REV-01
MSB/20/23

2025/11

SET A

M.Sc. BOTANY
THIRD SEMESTER
PLANT PATHOLOGY AND MICROBIOLOGY
MSB-301

[USE OMR FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 min. **Marks: 20**

1X20=20

Choose the correct answer from the following:

1. The father of Indian Plant pathology is
   a. E. J. Butler
   b. V. Keen
   c. B. B. Mundkar
   d. A. Flor

2. Long distance underground Plant-to-Plant communication is achieved by
   a. VOCs
   b. Rhizospheric exudates
   c. Siderophoers
   d. PHCs

3. Leaf spot disease of Chilli is caused by
   a. *Fusarium* sp.
   b. *Leveillula* sp.
   c. *Cercosporacapsici*
   d. *Aspergillus* sp.

4. Which of the following is not a method of citrus canker spread?
   a. Rain splash
   b. Infected leaves and fruit
   c. Infected equipment
   d. Pollination by bees

5. *Thiobacillusthiooxidans*undergoes chemosynthesis through the absorbtion of
   a. Sodium salts
   b. Nitrogen sulphite
   c. Carbon dioxide
   d. Hydrogen sulphite

6. Black Rest of wheat is caused by
   a. *Alternaria* sp.
   b. *Pucciniagraminis-tritici*
   c. *Fusarium* sp.
   d. *Phytophthora* sp.

7. Which of the following cells is involved in cell-mediated immunity?
   a. T-cells
   b B-cells
   c. Mast cells
   d Both T-cells and B-cells

8. Powdery mildew disease of rubber caused by
   a. *Corticium* sp.
   b. *Trichoderma* sp.
   c. *Fusarium* sp.
   d. *Oidiumheveae*

9. Which of the following is an example of a chemical defense in plants?
   a. Thorns
   b. Spines
   c. Nicotine
   d. Leaves

10. Which of the following immunity is obtained during a life time?
    a. Acquired immunity
    b Active immunity
    c. Passive immunity
    d None of the above

11. Which of the following is not a characteristic of serial dilution
    a. Isolation of soil microorganisms
    b. To obtain optimal microbial growth in cultures
    c. Isolation of aquatic microorganisms
    d. Consistent dilution factor

12. Loose smut of wheat caused by
    a. *Ustillagokolleri*
    b. *Ustillagohordei*
    c. *Ustilagotritici*
    d. *Ustillagohuda*

13. Which of the following systems protects our body against disease causing microorganisms?
    a. Immune system
    b Digestive system
    c. Excretory system
    d Respiratory system

14. Bioaugementation involves
    a. Addition of beneficial microorganisms
    b. Addition of nutrients
    c. Intrinsic bioremediation
    d. Biostimulation

15. Bacterial blight of rice is caused by
    a. *Xanthomonasoryzae*
    b. *Ustillagohordei*
    c. *Penicilliumsp.*
    d. *Ustillagohuda*

16. How many types of antibodies are found in human?
    a. Three
    b. Two
    c. Five
    d. Six

17. Streak plate method is a common methods employed for
    a. Inoculation of soil microorganisms
    b. Obtaining pure fungal cultures
    c. Obtaining pure bacterial cultures
    d. Obtaining mixed microbial cultures

18. What type of enzyme do some pathogens use to dissolve cutin in plant cuticles?
    a. Cellulase
    b. Pectinase
    c. Cutinase
    d. Amylase

19. Exclusion of plant disease by legislation is known as:
    a. Disease resistance
    b. Plant quarantine
    c. Biological control of plant
    d. Cultural control

20. Which of the following immune system do not perform phagocytosis?
    a. Macrophage
    b Neutrophil
    c. Basophil
    d Eosinophil

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Descriptive

Time : 2 hrs. 30 min. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1. Write a brief note on biotechnological approach to plant disease mechanism. **10**

2. Write short notes on **any two** from the following: **5 +5 = 10**
   a. Role of rhizospheric microorganisms in plant's nutrient uptake
   b. Methods of preservation of pure cultures
   c. Microbiology in human welfare

3. **Write short notes on:** **5 +5 = 10**
   a. Citrus canker
   b. Blast of Rice

4. Write a brief note on various defense mechanism in plants against plant pathogens? **10**

5. Write in brief the physical and chemical organization of antibodies **5 +5 = 10**

6. **Write short notes on:** **5 +5 = 10**
   a. Red rot of sugarcane
   b. Nut fall disease of *Areca*nut

7. What is cell-mediated immune system? Write the mechanism involved in this system. **1 + 9 = 10**

8. **Write short notes on:** **5+5 = 10**
   a. Wood inhabiting fungi
   b. Microbial nutrition

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