

M.Sc. BOTANY
FOURTH SEMESTER
MYCOLOGY & PLANT PATHOLOGY
MSB - 403F

Duration: 3 hrs.

Full Marks: 70

(PART-A: Objective)

Time: 20 min.

Marks: 20

Choose the correct answer from the following:

1×20=20

1. The outbreak of black stem rust of wheat in India during 1947 is a
a. Sporadic disease
b. Endemic disease
c. Epidemic disease
d. Pandemic disease
2. fungicide can penetrate the seed coat to provide protection
a. Captafol
b. Captan
c. Benomyl
d. Thiram
3. Thermal precipitation is used to collect the particle size
a. 0.001µm
b. 0.1µm
c. 0.01 µm
d. 0.5µm
4. Gaseous pollutants are adsorbed by the use of
a. Alkane gas
b. Activated carbon
c. Silica gel
d. Hydrocarbons
5. The harmful pathogenic effect on photosynthesis causes
a. Chlorophyll degeneration
b. tension in xylem
c. Disease on plants
d. Root damage
6. The average population of endospheric microorganisms in soil is
a. 10^2 - 10^4 microbial cell/ml
b. 10^6 - 10^8 microbial cell/ml
c. 10^8 - 10^9 microbial cell/ml
d. 10^4 - 10^8 microbial cell/ml
7. The first event of plant disease cycle is
a. Penetration
b. Inoculation
c. Dissemination
d. Invasion
8. An example of Endemic disease is
a. *Fusarium* wilt of cotton
b. Loose smut of wheat
c. Blast of rice
d. Citrus canker
9. The environmental factor responsible for host susceptibility is
a. Rainfall
b. Temperature
c. Wind
d. Relative humidity
10. Dispersion of solid particles in air is known as
a. Aerosols
b. Smoke
c. Dust
d. Fume

11. The example of rhizospheric actinomycetes is
 - a. *Azotobacter* sp
 - b. *Pseudomonas* sp
 - c. *Nocardia* sp
 - d. *Bacillus* sp.
12. A biocontrol agent used as seed treatment is
 - a. *Fusarium* sp
 - b. *Uncinula necator*
 - c. *Pseudomonas fluorescens*
 - d. *Penicillium* sp
13. Integrated disease management (IDM) helps to
 - a. reduce the pesticide residue
 - b. promote healthy plants
 - c. reduce water contamination
 - d. All of the above
14. Which substance is necessary for the growth of mycoplasma?
 - a. Nitrogen
 - b. Carbon
 - c. Glucose
 - d. Cholesterol
15. Which factor is not essential for causing epidemic in plants?
 - a. Nature of host
 - b. Susceptibility of the host
 - c. Environment
 - d. Nature of Pathogen
16. Activated carbon is used in the process of
 - a. Absorption sampling
 - b. Condensation sampling
 - c. Adsorption sampling
 - d. none of these
17. Tomato leaf blight caused by
 - a. *Trichoderma* sp.
 - b. *Aspergillus* sp.
 - c. *Fusarium* sp.
 - d. *Septoria* sp.
18. Hypersensitive response (HR) in the plants includes
 - a. Opening of ion channels
 - b Apoptosis
 - c. Oxidative bust
 - d. All of the above
19. Which of these is a fungicide?
 - a. Bordeaux mixture
 - b. DDT
 - c. BHC
 - d. All of the above
20. Natural insecticide is obtained from plant is
 - a. Azadirachtin
 - b. Rotenone
 - c. Pyrethrum
 - d. All of these.

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PART-B : Descriptive

Time : 2 hrs. 40 min.

Marks : 50

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

1. Write a short note on various changes in host physiology due to the attack of plant pathogen. 10
2. What are Phytoplasma? Describe briefly some of the important plant diseases of North-East India? 5+5=10
3. Describe briefly the defence mechanism in plants against pathogens? 10
4. Describe briefly the soil and seed borne diseases? Write a short notes on Phytoalexins? 5+5=10
5. Describe the factors of Plant Epidemiology? Describe briefly the chemical and biological control of plant pathogens? 5+5=10
6. Write a short note on Mycoplasma? Discuss briefly the symptoms of plant diseases caused by bacteria and fungi? 5+5=10
7. Write a short note on the importance of aeromicrobiology? What are the different air sampling techniques used in the field of aeromicrobiology? 4+6=10
8. Write a short note on genetics of plant diseases? Write short notes on systematic and acquired resistance in plants? 5+5=10

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