

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester B.Sc Zoology Degree Examination, March 2017  
**ZO4C04 – Genetics & Immunology**  
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 64

*Give illustrations wherever necessary*

**Part A**

**Answer all ten questions.**

1. Name from which cells carcinoma originates?
2. The metabolic error in which Phenyl alanine accumulates.
3. Who coined the term Gene?
4. Which is the initiation codon?
5. Name an agglutination reaction.
6. Name the sterile female cattle with some male features.
7. Name the mutant, imperfect and non-functional genes.
8. Which is the substance that enhances immunogenicity?
9. The branch of genetics which deals with science of better living.
10. Name any one auto immune disorder.

**(1 x 10 = 10 Marks)**

**Part B**

**Short answer question: Answer any seven of the following. .**

11. What is protoplast fusion? Explain'
12. Explain different types of enzymes and their role of in r DNA technology'
13. Enlist the characteristics of antigens'
14. Comment on the role of T- cells'
15. Write notes on in vitro fertilization.
16. Give an account of Southern blotting'
17. Explain major types of Antigen-Antibody interactions'
18. Briefly explain the theories of origin of cancer'
19. Explain X-linked inheritance with suitable examples'
20. What is gynandromorphism? Mention different types

**(2 x 7= 14 Marks)**

### Part C

#### Paragraph questions: Answer any four

21. Write an account of gene transfer techniques'
22. What is prenatal diagnosis? Explain different methods of prenatal diagnoses
23. Describe the practical applications of genetic engineering'
24. Give an account of vaccines
25. What is a vector? Write an account of various vectors used in genetic engineering.
26. What is immunity? Explain different types of immunological organs.

(4 x 5=20 Marks)

### Part D

#### Essay Questions. Attempt any two.

27. DNA as the genetic material, Illustrate with experimental evidence.
28. What is cancer? Explain the characteristics of cancer cells.
29. Differentiate karyotype from karyogram. Write an essay on different schemes of chromosome grouping.
30. What are immunoglobulins? Explain the structure and add a note on its role.

(2 x 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester B.Sc Zoology Degree Examination, March 2017  
ZO4B04 T – Animal Diversity – Chordata Part II  
(2015 Admission onwards)

Max. Time: 3 hours

Max. Marks: 80

Answer all questions [Give illustrations wherever necessary.]

**Part A**

**Answer All the Following Questions:**

1. Write down the dental formula of Rabbit.
2. Name the order to which Gorilla belongs.
3. What is the scientific name of Indian elephant?
4. Name any two extinct birds.
5. Name the lymphoid tissue which buds off lymphocytes in birds.
6. Give the common name of (a) *Funambulus* and (b) *Equus*.
7. Name the meninges in Pigeon.
8. Give the name of four flightless birds.
9. Give the common name of (a) *Bubo* and (b) *Apteryx*.
10. Give the name of two marsupials.

(10 x 1 = 10 Marks)

**Part B**

**Answer any TEN questions:**

11. Write notes on *Eudynamys*.
12. What is Coprophagy?
13. Give an account on Jerdon's Courser.
14. What is baleen teeth?
15. What is preening in birds?
16. What are pouched mammals?
17. List any four features of Order Psittaciformes.
18. Write notes on Indian Gaur.
19. Sketch and label the eye of Pigeon.
20. What is Synsacrum?
21. What is the stato-acoustic organ in Rabbit? What is its function?
22. Distinguish between Rectrices and Remiges.

(10 x 2 = 20 marks)

### Part C

Answer any FIVE questions

23. Briefly describe the structure of heart of *Oryctolagus*.
24. Write notes on egg-laying mammals.
25. List the adaptations of Order Cetacea.
26. Give an account on (a) *Struthio* and (b) *Psittacula*
27. List the features of Order Sphenisciformes.
28. Describe the nervous system of *Columba* with the help of diagrams.
29. Discuss the salient features of Order Artiodactyla with examples.
30. Give a brief account of *Archaeopteryx*.

(5 x 6 = 30 marks)

### Part D

Answer any TWO questions

31. Explain the respiratory system and the mechanism of double respiration in *Columba*.
32. Give an account of any five of the following:  
(a) *Macropus* (b) *Ratufa* (c) *Pteropus* (d) Tahr (e) Rhinoceros (f) Elephant
33. Enumerate the salient features of Class Aves. Compare the features with that of Palaeognathae.
34. Explain the digestive system of *Oryctolagus* with the help of suitable diagrams.

(2 x 10 = 20 marks)