V/BOT (vii)

2016

(5th Semester)

BOTANY

SEVENTH PAPER

(Cytogenetics, Plant Breeding and Bioinformatics)

Full Marks : 55

Time : 2½ hours

(PART : B—DESCRIPTIVE)

(*Marks* : 35)

The figures in the margin indicate full marks for the questions

1. Write short notes on the following : 3½+3½=7

(a) Translocation

(b) Structure of chromosome

Or

Briefly describe an account on cytoskeleton. 7

2. Write short notes on the following : 3½+3½=7

(a) Trisomics

(b) Segmental allopolyploidy

Or

Give a brief account on different consequences of chromosomal anomalies. 7

3. Write short notes on the following : 3½+3½=7

(a) Physical map

(b) Karyotype

Or

Describe self-sterility in plants with suitable diagram. 7

4. Write short notes on the following : 3½+3½=7

(a) Heterosis

(b) Pure line selection

Or

Give a brief account on molecular basis of mutation. 7

5. Describe briefly the following : 3½+3½=7

(a) BLAST

(b) Bioinformatics

Or

Give an account on DNA database. Explain DNA sequence alignment. 2+5=7

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Subject Code : V/BOT (vii)

Booklet No. A

Date Stamp .....

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To be filled in by the Candidate

DEGREE 5th Semester
(Arts / Science / Commerce / .....) Exam., **2016**

Subject .....
Paper .....

To be filled in by the Candidate

DEGREE 5th Semester
(Arts / Science / Commerce / .....) Exam., **2016**

Roll No. .....
Regn. No. .....

Subject .....
Paper .....

Descriptive Type
Booklet No. B .....

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.**

Signature of Scrutiniser(s) *Signature of Examiner(s)* *Signature of Invigilator(s)*

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2016

(5th Semester)

BOTANY

SEVENTH PAPER

(Cytogenetics, Plant Breeding and Bioinformatics)

(PART : A—OBJECTIVE)

(*Marks* : 20)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 5)

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

1. Histone proteins are found in

(a) microtubules ( )

(b) chromosomes ( )

(c) intermediate filaments ( )

(d) None of the above ( )

2. Aneuploidy is the condition when there is

(a) addition of one or more entire sets of chromosome. ( )

(b) addition of one or more individual chromosome ( )

(c) loss of whole chromosome ( )

(d) doubling the chromosome in hybrid ( )

3. Cytoplasmic inheritance is discovered by

(a) Karl Correns ( )

(b) Gregor Johann Mendel ( )

(c) Charles Darwin ( )

(d) Tschermak ( )

4. A strain of an organism heterozygous inbreeding method is known as

(a) linkage ( )

(b) pure line ( )

(c) mass selection ( )

(d) heterosis ( )

5. BLASTX is a search tool which translates

(a) protein to nucleotide ( )

(b) nucleotide to nucleotide ( )

(c) nucleotide to protein ( )

(d) protein to protein ( )

SECTION—B

(*Marks* : 15)

Write notes on the following : 3×5=15

1. Duplication

2. Monosomics

3. Enhancer gene

4. Physical mutagens

5. Protein database

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