

2015

(5th Semester)

BOTANY

FIFTH PAPER

(Fungi, Plant Pathology and Biostatistics)

Full Marks : 55

Time : 2½ hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

*The figures in the margin indicate full marks
for the questions*

1. Give a detailed comparative account on the structure, reproduction and life cycle of Zygomycotina and Deuteromycotina. 7

Or

Write short notes on any two of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Ascomycotina
(b) Types of fungal spores
(c) Active liberation of fungal spores

G16/148a

(Turn Over)

2. Write a comprehensive note on the various modes of nutrition in fungi. 7

Or

Briefly describe any *two* of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Parasexuality in fungi
- (b) Role of fungi in industry
- (c) Role of fungi in medicine

3. Describe the various means of transmission of pathogens. 7

Or

Write short notes on any *two* of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Post-penetration
- (b) History of plant pathology
- (c) Phytoalexins

4. Write a note on the symptoms, cycle and control measures of powdery mildew of crucifers. 7

Or

Briefly describe the disease cycle of any *two* of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Red rot of sugarcane
- (b) Early blight of potato
- (c) Smut of wheat

5. What do you mean by test of significance?
The dry weight (g) values from plant of a species grown at two soil nitrogen levels are as follows :

Low N level : 9, 11, 12, 10, 10, 11, 10, 12

High N level : 22, 26, 24, 23, 15, 18, 22, 20

By using *t*-test, find out whether the effect of nitrogen is significant or not. [The table value of $t = 1.76$ for 1 degree of freedom at 5% level of significance]

2+5=7

Or

Write short notes on any *two* of the following :

3½×2=7

- (a) Arithmetic mean
- (b) Coefficient of variation
- (c) Standard deviation

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FIFTH PAPER

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(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer **all** questions

SECTION—I

(Marks : 5)

Put a Tick (✓) mark against the correct answer in the
brackets provided : 1×5=5

1. Perfect state spore is absent in

(a) Mastigomycotina ()

(b) Ascomycotina ()

(c) Basidiomycotina ()

(d) Deuteromycotina ()

2. The three main fungal phyla Zygomycota, Ascomycota and Basidiomycota are thought to have diverged from

(a) Hyphochytridiomycota ()

(b) Chytridiomycota ()

(c) Oomycota ()

(d) Trichomycota ()

3. Which of the following organisms cannot directly penetrate through intact plant surfaces?

(a) Bacteria ()

(b) Fungi ()

(c) Nematodes ()

(d) Parasitic higher plants ()

4. The causal organism of late blight of potato is

(a) *Phytophthora infestans* ()

(b) *Puccinia graminis* ()

(c) *Xanthomonas citri* ()

(d) *Alternaria solani* ()

(3)

5. If the variables x and y are approximately linearly related and if y increases as x increases, the correlation between x and y is said to be

(a) neutral ()

(b) uncorrelated ()

(c) negative ()

(d) positive ()

(4)

SECTION—II

(Marks : 15)

Write brief notes on the following :

3×5=15

1. Ascospores

(5)

2. Types of heterothallism

(6)

3. Infection

V/BOT (M/148)

4. Standard error

(8)

5. Citrus canker

G16-350/148

V/BOT N