NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Science
Program/s: MSc
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2022

Course Code: LS203 **Course Name:** **Plant Pathology**
Date: 07/12/2022
Time: 11:30 am to 1:30 pm

Total Marks: 40
Total Pages: 3

Instructions:

- ➔ *Write each answer on a new page*
- ➔ *Draw neat and well-labelled diagrams wherever required*
- ➔ ** COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q. No.	Details	Marks	COs*	BTL #
Q.1	**Q1 A. Choose the correct option (7Marks)** 1. _____ is a disease in which the largest family affected is Asteraceae, including asters, marigold, coreopsis and coneflower. b. Aster yellows b. stunt disease c. mosaic disease d. root rot 2. _____ is a wild toxin of the tomato wilt pathogen b. Lycomarasmin b. Lycopene c. Lycotoxin d. Lysotoxin 3. *Pseudomonas syringae* produces _____ b. Pathotoxin b. Vivotoxin c. Phytotoxin d. Tabtoxin 4. Which of the following is a correctly matched function of the given enzyme? **(2M)**	14	CO1, 2,3,4	B T1 ,2

A	Tobacco ringspot disease	1	Hydrolyze methyl ester group of pectinic acid
B	Pectinesterases	2	Root knot nematode
C	Meloidogyne	3	Bud blight disease
D	Lignolytic anzymes-	4	Convert hemicelluloses to pentoses and uronides

5. _____ is the causal agent of the Dutch elm disease
   c. *Ophiostoma novo-ulmi* c. *Rhizoctonia solani*
   d. *Heterodera Species* d. *Mycoplasma*
6. _____ is a disease of the stone fruits which is caused by spiroplasma
   c. Sugarcane grassy shoot disease c. Peanut stunt disease
   d. Western X disease d. Barley yellow dwarf

	Q1 B. Fill in the blanks (7 Marks) 1. Innate immunity in plants is also known as _____resistance 2. Pathogens which are biotrophic during the early stages of infection but become necrotrophic during the latter stages of disease are called _____ 3. _____ catalyses hydrolysis of ester bonds occurring between free hydroxyl and carboxyl groups of cutin bonds 4. Club root of cabbage is caused by _____ 5. In the _____ disease, pear trees collapse suddenly, as shoots die and leaves roll, turn red and fall 6. _____ is a method of disease control which prevents the introduction of a pathogen into a region, farm, or planting 7. _____ is a process in which stress is applied to a soil causes densification as air is displaced from the pores between the soil grains			
Q.2	**Answer the following in one or two sentences (5 questions X 2 Marks=10 Marks)** 1.Can you predict the occurrence of a disease prior to its occurrence? 2.What is the disease triangle? 3. What are the roles of cutin esterase and carboxycutin peroxidase in plant defense? 4. How are reactive oxygen species generated? 5. Why is crop rotation done?	**10**	CO1, 2,3,4	B T1 ,2
Q.3	**Answer the following in detail (4 questions X 3 marks=12 Marks)** 1.What are the pathways to SAR? 2.What is the role of cork layer and tyloses in plant defense? 3. A plant defends itself by means of hairy outgrowth which is found in the epidermis? What is it known as? How does it help in defense? 4.How will you identify Aster yellows in the field? What control measures can be adopted for the prevention of this disease?	**12**	CO1, 2,3,4	B T1 ,2
Q.4	**Q.4.** Write a detailed note on methods used to control plant diseases **(4 Marks)**	**4**	CO1, 2,3,4	B T1 ,2

**********End of Question Paper**********