KATHMANDU UNIVERSITY
End Semester Examination
January/February 2024

23

Level : B.Sc.
Year : III
Time : 2 hrs. 30 mins.

Course : AGBT 301
Semester : I
F.M. : 55

SECTION "D"
[3Q. × 7 =21 marks]

Attempt *ANY THREE questions*.

1. What is epidemiology? Discuss the role of pathogen, host and environment for establishment of an epidemic.

2. What do you understand by defense mechanism of plant? Explain the different kinds of defense mechanisms in plants.

3. Define disease. Give an account of types and classification of plant diseases.

4. Describe the vegetative and reproductive structures of *Phytophthora* with the help of suitable diagrams.

SECTION "E"

5. Write short notes on *ANY SIX*: [6 Q. × 4 = 24 marks]
   a. Methods of disease forecasting
   b. Fungal fructification
   c. Life cycle of *Puccinia graminis* f. sp. *tritici*
   d. Replication of viruses
   e. Dolipore septum
   f. *Agrobacterium*
   g. Life cycle of Nematodes
   h. Plant Disease Management

6. Give **TWO** major differences between: [2 Q. ×2 = 4 marks]
   a. Uredospore and teliospore
   b. Ascomycotina and Basidiomycotina

7. Explain why/how for the following: [3 Q. × 2 = 6 marks]
   a. Mycoplasma is the jokers of the plant kingdom.
   b. Plant resistance depends on avirulence (*Avr*) gene.
   c. Fungi secret cutinase enzyme during the infection.

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Marks Scored:

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Registration No.:

Time: 30 mins.

F. M. : 20
Date : 23-Jan.

SECTION "A"
[10 Q × 0.5 = 5 marks]

Choose and mark [X] the most appropriate alternative from each set of choices

1. Cleistothecium contains
[ ] ascus [ ] basidiospore [ ] conidia [ ] basidium

2. All fungi are always
[ ] parasites [ ] saprophytes [ ] heterotrophs [ ] autotrophs

3. Widely distributed disease is known as
[ ] pandemic [ ] sporadic [ ] epidemic [ ] epiphytotic

4. Alternative host of wheat rust is
[ ] *Oxalis* [ ] *Berberis* [ ] *Sorgham* [ ] *Centella*

5. Plants are resistant to certain pathogens because they possess specific resistance genes carrying the corresponding
[ ] avirulence genes [ ] virulence genes
[ ] hrp genes [ ] zipper like domain

6. Basidiospores are different from Ascospores because the former are produced
[ ] externally [ ] internally
[ ] both externally and internally [ ] neither externally and internally

7. Systemic acquired resistance inhibits initiation of
[ ] new infection [ ] enzyme synthesis
[ ] enzyme transportation [ ] toxin secretion

8. Plectenchyma is formed by
[ ] mycelium [ ] conidia [ ] parenchyma [ ] conidiophore

9. Trichogyne is
[ ] female structure [ ] male structure
[ ] neutral structure [ ] modified structure

10. The asexual reproduction in ascomycetes is generally through
[ ] conidia [ ] zygospore [ ] zoospore [ ] aplanospore

SECTION "B"
[5Q. × 1 = 5 marks]

Fill in the blanks.

11. Cutin monomers trigger expression of the.....of the fungus.

12. Fusion of pycniospores and flexuous hyphae leads to.....

13. White rust of crucifer is caused by.....

14. The sporangiophores of *Rhizopus stolonifer* are produced directly above the ....

15. Somatic phase of the fungi is known as.....

SECTION "C"

[5Q. × 2 = 10 marks]

Define in *one* sentence:

16. Hypersensitive response

17. Coenocytic hyphae

18. Haustoria

19. Appressorium

20. Sterigma