of wheat is caused by-----
5. Red rot of sugarcane is caused by -----
6. Abnormal appearance of the actual pathogen-----
7. Coffee rust reported first time from -----
8. Sigatoka leaf spot disease of -----was reported for the first time in Fiji.
9. Study of Plant disease is called-----
10. Rust disease of wheat requires the two host, -----host for their completion of their life cycle.
11. -----formed on the upperside of leaves of Barbery plants.
12. Red spot that occur on wheat leaves in rust disease it is called-----.
13. ----- are irregular reinform, biflagellate and swim about for some time before coming to rest.
14. The plants look like a grass in ----- disease caused in sugarcane which is caused by-----
15. *Taphrina maculans* is----- fungi, forming asci and ascospores in it.
16. The symptoms in smut of sugarcane is in the form of a long, black ----- structure at the apex of the stalk.
17. Basidium forming fungi comes under -----.
18. The thallus of fungi is composed of elongated, thin filaments known as -----.

19. Generally fungi possess hyaline mycelium but some contain ----- ie. *Alternaria, Curvularia* etc.

20. -----is the result of hypertrophied cell occurs in corn smut of Maize.

**Q III. Write few lines on any five among the following (2 marks each) 10 Marks**

- a. Hyperplasia
- b. Hypertrophy
- c. Mycelium
- d. Acervuli
- e. Cleistothecium
- f. Plant disease
- g. Rust disease

**Q IV. Match the following (0.5 marks each)**

**5 Marks**

1.	Rice	Green ear	<i>Phytophthora colocasiae</i>
2.	Wheat	Brown spot	<i>Sphacelotheca sorghi</i>
3.	Sorghum	Leaf blight	<i>Helminthosporium oryzae</i>
4.	Pearl millet	Ear cockle	<i>Taphrina maculans</i>
5.	Sugarcane	Covered smut	<i>Ustilago maydis</i>
6.	Taro	Red rot	Virus
7.	Turmeric	Soyabean cyst nematode	<i>Anguina tritici</i>
8.	Maize	Leaf curl	<i>Colletotrichum falcatum</i>
9.	Tobacco	Leaf blotch	<i>Heterodera glycines</i>
10.	Soyabean	Corn smut	<i>Sclerospora graminicola</i>

**Q V. Differentiate the following (Answer any two questions)**

**5 Marks**

- a. Pythium and Phytophthora
- b. Phytophthora and Sclerospora
- c. Pythium and Helminthosporium
- d. Rust and Smut
- e. Primary infection and Secondary infection
- f. Zoospore and Oospore

**Q VI. Describe economic importance, symptoms, causal organism, classification, disease cycle and integrated management of Leaf blight of Taro (Colocasia)**

**10 Marks**

Or

**Economic importance, symptoms, causal organism, classification, disease cycle and integrated management of Brown spot of Rice.**