

M.Sc. BOTANY  
THIRD SEMESTER [SPECIAL REPEAT]  
PLANT PATHOLOGY AND MICROBIOLOGY  
MSB-301

**SET  
A**

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- The symptom of red rot of sugarcane mostly found in:  
a. Leaf  
b. Root  
c. Stem  
d. All of these
- Bacterial blight of Rice disease of plant is caused by?  
a. *Pseudomonas* sp.  
b. *Xanthomonas citri*  
c. *Xanthomonas oryzae*  
d. None of the above
- Which of the following is not a symptom of bacterial diseases in plants?  
a. Wilts  
b. Blight  
c. Rots  
d. Mosaic
- Leaf spot disease of Chilli is caused by:  
a. *Fusarium* sp.  
b. *Leveillulasp*  
c. *Cercosporacapsici*  
d. *Aspergillus* sp.
- 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
- Loose smut of wheat caused by:  
a. *Ustilagokolleri*  
b. *Ustilagohordei*  
c. *Ustilagotritici*  
d. *Ustilagohuda*
- The blast disease is related to which among the following crops?  
a. Rice  
b. Wheat  
c. Potato  
d. Sugarcane
- 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
- Powdery mildew disease of rubber caused by:  
a. *Fusarium* sp.  
b. *Corticium* sp.  
c. *Oidium heveae*  
d. *Trichoderma* sp.
- The pathogen which spread internally throughout the host shows:  
a. Localized invasion  
b. Systematic Invasion  
c. Resistance  
d. No effect

11. Size of virus can be determined with the help of:
  - a. Light microscope
  - b. Compound microscope
  - c. Electron microscope
  - d. RT-PCR
12. Which of the following feature is not associated with flagella?
  - a. Locomotion
  - b. Whiplash
  - c. Tinsel
  - d. Virulence
13. Majority of wood-inhabiting fungi belong to:
  - a. Basidiomycota
  - b. Zygomycota
  - c. Ascomycota
  - d. Oomycota
14. Which of the following serves as the driving force for rhizospheric microorganisms?
  - a. Rhizodeposits and root exudates
  - b. Pathogens
  - c. Root hairs
  - d. Beneficial microorganisms
15. Iron uptake by plants and microorganisms in the soil is mediated by:
  - a. Siderophores
  - b. Photosiderophores
  - c. a and b
  - d. Only a
16. The branch of biology which involves the study of immune system in all organisms is called:
  - a. Microbiology
  - b. Zoology
  - c. Immunology
  - d. Biotechnology
17. 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
18. How many types of antibodies are found in human?
  - a. Five
  - b. Three
  - c. Two
  - d. Four
19. Which of the following cells are involved cell-mediated immunity?
  - a. Leukemia
  - b. T cells
  - c. Mast cells
  - d. Thrombocytes
20. Which of the following immune system do not perform phagocytosis?
  - a. Macrophage
  - b. Neutrophil
  - c. Eosinophil
  - d. Basophil

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**(Descriptive)**

Time : 2 hr. 30 mins.

Marks : 50

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

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

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