

This question paper contains 2 printed pages]

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S. No. of Question Paper : 5743

Unique Paper Code : 2533012005

Name of the Paper : Plant Pathogen Interactions

Name of the Course : Microbiology

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any five questions.

All questions carry equal marks.

1. (a) Give the contributions of the following scientists (any four) : 4×2=8

(i) Anton DeBary

(ii) Millardet

(iii) B.B. Mundkur

(iv) E. Smith

(v) E.C. Stakman.

(b) Discuss the role of auxin in the development of plant disease. 4

P.T.O.

2. (a) How do pathogens affect photosynthesis or translocation of water and nutrients in host plants ? 5
- (b) What are R and avr genes ? Explain with the help of examples. 4
- (c) Give symptoms and control measures of disease caused by Tobacco Mosaic Virus. 3
3. (a) Write a note on virulence factors in viruses. 6
- (b) Expand HR and discuss its relevance in defending plants against pathogens. 6
4. (a) Describe the following symptoms giving a suitable example (any *three*) :
- (i) Blight
- (ii) Wilt
- (iii) Rust
- (iv) Chlorosis. 3×2=6
- (b) How cork layer and tyloses help in defence mechanism in plants ? 6
5. (a) What role do cellulases produced by the pathogens play in the disease development ? 4
- (b) Differentiate between disease escape and disease tolerance. 4
- (c) What are the host specific toxins ? Give any *one* example. 4
6. (a) How are disease resistant transgenic plants produced by using "pathogen derived genes" ? 4
- (b) Mention the causative organism, symptoms and control measures of Crown Gall disease. 1+2+2
- (c) Briefly describe PR proteins. 3