

19. (a) Write short note on functions of Cistron, Recon, Muton.

Or

- (b) Narrate the Mutable and Mutator gene.

20. (a) Describe the Hardy Weinberg Law.

Or

- (b) Narrate the Bioethics.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

21. Give a brief note on Inhibitory and lethal factors of atavism.
22. Illustrate the Sex linkage in Man.
23. Describe the Mechanisms of cytological evidence for Crossing over.
24. Write an account on Chromosomal disorders in Humans.
25. Discuss in detail about population genetics and evolutionary genetics.

S.No. 6088

P 22 BCCC 2 A

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Biochemistry — Core Choice Course

GENETICS

Time : Three hours

Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL questions.

- I. A. Multiple choice questions ($5 \times 1 = 5$)
1. When the activity of one gene is suppressed by the activity of a non-allelic gene, it is known as?
- (a) Pseudo-dominance
- (b) Hypostasis
- (c) Epistasis
- (d) Incomplete dominance
2. Which of the following is called the sex-linked disease?
- (a) Leukemia (b) Alzheimer's
- (c) Malignancy (d) Colour blindness

3. How many phenotypes can occur in the human blood group ABO with alleles $I^A I^B i$?

- (a) 2 (b) 3
(c) 4 (d) 1

4. Most of the genetic disorders are caused due to _____

- (a) Mutation
(b) The gender of an individual
(c) The gross chromosomal abnormalities
(d) All of the above

5. Which of the following is not included in out-breeding?

- (a) Out-crossing
(b) Cross-breeding
(c) Inbreeding
(d) Interspecific hybridisation

B. Fill in the blanks (5 × 1 = 5)

6. _____ term represents a pair of contrasting characters?

7. The thread-like structures, which appear inside the nucleus at the time of cell division, are called _____.

8. The antigens for ABO and Rh blood groups are present on _____

9. Gene and cistron words are sometimes used synonymously because _____

10. Eugenics is the study of _____

II. Answer all questions (5 × 2 = 10)

11. Comment on Mendelian inheritance.

12. Define Bar bodies.

13. Statement on Incomplete linkage.

14. What is Mutagens and its types?

15. Comment on Animal Breeding.

SECTION B — (5 × 5 = 25)

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

16. (a) Illustrate the Mendelian Trihybrid cross ?

Or

(b) Give a note on interaction of gene and commentary factors.

17. (a) Discuss about the sex linkage in *Drosophila*.

Or

(b) Describe the milk factors in mice.

18. (a) Write an account on Morgans experiments.

Or

(b) Discuss about the different types of chromosomal mutations.