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**M.Sc. (Fourth Semester)  
EXAMINATION, May-June, 2022**

**BOTANY**

**Paper Fourth**

**(Elective-II)**

**(Molecular Plant Pathology)**

*Time : Three Hours]*

*[Maximum Marks:80*

**Note : Attempt all sections as directed.**

**SECTION-A**

**(Objective/Multiple Choice Questions)**

**Note : Attempt all questions**

**Choose the correct answer :**

1. Bacterial blight of cotton is caused by-
  - (A) *Bacillus subtilis*
  - (B) *Pseudomonas citri*
  - (C) *Xanthomonas Malvacearum*
  - (D) *Streptomyces venezuellae*

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2. The incitant of wilt of Pigeonpea is -
  - (A) *Fusarium Oxysporum* var. *udum*
  - (B) *Pyricularia Oryzae*
  - (C) *Meloidogyne jowonicum*
  - (D) *Meloidogyne indica*
3. The branch which deals with the study of causal organism is called-
  - (A) Pathology
  - (B) parasitology
  - (C) aetiology
  - (D) Virology
4. The red rust of tea is caused by -
  - (A) fungal pathogen
  - (B) algal pathogen
  - (C) bacterial pathogen
  - (D) viral pathogen
5. Which one is the systemic fungicide-
  - (A) Metalaxyl
  - (B) Triazdes
  - (C) Pyrimidines
  - (D) All of the above

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6. The downy mildew disease was first discovered by-
- (A) Morris
  - (B) E.J. Butler
  - (C) Mundkur
  - (D) K.C. Mehta
7. Puckering, vein clearing & blistering symptoms are produced by-
- (A) Bacteria
  - (B) Fungi
  - (C) viruses
  - (D) Mycoplasma
8. Race specific resistance is caused by-
- (A) Horizontal resistance
  - (B) Vertical resistance
  - (C) Both (A) & (B)
  - (D) None the above
9. The incitant of charcoal rot is-
- (A) Rhizoctonia
  - (B) Macrophomina
  - (C) Erwinia
  - (D) Claviceps

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10. For recurrence of rust, Cereal host is infected by-
- (A) Uredospores
  - (B) Teleutospores
  - (C) Pycniospores
  - (D) Aecidiospores
11. The condition where the host is infected with a pathogen but does not show any symptoms, termed as-
- (A) Perpetuating infection
  - (B) Imperfect Infection
  - (C) Latent infection
  - (D) None the above
12. The capacity of a pathogen to cause disease is termed as-
- (A) Infection
  - (B) Virulence
  - (C) Pathogenesis
  - (D) Pathogenesis
13. A set of varying symptoms characterising a disease, are collectively called-
- (A) Complex symptoms
  - (B) Syndrome
  - (C) Pathogenic marks
  - (D) None the above

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14. The control of plant disease by eliminating the pathogen after it is established or by eliminating all the plants that carry the pathogen if it is established is referred as-
- (A) Surface sterilization
  - (B) Systemic sterilization
  - (C) Eradication
  - (D) Exclusion
15. The symptoms where floral parts are converted into leafy structure is marked by -
- (A) Hypertrophy
  - (B) Hyperplasia
  - (C) Phylloidy
  - (D) Wart
16. The time lapsing between inoculation and appearance of symptoms is known as -
- (A) Incubation period
  - (B) Primary Pathogenesis
  - (C) Secondary Pathogenesis
  - (D) Quarantine Period.
17. Himgiri, a variety of wheat is resistant to-
- (A) Mosaic disease
  - (B) Bacterial blight
  - (C) White rust
  - (D) Leaf and stripe rust

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18. Pusa Swarnim a variety of mustard is resistant to -
- (A) Albugo
  - (B) Puccinia
  - (C) Ustilago
  - (D) Uromyces
19. An sugarcane, Colletotrichum falcatum causes-
- (A) Red rot disease
  - (B) Leaf spot disease
  - (C) Fruit rot disease
  - (D) Mosaic disease
20. Bean rust is caused by-
- (A) Puccinia graminis
  - (B) Uromyces appendiculatus
  - (C) Melampsora line
  - (D) Puccinia butteri

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### SECTION-B

(Very Short Answer Type Questions)

(2 marks each)

**Note : Attempt all questions**

**Match the following-**

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1. Sandal spike                 | (i) Fungicide                   |
| 2. Blast of Rice                | (ii) Mycoplasma                 |
| 3. Heteroecious rust            | (iii) <u>Pyricularia oryzae</u> |
| 4. Burgandy mixture             | (iv) Prions                     |
| 5. Crown gall                   | (v) Puccinia graminis tritici   |
| 6. Mad cow disease              | (vi) Agrobacterium tumefaciens  |
| 7. Potato spindle Tuber disease | (vii) Viroid                    |
| 8. Naked infective RNA          | (viii) Virusoid                 |

### SECTION-C

(Short Answer Type Questions)

(3 marks each)

**Note : Attempt all questions and describe briefly.**

1. General Characters of plant Nematodes.
2. pathogens of Tikka disease of groundnut.
3. Symptoms of early blight of Potato
4. Prophylaxis
5. Wart disease

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### SECTION-D

(Long Answer Type Questions)

(5 marks each)

**Note- Attempt any four questions-**

1. Describe the general principles used for the plant disease management.
2. What is epidemiology? Describe various forms of epidemiology.
3. What do you mean by resistance. Write an explanatory description on biochemical resistance and role of breeding for disease resistance.
4. Write short notes on the following-  
(A) Phytoalexins  
(B) Hyper sensitive Reactions.
5. Differentiate various types of rust disease of wheat, caused by Puccinia. Describe symptoms aetiology, disease cycle, and control measures of Black rust of wheat.
6. Explain different symptoms of blight, wiltdews, wilt, rot and damping off disease caused by fungi
7. Describe symptoms and control measures of two mycoplasmal disease.
8. Describe symptoms, aetiology of any two viral disease of plants.

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