

Roll No.

Total Pages : 2

CMDE/M-24

4711

DNA PROFILING

Paper–M–FSC 204

Time allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting **one** question from each unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Give short answers to the following questions: 8×2=16

- | | |
|-----------------------------|------------------|
| (i) Allele | (ii) Karyotype |
| (iii) Mini STR | (iv) Exons |
| (v) Gene frequency | (vi) DNA primers |
| (vii) DNA data base – CODIS | |
| (viii) DNA probe. | |

UNIT–I

2. Give a detailed account on different types of human chromosomes. Also discuss about different types of DNA. 16
3. Write notes on the following:
- | | |
|----------------------------|---|
| (a) Human nuclear genome | 8 |
| (b) DNA modifying enzymes. | 8 |

UNIT–II

4. Discuss in detail about history and development of DNA finger printing with their advantage and limitations. 16
5. Write a detail note on different steps of PCR and its advantages & factors affecting PCR. 16

UNIT–III

6. Explain in detail about conventional and recent methods of DNA extraction. 16
7. Write note on the following: 2×8=16
- | | |
|---|--|
| (a) DNA sequencing | |
| (b) NGS (New Generation Sequencing Rapid DMNA). | |

UNIT–IV

8. Discuss in detail about Forensic applications of DNA Profiling and presentation of report in DNA profiling cases. 16
9. Write a note on the following: 2×8=16
- | | |
|---|--|
| (a) Methods of labeling of DNA probes. | |
| (b) Legal standards for admissibility of DNA profiling. | |