

S.No. 5080

16 SCCBT 2

(For candidates admitted from 2016–2017 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Part III — Biotechnology — Major

MOLECULAR BIOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL questions.

1. Mysoin.
2. Loci.
3. Aneuploidy.
4. Multiple allele inheritance.
5. Chargaff rules.
6. TATA box.
7. Primosome.

8. SOS repair

9. Lac operon

10. cAMP

SECTION B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) Discuss the structure and functions of Microfilaments.

Or

(b) Differentiate prokaryotic and eukaryotic chromosome.

12. (a) Explain monohybrid inheritance with suitable example.

Or

(b) State the Mendel's laws of inheritance with suitable example.

13. (a) What is genetic code explain its characteristics?

Or

(b) Give an account on the types of RNA polymerase.

14. (a) Write an account on rolling circle replication.

Or

(b) What do you mean by Mismatch repair of DNA?

15. (a) Brief on Trp operon.

Or

(b) Compare prokaryotic and eukaryotic gene regulation.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Describe the three dimensional organization of cytoskeleton.

17. Explain extra chromosomal inheritance with suitable example

18. Explain the initiation, elongation and termination of translation in prokaryotes

19. Describe DNA replication in prokaryotes

20. Briefly describe the organization of Lac operon.