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(FYUGP)

(4th Semester)

BOTANY

(MAJOR)

Paper : BCC-7

(Genetics)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

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

1. (a) What is Mendelism? Write a note on principle of inheritance and chromosome theory of inheritance.

2+13=15

Or

- (b) Write notes on the following : $7\frac{1}{2} \times 2 = 15$

(i) Epistasis

(ii) Probability and pedigree analysis

(2)

2. (a) What is cytoplasmic inheritance? Write an account on cytoplasmic inheritance on four O'clock plant. $2+13=15$

Or

- (b) Write notes on the following : $7\frac{1}{2}\times 2=15$

(i) Shell coiling in snail

(ii) Cytological basis of crossing over

3. (a) Give an account on the different types of point mutation. 15

Or

- (b) Write notes on the following : $7\frac{1}{2}\times 2=15$

(i) Sex linkage

(ii) Recombination frequency

4. (a) Write a note on role of natural selection in population and evolutionary genetics. 15

Or

- (b) Write notes on the following : $7\frac{1}{2}\times 2=15$

(i) Genotype frequencies

(ii) Genetic drift

(3)

5. Write notes on any *two* of the following :

$$7\frac{1}{2} \times 2 = 15$$

- (a) Autosomes and sex chromosomes
- (b) Linkage and crossing over
- (c) Chromosomal aberration
- (d) Hardy-Weinberg law

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