

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

**SET  
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

( Objective )

*Choose the correct answer from the following:*

*1 × 20 = 20*

- Size of virus can be determined with the help of:
  - Light microscope
  - Compound microscope
  - Electron microscope
  - RT-PCR
- Which of the following feature is not associated with flagella?
  - Locomotion
  - Whiplash
  - Tinsel
  - Virulence
- Majority of wood-inhabiting fungi belong to:
  - Basidiomycota
  - Zygomycota
  - Ascomycota
  - Oomycota
- Which of the following serves as the driving force for rhizospheric microorganisms?
  - Rhizodeposits and root exudates
  - Pathogens
  - Root hairs
  - Beneficial microorganisms
- Iron uptake by plants and microorganisms in the soil is mediated by:
  - Siderophores
  - Photosiderophores
  - a and b
  - Only a
- The branch of biology which involves the study of immune system in all organisms is called:
  - Microbiology
  - Zoology
  - Immunology
  - Biotechnology
- Which of the following immunity is obtained during a life time?
  - Acquired immunity
  - Active immunity
  - Passive immunity
  - None of the above
- How many types of antibodies are found in human?
  - Five
  - Three
  - Two
  - Four
- Which of the following cells are involved cell-mediated immunity?
  - Leukemia
  - T cells
  - Mast cells
  - Thrombocytes
- Which of the following immune system do not perform phagocytosis?
  - Macrophage
  - Neutrophil
  - Eosinophil
  - Basophil

11. The symptom of red rot of sugarcane mostly found in:
  - a. Leaf
  - b. Root
  - c. Stem
  - d. All of these
12. Bacterial blight of Rice disease of plant is caused by?
  - a. *Pseudomonas* sp.
  - b. *Xanthomonas citri*
  - c. *Xanthomonas oryzae*
  - d. None of the above
13. Which of the following is not a symptom of bacterial diseases in plants?
  - a. Wilts
  - b. Blight
  - c. Rots
  - d. Mosaic
14. Leaf spot disease of Chilli is caused by:
  - a. *Fusarium* sp.
  - b. *Leveillula* sp
  - c. *Cercosporacapsici*
  - d. *Aspergillus* sp
15. Plants' first line of defense against attack by pathogens is:
  - a. The epidermis
  - b. The hypersensitive response
  - c. The plasma membrane
  - d. Within the xylem tissue
16. Loose smut of wheat caused by:
  - a. *Ustilagokolleri*
  - b. *Ustilagohordei*
  - c. *Ustilagotritici*
  - d. *Ustilagohuda*
17. The blast disease is related to which among the following crops?
  - a. Rice
  - b. Wheat
  - c. Potato
  - d. Sugarcane
18. Which of the following is not true regarding Chlorosis?
  - a. Yellowing of leaves
  - b. Death of plant tissues
  - c. Non-formation of chlorophyll
  - d. Destruction of chlorophyll
19. Powdery mildew disease of rubber caused by:
  - a. *Fusarium* sp
  - b. *Corticium* sp
  - c. *Oidiumheveae*
  - d. *Trichoderma* sp
20. The pathogen which spread internally throughout the host shows:
  - a. Localized invasion
  - b. Systematic invasion
  - c. Resistance
  - d. No effect

-- --- --

**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

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

- |                                                                                                                           |          |
|---------------------------------------------------------------------------------------------------------------------------|----------|
| 1. Discuss briefly the defense mechanism in plants against plant pathogens.                                               | 10       |
| 2. Write short notes on:<br>a) Blast disease of rice<br>b) Red rot of sugarcane                                           | 5×2=10   |
| 3. Discuss briefly the symptoms caused by Fungi, Bacteria and Virus.                                                      | 10       |
| 4. Write short notes on:<br>a) Phytoalexins<br>b) Citrus canker                                                           | 5×2=10   |
| 5. What is rhizosphere? Write in brief the role of rhizospheric microorganisms on plants under biotic and abiotic stress. | 2+4+4=10 |
| 6. Write short notes on:<br>a) Microbial cultures<br>b) Microbiology in human welfare                                     | 5×2=10   |
| 7. What is antigen-antibody reaction? Write in brief the different types of antigen-antibody reactions.                   | 1+9=10   |
| 8. What is cell-mediated immune system? Write the mechanism involved in this system.                                      | 1+9=10   |

= = \*\*\* = =