Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Science
Program/s: MSc
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2021

Course Code: LS203 **Course Name:** **Plant Pathology**
Date: 03/12/2021 **Total Marks:** 40
Time: 08:30 am to 10:30 am **Total Pages:** 2

Instructions:

- ➔ *Write each answer on a new page*
- ➔ *Draw neat and well-labelled diagrams wherever required*

Q. No.	Details	Marks	COs*	BTL #
Q.1	**Q1 A. Choose the correct option (7Marks)** 1. MAMPs are a. Molecule associated microbial patterns b. Microbe aligned molecular patterns c. Molecule aligned molecular patterns d. Microbe associated molecular patterns 2. _____ is a wild toxin of the tomato wilt pathogen a. Lycomarasmin b. Lycopene c. Lycotoxin d. Lysotoxin 3. A _____ is a substance produced in the infected host by the pathogen which functions in the production of the disease but is not itself the initial inciting agent of the disease a. Pathotoxin b. Vivotoxin c. Phytotoxin d. Tabtoxin 4. Which of the following is a correctly matched function of the given enzyme?	**14**	CO1, 2,3,4	BT1, 2

A	Pectin methyl esterases	1	hydrolyze methyl ester group of pectinic acid
B	Pectinesterases	2	hydrolyze pectic substances
C	Polygalacturonases	3	break the link between adjacent galacturonic acid units in pectic substances
D	Lignolytic anzymes-	4	convert hemicelluloses to pentoses and uronides

5. _____ is the causal agent of the Dutch elm disease

	a. *Ophiostoma novo-ulmi* b. *Rhizoctonia solani* c. *Heterodera Species* d. *Mycoplasma* 6. _____ is a disease of the stone fruits which is caused by spiroplasma a. Sugarcane grassy shoot disease b. Peanut stunt disease c. Western X d. Barley yellow dwarf disease 7. _____a causal agent of the golden nematode disease is characterized by gold-colored females a. *Globodera rostochinensis* *b. Heterodera species* c. *Tylenchulus semipenetrans* d. *Helicotylenchus species* **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.You are a plant pathologist studying the incidence of little leaf disease? what method will you use to know the % chance of the 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. How does solarization improve soil quality?	**10**	CO1, 2,3,4	BT1, 2
Q.3	**Answer the following in detail (4 questions X 3 marks=12 Marks)** 1. Under what circumstances does a plant resort to SAR? What are the differences between SAR and ISR? 2. What is the role of tyloses, abscission layer and terpenes 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	BT1, 2
Q.4	Write a detailed note on Integrated Disease Management **(4 Marks)**	**4**	CO1, 2,3,4	BT1, 2

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