



Agrotechnology Discipline
Khulna University, Khulna
MS in PLP 1st Year Term-II, Examination 2025
0811 08 PLP 5201: Plant Disease Management
Full Marks: 60, Time: 3 hours, Credit: 03

- The FIGURES in the right margin indicate full marks. The questions are of equal value.
- Use separate sheets for each section.
- There are **FOUR** questions in each section, answer any **THREE** questions from each.

Section A

1. (a) What is meant by induced systemic resistance (ISR) in plants? Explain with example. [L2;CLO2] 3.0
(b) Which fungal antagonist is commonly used for the control of soil-borne pathogens, and what are the selection criteria that determine its effectiveness as a biocontrol agent? [L2;CLO3] 4.0
(c) Explain the mode of action of *Trichoderma* as a microbial antagonist? [L2;CLO3] 3.0
2. (a) Define fungicide resistance and explain why does it occur? [L2;CLO3] 3.0
(b) A village community follows crop rotation and field sanitation as their primary disease control strategy. Analyze its impact on disease control and soil health. [L2;CLO1] 4.0
(c) "The inoculum of plant pathogens can be reduced through proper management of crop residues." Justify with relevant examples. [L4;CLO2] 3.0
3. (a) What is the role of import permit and phytosanitary certificate in plant quarantine? [L2;CLO2] 3.0
(b) Explain how plant quarantine and legislative measures help in preventing the introduction and spread of exotic plant pathogens in our agricultural field. [L3;CLO2] 4.0
(c) Discuss the principles of plant disease management and illustrate how these are applied in the context of major field crops? [L3;CLO1] 3.0
4. (a) A rice variety shows low incidence of blast disease even in favorable conditions. Discuss whether this is due to disease escape or genetic resistance, providing examples. [L3;CLO2] 3.0
(b) Given an outbreak of late blight in potato, describe with example how you would apply the principles of disease forecasting and chemical management. [L3;CLO2] 4.0
(c) Explain the major principles of plant disease management highlighting preventive and curative approaches. [L3;CLO1] 3.0

Section B

5. (a) Classify the chemicals used in plant disease control and describe their nature and kinds. [L2;CLO3] 3.0
(b) Explain the mechanism of action of fungicides, bactericides, and nematicides. [L4;CLO3] 4.5
(c) Evaluate the advantages and limitations of chemical control in disease management. [L5;CLO4] 2.5
6. (a) Discuss the present status of pesticide and bio-pesticide use in Bangladesh. [L3;CLO3] 3.0
(b) Explain the future prospects of integrating bio-control agents with chemical control methods. [L5;CLO3] 7.0
7. (a) Describe safe handling and storage procedures of antipathogenic chemicals. [L3;CLO3] 3.0
(b) Assess the environmental impacts of pesticides used in plant disease control. [L5;CLO4] 4.0
(c) Suggest measures for the safe disposal of toxic plant protection chemicals. [L6;CLO3] 3.0
8. (a) Discuss how induced resistance through chemicals can enhance plant disease management strategies. [L4;CLO4] 4.0
(b) Critically evaluate the concept of "Integrated Pest and Disease Management" for sustainable agriculture. [L6;CLO4] 4.0
(c) Copper oxychloride is used to manage bacterial blight in rice. Explain its protective mechanism and limitations. [L3;CLO6] 2.0

[L1-Remember, L2-Understand, L3-Apply, L4-Analyze, L5-Evaluate, L6-Create]