

(6 pages)

Reg. No. : .....

Code No. : 30382 E Sub. Code : CMZO 41

B.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2025.

Fourth Semester

Zoology — Core

GENETICS

(For those who joined in July 2021 and 2022 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Choose the Genotypic ratio of Monohybrid cross.

- (a) 3:1                      (b) 1:2:1  
(c) 13:3                    (d) 9:3:3:1

2. Which one of the following kills the possessor?

- (a) Supplementary gene  
(b) Complementary gene  
(c) Inhibitory gene  
(d) Lethal gene

3. Choose the another name of Mangoloid Idiocy.

- (a) Turners syndrome  
(b) Down syndrome  
(c) Klinefelter syndrome  
(d) All the above

4. The point mutation occurs in \_\_\_\_\_.

- (a) proteins                (b) genes  
(c) sugar                    (d) chromosome

5. Blindness to red colour is called \_\_\_\_\_.

- (a) Protonopia  
(b) Deutronopia  
(c) Proteonopia  
(d) None of the above

6. What is the name given to the failure of separation of gametes?
- (a) Linkage
  - (b) Non dysjunction
  - (c) Crossing over
  - (d) Cell division
7. The science which deals with improving existing Human race is
- (a) eugenics                      (b) counseling
  - (c) euphenics                    (d) euthenics
8. Failure of conversion of Phenyl alanine to tyrosine results in
- (a) Phenylketonuria
  - (b) Albinism
  - (c) Melanism
  - (d) Alkaptonuria
9. Who discovered lac operon?
- (a) Jacob
  - (b) Darwin
  - (c) Lamark
  - (d) Jacob and Monod

10. The virus infecting bacteria is called \_\_\_\_\_.
- (a) zoophage                      (b) phytophage
  - (c) bacteriophage                (d) all the above

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Outline Incomplete dominance.
- Or
- (b) Explain the Polygenic inheritance in man with reference to skin pigmentation.
12. (a) Distinguish complete linkage and incomplete linkage.
- Or
- (b) Outline the causes of mutation.
13. (a) Elaborate the Colour blindness in man.
- Or
- (b) Outline the Barr bodies and its use.

14. (a) Discuss the Role of counselors in genetic counseling.

Or

(b) Distinguish albinism and alkaptonuria.

15. (a) Explain the Sexduction.

Or

(b) Outline the Bacterial conjugation.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Illustrate the Dihybrid cross with example.

Or

(b) Explain the Dominant Epistasis with suitable example.

17. (a) Elaborate the different types of Mutation.

Or

(b) Summarize the Mechanism of DNA repair.

Page 5 Code No. : 30382 E

18. (a) Distinguish the Aneuploidy and Euploidy.

Or

(b) Outline the symptoms of Turner's syndrome and Klinefelters syndrome.

19. (a) Explain the merits and demerits of outbreeding.

Or

(b) Discuss the Genetic counseling and its need.

20. (a) Explain the Transduction in bacteria.

Or

(b) Outline the repetitive DNA.

Page 6 Code No. : 30382 E