This question paper contains **3** printed pages]

Roll No. | | | | | | | | | | | |

S. No. of Question Paper : **990**

Unique Paper Code : **253501** **G**

Name of the Paper : **Plant Pathology (MIHT-508)**

Name of the Course : **B.Sc. (Hons.) Microbiology**

Semester : **V**

Duration : **3 Hours** Maximum Marks : **75**

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

Attempt any *Five* questions.

All questions carry equal marks.

All parts of a question should be attempted together.

1. (*a*) Write complete scientific names of the causative agents of the following diseases : 6×2=12

   (*i*) Aster Yellows

   (*ii*) Banana bunchy top

   (*iii*) Angular leafspot of Cotton

   (*iv*) Wilt of tomato

   (*v*) Late blight of potato

   (*vi*) Ergot of Rye.

   (*b*) Describe the role of crop rotation practice in plant disease control. 3

P.T.O.

2. Differentiate between the following (any *five*) : 5×3=15

(*i*) Wilts and Blights

(*ii*) Powdery and Downy mildews

(*iii*) Monocyclic and Polycyclic pathogens

(*iv*) Endemic and Pandemic

(*v*) Host specific and Non-host toxin

(*vi*) Horizontal and Vertical resistance

(*vii*) Protectant and Eradicant fungicides.

3. (*a*) Name the causative agent of the following diseases. Write any *three* methods of control of each one of them (any *three*) : 3×4=12

(*i*) Loose smut of wheat

(*ii*) Red rot of sugarcane

(*iii*) Papaya ring spot

(*iv*) Potato spindle tuber.

(*b*) What are phytoalexins ? Comment on their role. 3

4. (*a*) Expand the following abbreviations. Add a note on their significance (any *four*) : 4×3=12

(*i*) SAR

(*ii*) avr protein

(*iii*) HV toxin

(*iv*) HR Response

(*v*) IAA.

(*b*) What are crown galls ? How are they biologically controlled ? 3

5. (*a*) Describe the induced structural defence mechanisms in plants. 9

Or

Giving suitable examples explain how genetic engineering has been useful in developing disease resistant plants ?

(*b*) Write any *one* important contribution of the following scientists (any *three*) : 3×2=6

(*i*) De Bary

(*ii*) H.H. Flor

(*iii*) J.E. Vanderplank

(*iv*) P. Millardet.

6. (*a*) Describe the methods used in disease forecasting. 6

(*b*) Elucidate the life cycle of the causative agent of black stem rust of wheat. Which factors are responsible for the recurrence of wheat rusts in Indian plains ? 4+2=6

(*c*) Define the following terms (any *three*) : 3×1=3

(*i*) Primary inoculum

(*ii*) Bunt

(*iii*) Chlorosis

(*iv*) Dieback.