QL-5752

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M. Sc. (Sem. III) Examination, December-2023

BOTANY

ELECTIVE PAPER - XIV

(A) Advanced Plant Pathology-I

Time Allowed : **Three Hours**

Maximum Marks : **70**
Min. Marks : **28**

Note : *This question paper is divided into three sections as under :*

Section-A

Max. Marks - 10

Will carry 10 marks with 01 compulsory question comprising 10 short answer type questions (maximum 20 words answer) taking two questions from each unit. Each question shall be of one mark.

Section-B

Max. Marks-25

Will carry 25 marks with equally divided into five long answer type questions (answer about in 250 words). Students are instructed to attempt five questions by selecting one question from each unit.

Section-C

Max. Marks-35

Will carry 35 marks with five long answer type questions comprising one compulsory question (question no. 07) of 15 marks and four questions of 10 marks each. Students are instructed to attempt total three questions with one compulsory question (answer about in 500 words) and any two more questions (answer about in 400 words) out of ramaining four questions.

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SECTION - A

1 (i) Define Pathogenecity.
(ii) Name father of plant pathology.
(iii) Write meaning of word pathogen.
(iv) Write causal organism of smut of bajra.
(v) Causal organism of smut of jowar.
(vi) Define rust.
(vii) What is inoculation?
(viii) What is local acquired immunity?
(ix) Write stages of disease development.
(x) What is the development of disease called?

SECTION - B

UNIT - I

2 Write a note on response of the host.

OR

Write short notes on :
(1) Post Infection development
(2) Penetration

UNIT - II

3 Illustrate the technique of tissue culture and its applications in plant pathology.

OR

Short notes :
(1) Raising virus free plants in culture.
(2) Breeding of resistant varieties.

$$2\frac{1}{2}+2\frac{1}{2}=5$$

UNIT - III

4 Write a detailed note on various diseases :
(1) Blight of maize
(2) Smut of Jowar

OR

(1) Flag smut of wheat
(2) Greenear disease of Bajra.

UNIT - IV

5 Write symptom and causal organism of any two of the following :
(1) Blight of gram
(2) Red rot of sugarcane

OR

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Describe causal organism, symptoms and control of early blight of tomato and potato.

UNIT - V

6 Write short notes on :

(1) Role of salicyclic acid in plant disease development.

(2) Acquired immunity

$2\frac{1}{2}+2\frac{1}{2}=5$

OR

Explain the transmission of the alarm signal to host defense producers.

5

SECTION - C

7 What are the 4 methods of controlling plant disease. Write note on physical control and chemical control.

15

8 Disease caused by basidiomycetes covered smut of barley.

Smut of pearl millet (bajra) - Explain in detail causal organism, symptom and its control.

5×2=10

9 What is causal organism of flax rust disease symptoms and control of disease.

10

10 Write a note on plant disease development. Explain its stages and draw a flow chart.

10

11 Disease caused by Deuteronycetes

Stripe disease of barley explain its causal organism, symptoms and its control.

10

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