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(Pages : 2)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Sixth Semester B.Sc Zoology Degree Examination, April 2025

BZL6E01 – Human Genetics

(2022 Admission onwards)

Time: 2hours

Max. Marks : 60

Section A

I. Short answer questions. Each question carries 2 marks.

1. Discuss the major genetic evidences for Out of Africa theory of human migration.
2. Write notes on Ehlers Danlos syndrome.
3. Write notes on Denver conference and its importance to human cytogenetics.
4. Comment on the significance of genetic counselling in human genetic studies.
5. Comment on 5 alpha-reductase deficiency.
6. What is NOR banding? Write notes on its applications
7. What is genomic imprinting?
8. Discuss intelligence as a genetic trait in humans.
9. What mosaicism? Discuss the mechanism behind its origin.
10. Write notes on Indian Genome Variation Initiative.
11. What is karyotyping? Discuss its importance to human cytogenetic studies.
12. Differentiate between ecogenetics and pharmacogenetics

(Ceiling: 20 marks)

Section B

II. Paragraph questions. Each question carries 5 marks

13. Discuss the causative factors symptoms and treatment for Alzheimers disease.
14. Discuss in detail genetic mutations and symptoms associated with cystic fibrosis
15. Discuss Pataus scheme of classification of human chromosomes with a note on characteristics of chromosomal groups.
16. Discuss different types of pedigree charts based on the inheritance pattern of traits.
17. Discuss the inheritance pattern of X linked recessive disorders.
18. Describe the biology of twinning and method of analysis of twin data.
19. Discuss the role of segmentation and pattern formation genes by citing an example

(Ceiling: 30 marks)

Section C

Essay questions. Answer any one question

20. Write an essay on the major structural modifications of human chromosome and their phenotypic manifestations.
21. Write an essay on various prenatal diagnostic techniques.

(1x10 = 10 marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, April 2025
BZL6B13 – Ethology, Evolution & Zoogeography
(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

Section A**I. Short answer questions. Each question carries 2 marks.**

1. What is instinct? Provide examples of instinctive behavior observed in insects.
2. What are biological rhythms? Mention their significance.
3. Differentiate between taxis and kinesis.
4. What is the role of the limbic system in behavior?
5. Explain the concept of genetic drift with an example.
6. Write a note on fossilization.
7. What is the Hardy-Weinberg principle? Mention one factor that disturbs it.
8. What are prezygotic isolating mechanisms? Give examples.
9. Define co-evolution with an example.
10. Write a brief note on the biogeographical realms.
11. Explain the significance of the Wallace line.
12. Mention any two faunal regions with their characteristic animals.

(Ceiling: 20 marks)**Section B****II. Paragraph questions. Each question carries 5 marks.**

13. Explain various types of learned behaviour with examples.
14. Describe the social behaviour of termites.
15. Write an account of the different types of natural selection.
16. Explain the concept of adaptive radiation with an example.
17. What are the major theories of evolution? Compare Darwinism and Neo-Darwinism.
18. Describe the different types of speciation.
19. Discuss the major barriers that affect animal distribution.

(Ceiling: 30 marks)**Section C****III. Essay questions. Answer any one question.**

20. Discuss the modern theories on the origin of life with suitable examples.
21. Explain different types of evidence supporting organic evolution.

(1 × 10 = 10 marks)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, April 2025

BZL6B12 – Environmental and Conservation Biology

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

Section A

I. Short answer questions. Each question carries 2 marks.

1. What are the main objectives of the Ramsar Convention
2. Elaborate extinction of species. Give an example.
3. Differentiate between perfect and imperfect cycles.
4. Elaborate ecological indicators with an example
5. Explain the terms ecotone and edge effect, highlighting their relationship.
6. Define the concept of an ecosystem and mention different kinds of ecosystems.
7. Summarize the main processes involved in nitrogen cycle
8. Discuss about any two ex-situ conservation method
9. Describe the different kinds of ecosystem
10. Compare between ex-situ and in - situ conservation method
11. Define Shelford's law of tolerance
12. Describe the role of IUCN in conservation of biodiversity

(Ceiling: 20 marks)

Section B

II. Paragraph questions. Each question carries 5 marks

13. Describe the different measures of toxicity
14. Explain how laws of thermodynamic is applicable to the energy flow in an ecosystem
15. Explain different kinds of negative population interactions
16. Explain population growth curves
17. Describe the biotic divisions of marine habitat
18. Describe briefly about the latest methods and technologies used in population estimation of animals
19. Describe the ecological impacts of tourism

(Ceiling: 30 marks)

Section C

III. Essay questions. Answer any one question

20. Explain the various characteristics of a community
21. Describe various threats to biodiversity

(1x10 = 10 marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, April 2025

BZL6B11 – Reproductive & Developmental Biology

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

Section A

I. Short answer questions. Each question carries 2 marks.

1. Define parthenogenesis? what are its significance?
2. Name any two secondary egg membranes
3. Differentiate GIFT and ZIFT
4. Describe pluripotency
5. Describe the type of placentation in human
6. What is capacitation of sperm? Why is it important?
7. Differentiate between semelparity and iteroparity
8. What is fate map?
9. Describe the structure of a graffian follicle
10. Define germplasm theory
11. Explain the function of corpus luteum in the female reproductive system
12. What are hox genes?

(Ceiling: 20 marks)

Section B

II. Paragraph questions. Each question carries 5 marks

13. Briefly explain menstrual cycle and its hormonal control.
14. Describe the primitive streak stage of chick embryo with a neat labelled diagram
15. Explain different types of prenatal diagnostic techniques.
16. Describe Spemann's constriction experiment
17. Describe different types of blastula
18. Describe the structure of human placenta and its functions
19. Briefly describe different teratogenic agents and their effects

(Ceiling: 30 marks)

Section C

III. Essay questions. Answer any one question

20. Briefly explain the development and functions of extra embryonic membrane in chick.
21. Describe the development of amphioxus up to gastrulation

(1x10 = 10 marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Sixth Semester B.Sc Zoology Degree Examination, April 2025

BZL6B10 – Physiology & Endocrinology

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

Section A

I. Short answer questions. Each question carries 2 marks.

1. What is asphyxia?
2. What is balanced diet?
3. What is cardiac cycle ?
4. Define osmoregulation ?
5. What is myocardial infarction ?
6. What is sarcomere ?
7. Describe the role of vitamin K in blood coagulation ?
8. What is ESR ? mention clinical significances?
9. What is ammonotelism ? Give one example.
10. Name the hormones secreted by adrenal cortex and adrenal medulla.
11. What is bioluminescence ?
12. What is synaptic fatigue ?

(Ceiling: 20 marks)

Section B

II. Paragraph questions. Each question carries 5 marks

13. Write a note on the importance of fibres in diet
14. Describe structure of haemoglobin
15. Describe the functions of blood ?
16. Explain the formation of urea
17. Explain the role of juxtaglomerular apparatus in the excretion
18. Briefly classify types hormones with examples.
19. Describe transport respiratory gases.

(Ceiling: 30 marks)

Section C

III. Essay questions. Answer any one question.

20. Write an essay on the hormones of female sexual cycle . Add notes on male and female sexual dysfunction.
21. Write an essay on the transmission of nerve impulses across an axon membrane.