

G-3/358(A)/22

Roll No.

III Semester Examination, January 2022

M.Sc.

BOTANY

Paper IV

(Molecular Plant Pathology-I)

Time : 3 Hours]

[Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 Sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A

1×8=8

(Objective Type/Multiple Choice Questions)

Choose the correct answer :

1. Loose smut of barley is :
 - (a) Seed borne
 - (b) Externally seed borne
 - (c) Internally seed borne
 - (d) All of the above

P.T.O.

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2. Witches broom in different plants is caused by :
- (a) MLO (b) Virus
(c) Fungi (d) All of these
3. Which of the following is a facultative parasitic fungi ?
- (a) Pythium, phytophthora
(b) Fusarium
(c) Armillaria
(d) All of the above
4. Who did most of his work on rust disease in India ?
- (a) R.S. Singh (b) K.C. Mehta
(c) B.B. Mundakar (d) E.J. Butler
5. First plant parasitic nematode discovered was :
- (a) Meloidogyne (b) Heterodera
(c) Anguina (d) Globodera
6. Late blight of potato was caused by :
- (a) Alternaria Solani
(b) Xanthomonas compestris
(c) Phytophthora infestens
(d) Cercospora personata

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7. Enzymes required for pathogenesis are :
- (a) Cutinase (b) Cellulose
(c) Pectinase (d) All of these
8. Pathogenic bacteria are usually :
- (a) Gram positive (b) Gram negative
(c) Neutral (d) All of these

SECTION B

4×6=24

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.

Unit-I

1. Define the following terms :
- (a) Inoculum
(b) Pathogenesis
(c) Pathogenesis
(d) Epidemic and pandemic diseases
(e) Incubation period
(f) Virion and viroids
(g) Disease cycle
(h) Obligate parasite

Or

Write short note on general characteristics of viruses.

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P.T.O.

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Unit-II

2. Write short note on Koch postulates.

Or

Write short note on PDA media.

Unit-III

3. Write short note on rhizosphere and phyllosphere studies.

Or

Write short note on dissemination of plant pathogens.

Unit-IV

4. Write short note on predisposing factors.

Or

Give a brief account of role of toxins in pathogenesis.

SECTION C

4×12=48

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.

Unit-I

1. What do you mean by a disease ? Give a detailed classification of plant diseases.

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Or

Give a general account of Mycoplasma.

Unit-II

2. Write an essay on culture technique of studying plant diseases.

Or

Describe various methods used in the study of bacteria.

Unit-III

3. What is Pathogenesis ? Describe the path of infection in plants by pathogens.

Or

Describe the dissemination of plant pathogens.

Unit-IV

4. Describe the role of enzyme in pathogenesis.

Or

What do you mean by physiological specialization ? Explain it with special reference to Rusts.

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