

Bs/BCC 8

2024

(FYUGP)

(4th Semester)

BOTANY

(Major)

Paper Code : 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. Explain in detail the structure of DNA given by Watson and Crick. Add a note on denaturation and renaturation of DNA. 10+5=15

Or

Write notes on any *two* of the following : $7\frac{1}{2} \times 2 = 15$

- (a) Mitochondria and chloroplast DNA
- (b) Euchromatin and heterochromatin
- (c) DNA as the carrier of genetic information

2. Write a note on central dogma with special reference to adaptor hypothesis. 15

Or

Give an account on genetic code deciphering and its salient features.

3. Discuss in detail the replication of DNA in prokaryotes with suitable diagram. 15

Or

Write notes on the following : $7\frac{1}{2}+7\frac{1}{2}=15$

- (a) RNA priming
(b) Types of DNA replication

4. Explain in detail the mechanism of gene expression in prokaryotes with special reference to lac operon. 15

Or

What is transcription? Explain the mechanism of transcription involved in eukaryotes.

5. Discuss in detail the various steps involved in translation. 15

Or

Write notes on any *two* of the following : $7\frac{1}{2}\times 2=15$

- (a) Introns and exons
(b) RNA editing and mRNA transport
(c) Spliceosome machinery
