

M. Sc. (Final) Examination, 2001

BOTANY

Paper-IV (D)

(Advanced Plant Pathology)

Time- Three Hours
Maximum Marks-100

Attempt **FIVE** questions in all,
selecting at least **TWO** questions from each Section.
All questions carry equal marks.

SECTION A

1. Write about contributions of following in the development of plant pathology:-
(A) B. B. Mundkur
(B) R. S. Singh
(C) N. Prasad
(D) Y.L. Nene. **5+5+5+5**
2. Write detailed notes on the following:-
(A) Defense mechanism in plants against invasion of pathogens
(B) Physiological specialization in parasitic fungi. **10+10**
3. Write detailed account of methods of sterilization, different culture media for culture of fungi with special reference to their physico-chemical requirements. **20**
4. Write notes on the following:-
(A) Culture of biotrophic fungi.
(B) Meristem tip culture. **10+10**
5. Write an essay on the host-parasite interaction with special reference to physiological and biochemical changes taking place during pathogenesis. **20**

SECTION B

6. Give a general account of morphology, internal structure and outline classification of phytophagous nematodes. Describe any two important phytophagous nematodes studied by you. **20**
7. Write about history of discovery, structure and classification of phytoplasma with special reference to their role in diseases in plants. **20**
8. Write brief account of the following diseases describing causal agent, etiology and control measure for each of them:-
(A) Ear-Cockle of Wheat
(B) Green-ear disease of Bajra
(C) Tobacco mosaic disease
(D) Red-rot of Sugarcane. **5+5+5+5**
9. Write brief notes on the following:-
(A) Angular leaf spot of Cotton
(B) Grain Smut of Sorghum
(C) Powdery Mildew of Pea
(D) Grassy shoot of Sugarcane. **5+5+5+5**
10. Write short account on the following:-
(A) Molecular signalling and host-parasitism
(B) Enzymes and Pathogenesis. **10+10**