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 : 3½×2=7

(a) Ascomycotina

(b) Types of fungal spores

(c) Active liberation of fungal spores

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

Or

Briefly describe any *two* of the following : 3½×2=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 : 3½×2=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 : 3½×2=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 $t = 1 \cdot 76$ 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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(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* ( )

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 ( )

SECTION—II

(*Marks* : 15)

Write brief notes on the following : 3×5=15

1. Ascospores

2. Types of heterothallism

3. Infection

4. Standard error

5. Citrus canker