

(6 pages)

Reg. No. : .....

Code No. : 10581 E Sub. Code : CMZO 41

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2024.

Fourth Semester

Zoology – Core

GENETICS

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

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Who is the Father of Genetics?  
(a) De vries (b) Mendel  
(c) Mc Doughal (d) Lamark
2. Skin colour in man is controlled by  
(a) Lethal gene (b) Multiple allele  
(c) Multiple gene (d) None

3. Restoring the damaged part of the DNA is called  
(a) DNA replication  
(b) DNA repair  
(c) DNA duplication  
(d) All the above
4. Choose the female sex chromosome abnormality from the following.  
(a) Kline felter's (b) Down  
(c) Turner's (d) Patua's
5. Which one of the following is called bleeder's disease?  
(a) Colour blindness (b) typhoid  
(c) haemophilia (d) AIDS
6. Choose the self duplicating, cytoplasmic particle in the paramecium.  
(a) Plasmid (b) Kappa particle  
(c) Cosmid (d) None

7. Black colour urine is due to the accumulation of
- Acetic acid
  - Homogentisic acid
  - Recombinant genes
  - Protogenes
8. When the population is in genetic equilibrium, the rate of evolution is \_\_\_\_\_
- 1
  - 100
  - 10
  - 0
9. Choose the modern name of gene.
- Muton
  - Cistron
  - Recon
  - None
10. Transfer of genes from one bacteria to another through plasmid is called
- Conjugation
  - Sexduction
  - Transduction
  - Transformation

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write short note on test cross.
- Or
- (b) Explain the monohybrid cross with example.
12. (a) Outline the types of linkage.
- Or
- (b) Explain the Gene mutation.
13. (a) Explain the Euploidy.
- Or
- (b) Outline the hypertichosis.
14. (a) Explain the alkaponuria.
- Or
- (b) Outline about an Inbreeding.
15. (a) Write short note on operon concept.
- Or
- (b) Outline the process of 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) Elaborate the Complementary genes with example.

Or

- (b) Explain, the Multiple allele with reference to ABO blood group.

17. (a) Explain the Mechanism of crossing over.

Or

- (b) Enumerate the construction of chromosomal map.

18. (a) Explain the sex determination in Man.

Or

- (b) Elaborate the Cytoplasmic inheritance with reference to kappa particle.

19. (a) Outline the Pedigree analysis.

Or

- (b) Explain the types of Eugenics.

20. (a) Explain the Griffith experiment with suitable example.

Or

- (b) Explain the lytic cycle of bacteriophage in transduction.