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(FYUGP)

(4th Semester)

BOTANY

(MAJOR)

Paper : BCC-8

(Molecular Biology)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

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

1. (a) Explain the Watson and Crick's model of DNA structure with suitable diagrams.

15

Or

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

(i) Mitochondrial DNA and chloroplast DNA

(ii) Chromatin structure

(2)

2. (a) Write in detail about the types of replication in DNA. 15

Or

- (b) Write notes on the following : $7\frac{1}{2} \times 2 = 15$
(i) Genetic code
(ii) Central dogma

3. (a) Explain the mechanism of transcription in eukaryotes. 15

Or

- (b) Write notes on the following : $7\frac{1}{2} \times 2 = 15$
(i) Lac operon concept
(ii) Tryptophan synthesis in *E. Coli*

4. (a) Discuss the various steps involved in translation. 15

Or

- (b) Write notes on the following : $7\frac{1}{2} \times 2 = 15$
(i) Concept of introns and exons
(ii) Spliceosome machinery

5. (a) Write notes on the following : $7\frac{1}{2} \times 2 = 15$
(i) Pre-mRNA processing
(ii) RNA editing and mRNA transport in RNA processing

(3)

Or

(b) Differentiate between the following :

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

(i) Denaturation and renaturation

(ii) Euchromatin and heterochromatin

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