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(CBCS)

(5th Semester)

BOTANY

FIFTH PAPER

(Fungi, Plant Pathology and Biostatistics)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(Marks : 10)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Motile cells are present in

- (a) Mastigomycotina ()
- (b) Ascomycotina ()
- (c) Basidiomycotina ()
- (d) Deuteromycotina ()

2. Distinctive characteristic of Basidiomycotina is the presence of

- (a) haustorium ()
- (b) rhizoid ()
- (c) flagellum ()
- (d) clamp connection ()

3. Which one of the following is saprophytic fungi?

- (a) *Puccinia* ()
- (b) *Phytophthora* ()
- (c) *Rhizopus* ()
- (d) *Pythium* ()

4. Coenocytic hyphae are characteristic features of
- (a) imperfect fungi ()
 - (b) perfect fungi ()
 - (c) saprophytic fungi ()
 - (d) lower fungi ()
5. The most destructive spore of *Puccinia* is
- (a) uredospore ()
 - (b) basidiospore ()
 - (c) teleutospore ()
 - (d) aeciospore ()
6. Histological defense structure includes
- (a) cork layers ()
 - (b) abscission layers ()
 - (c) tyloses ()
 - (d) All of the above ()
7. Plants of onion, garlic and mustards contain _____ compounds for resistance to pathogen.
- (a) solamine ()
 - (b) sulphur ()
 - (c) borbonol ()
 - (d) flavonoid ()
8. Red rot of sugarcane is caused by
- (a) *Colletotrichum* ()
 - (b) *Alternaria* ()
 - (c) *Xanthomonas* ()
 - (d) *Erysiphe* ()
9. The most frequent occurring observation in the data is called
- (a) mean ()
 - (b) median ()
 - (c) mode ()
 - (d) standard deviation ()

10. Chi-square test has limitations for the test of

- (a) goodness of fit ()
- (b) independence of attributes ()
- (c) homogeneity ()
- (d) sample size ()

(SECTION : B—SHORT ANSWER)

(Marks : 15)

Write short notes on the following :

3×5=15

UNIT—I

1. Plasmogamy

OR

2. Important characteristic features of fungi

UNIT—II

3. Heterothallism

OR

4. Mycorrhizae

UNIT—III

5. Scope of plant pathology

OR

6. Penetration

UNIT—IV

7. Control measures of late blight of potato

OR

8. Symptoms of powdery mildews of crucifers

UNIT—V

9. Median

OR

10. Standard error

(SECTION : C—DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

10×5=50

UNIT—I

1. Classify fungi up to classes according to Ainsworth System of Classification by giving their salient features. 10

OR

2. Write short notes on the following : 5+5=10
(a) Distinguishing characteristics of fungi
(b) Passive liberation of fungal spores

UNIT—II

3. Give an account on the mode of nutrition in fungi. 10

OR

4. Write short notes on the following : 5+5=10
(a) Parasexuality
(b) Role of fungi in industry

UNIT—III

5. Discuss the host-pathogen interaction that leads to infection. 10

OR

6. Write short notes on the following : 5+5=10
(a) Autonomous dissemination of pathogen
(b) Physical defence mechanism in plants

UNIT—IV

7. Discuss the symptoms, disease cycle and central measure of red rot of sugarcane. 10

OR

8. Write short notes on disease symptoms and control measures of : 5+5=10
(a) Citrus canker
(b) Wheat rust

UNIT—V

9. What do you mean by arithmetic mean? Calculate the arithmetic mean for the following grouped data : 10

<i>Class Interval</i>	10–20	20–30	30–40	40–50	50–60	60–70
<i>Frequency</i>	3	5	10	15	5	12

OR

10. Write notes on the following : 5+5=10
(a) Chi-square test
(b) Standard deviation
