

M.Sc. BOTANY
FOURTH SEMESTER
MYCOLOGY AND PLANT PATHOLOGY
MSB-401 F
[USE OMR SHEET FOR OBJECTIVE PART]

SET
A

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

Choose the correct answer from the following:

1 × 20 = 20

- Plasmidiophora brassica* causes a diseases in crucifers which is known as:
a. Club root
b. White rust
c. Early blight
d. Late blight
- Bacterial blight of Rice disease of plant is caused by?
a. *Pseudomonas* sp.
b. *Xanthomonas citri*
c. *Xanthomonas oryzae*
d. None of the above
- Powdery mildew disease is caused by:
a. *Sclerosporagramincola*
b. *Neurospora* sp
c. *Claviceps purpurea*
d. *Erysiphe polygoni*
- What is the ideal temperature range for cultivating most mushrooms?
a. 5-10°C
b. 50-55°C
c. 35-40°C
d. 20-25°C
- 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
- What is the Primary advantage of NGS over traditional Sanger sequencing?
a. Higher accuracy
b. Lower cost per base
c. Faster sequencing speed
d. Longer read lengths
- 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 a commonly used NGS platform?
a. Oxford nanopore
b. Illumina
c. Sanger
d. Pacbio
- 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. The symptom of red rot of sugarcane mostly found in:
 - a. Leaf
 - b. Root
 - c. Stem
 - d. All of these
12. The resistance evenly spread against all races of pathogen is known as:
 - a. Vertical resistance
 - b. Horizontal resistance
 - c. Vertical effect
 - d. None of these
13. Dominique is a resistant variety developed against:
 - a. *Erysiphegraminis*
 - b. *Phophthorainfestans*
 - c. *Aspergillusnidulans*
 - d. *Phophthoranicotinae*
14. LAMP method is developed by:
 - a. Olesanet *al.*
 - b. Adams *et al.*
 - c. Notomiet *al.*
 - d. None of these
15. What is the main advantage of the single molecule sequencing approach in NGS?
 - a. Lower cost per base
 - b. Longer read lengths
 - c. Faster sequencing speed
 - d. Higher sequencing speed
16. Fermentation of sugars occurs by:
 - a. *Mucor* sp
 - b. *Saccharomyces*
 - c. *Aspergillus* sp.
 - d. *Penicillium* sp.
17. *Fusarium* wilt of tomato disease is a:
 - a. Soil borne
 - b. Air borne
 - c. Seed borne
 - d. All of them
18. Powdery mildew of cucurbita is caused by:
 - a. *Podosphaeraxanthii*
 - b. *Phophthorainfestans*
 - c. *Oidiumheveae*
 - d. *Erysiphepolygona*
19. Turmeric leaf spot disease is caused by:
 - a. *Taphrinamaculans*
 - b. *Colletotrichumsiamense*
 - c. *Erysiphepolygona*
 - d. None of these
20. Rust of sunflower is caused by:
 - a. *Macrophominaphaseolina*
 - b. *Pucciniahelianthi*
 - c. *Plasmoparahalstedii*
 - d. *Rhizopus* sp

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

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

1. Write in brief the cultivation methods and economic importance of mushrooms. 10
2. Write short notes on: 5×2=10
 - a) Bunchy top of banana
 - b) Blister blight of tea
3. Write a brief note on the symptoms, causal organism and management of any four medicinal plants of NE India. 10
4. Write short notes on: 5×2=10
 - a) Rust of coffee
 - b) Difference between vertical and horizontal resistance
5. Write and explain various techniques of detection of plant pathogen and diagnosis of plant diseases. 10
6. Write short notes on: 5×2=10
 - a) Improved PCR technique
 - b) Next Generation Sequencing
7. Write short notes on: 5×2=10
 - a) Blight of chickpea
 - b) Bud rot of coconut
8. Write a brief note on common antigen hypothesis with suitable diagrams. 10

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