2 0 1 7

(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. Define fungi. Describe the general features of fungi. 2+5=7

Or

Write accounts on any *two* of the following : 3½×2=7

(a) Zygomycotina

(b) Active mechanism of spore liberation

(c) Zoospores

(*Turn Over*)

2. What are obligate parasites? Write down the various modes of nutrition in fungi. 2+5=7

Or

Write short notes on any *two* of the following : 3½×2=7

(a) Role of fungi in medicine

(b) Parasexuality

(c) Fungi as plant pathogens

3. What is an appressorium? Describe the different modes of infection. 2+5=7

Or

Write brief accounts on any *two* of the following : 3½×2=7

(a) Histological barriers of plants for defense mechanism

(b) Passive dissemination of pathogens

(c) History of plant pathology

4. Write an account on the symptoms, disease cycle and control measures of powdery mildews of crucifers. 7

Or

Describe in brief the symptoms of any *two* of the following : 3½×2=7

(a) Red rot of sugarcane

(b) Late blight of potato

(c) Wheat rust

(*Continued*)

5. What is Student's *t*-test? Heights of teak (*Tectona grandis*) seedlings treated with growth hormone are 25 cm, 28 cm, 31 cm, 32 cm, 34 cm, 35 cm, 36 cm, 37 cm, 39 cm and 43 cm; whereas untreated seedlings measure 13 cm, 14 cm, 14 cm, 15 cm, 16 cm, 19 cm, 19 cm, 20 cm, 20 cm and 20 cm. Apply *t*-test to find out whether the growth hormone has effect on the height of teak seedlings or not [table value of $t = 2 \cdot 10$ at 0·05 and d.f. = 18]. 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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Subject Code : BOT/V/05

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To be filled in by the Candidate

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│ DEGREE 5th Semester             │
│ (Arts / Science / Commerce /    │
│ ....................... ) Exam., 2017 │
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│ Subject ....................................... │
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INSTRUCTIONS TO CANDIDATES

1. **The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.**

2. **This paper should be ANSWERED FIRST and submitted within** *45 minutes* **of the commencement of the Examination.**

3. **While answering the questions of this booklet, any cutting, erasing, over-writing or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.**

Date Stamp ....

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│ (Arts / Science / Commerce /    │
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(5th Semester)

BOTANY

FIFTH PAPER

(Fungi, Plant Pathology and Biostatistics)

(PART : A—OBJECTIVE)

(*Marks* : 20)

The figures in the margin indicate full marks for the questions

SECTION—I

(*Marks* : 5)

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

1. Sexual spores are absent in

   (a) Deuteromycotina   (   )

   (b) Basidiomycotina   (   )

   (c) Ascomycotina   (   )

   (d) Zygomycotina   (   )

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2. Ascomycota-Basidiomycota split occurs

   (a) 300 mya   ( )

   (b) 400 mya   ( )

   (c) 500 mya   ( )

   (d) 600 mya   ( )

3. Phenolics, which are produced upon stimulation of plant by a pathogen, are called

   (a) recognition factors   ( )

   (b) inhibitors   ( )

   (c) suppressors   ( )

   (d) phytoalexins   ( )

4. Loose smut of wheat is due to

   (a) *Puccinia graminis tritici*   ( )

   (b) *Colletotrichum falcatum*   ( )

   (c) *Ustilago nuda tritici*   ( )

   (d) *Phytophthora infestans*   ( )

5. Which of the following is correct for χ^2 calculation?

(a) $\sum \dfrac{(O-E)^2}{E}$ (   )

(b) $\sum \dfrac{(E-O)^2}{E}$ (   )

(c) $\sum \dfrac{(O-E)^2}{O}$ (   )

(d) $\sum \dfrac{(E-O)^2}{O}$ (   )

Section—II

(*Marks* : 15)

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

1. Myxomycota

2. Heterothallism in fungi

3. Fungal antagonists

4. Symptoms of early blight of potato

5. Standard error

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