

23ZOO-MJ7-2A
GOVERNMENT COLLEGE FOR WOMEN(AUTONOMOUS),SRIKAKULAM
REACCREDITED WITH NAAC 'A' GRADE

B.Sc (Regular) Semester-III
(2023-24 Admitted Batch)

Paper : Animal Bio-technology
Marks : 60

Time : 3 Hrs
Date : 11-12-2024

SECTION-A

I. Answer ALL questions. Draw neat, labelled diagrams wherever necessary. 5x8=40M

1. A). Describe the nomenclature, mode of action and applications of Type II Restriction Endonuclease Enzymes in genetic engineering.

(OR)

~~B).~~ What are cloning vectors? Write notes on Plasmid and Bacteriophage vectors.

2. A). Explain any 4 gene delivery methods used in Biotechnology.

(OR)

~~B).~~ Describe the procedure and applications of Southern blotting technique.

3. A). Write an essay on the natural and synthetic culture media used in Cell culture.

(OR)

~~B).~~ Describe the production of Monoclonal Antibodies through Hybridoma Technology. Add a note on any 4 applications of Mabs.

~~4. A).~~ Describe the manipulation of reproduction through In-Vitro Fertilization.

(OR)

B). What are transgenic animals? Write the applications of Transgenic sheep and Transgenic fish.

~~5. A).~~ Describe the procedure and applications of DNA fingerprinting.

(OR)

B). What is the concept and definition of Bioinformatics? Describe the different types of Databases.

SECTION-B

II. Answer any FIVE of the following. Draw diagrams wherever necessary. 5x4=20M

6. DNA Polymerases

~~7.~~ BACs

~~8.~~ Steps involved in PCR

9. Brief note on the materials required for Sanger's method of DNA Sequencing.

~~10.~~ Cryopreservation of cultures

~~11.~~ Applications of stem cells

~~12.~~ Embryo cloning

13. Embryo transfer

14. Monoculture in fishes

15. Applications of gene therapy.

23ZOO-MJ8-2A

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**B.Sc (Regular)Semester-III
(2023-24 Admitted Batch)**

**Paper : Evolution and Zoogeography
Marks : 60**

**Time : 3 Hrs
Date : 13-12-2024**

SECTION A

Answer all questions

5X8=40 Marks

1. (a). Explain the evolution of modes of nutrition.

Or

(b). Describe the biochemical origin of life with experimental proof.

2. (a). Describe the morphological and anatomical evidence of evolution.

Or

(b). Connecting and missing links are solid evidence of evolution. Explain.

3. (a). Describe the theory of Lamarckism & Neo Lamarckism.

Or

(b). Discuss Darwin's theory of natural selection.

4. (a). Write an essay on isolating mechanisms in evolution.

Or

(b). Describe the mutations and their significance in evolution.

5. (a). Explain the distribution of animals in the Neotropical realm.

Or

(b). Describe the barriers affecting animal distribution in the World.

SECTION-B

II. Answer any FIVE of the following:

Draw labeled diagrams wherever necessary.

5x4=20M

6. Eukaryotes are evolved accidentally. Justify.

7. Coacervates

8. Embryological evidence of evolution.

9. Biogeographical distribution as evidence of evolution.

10. Germplasm theory

11. Neo-Darwinism

12. Types of variations

13. Hardy-Weinberg equilibrium.

14. Oriental region

15. Australian region

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23ZOO-MJ6-2A
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B.Sc , (Regular) Semester-III
(2023-24 Admitted Batch)

III genetics

Paper : Principles of genetics
Marks : 60

Time : 3Hrs
Date : 10-12-2024

SECTION-A

Answer any FIVE of the following:

5x8-40M

Draw labeled diagrams wherever necessary.

1 ~~(A)~~ Describe Mendel's Dihybrid cross.

or

(B) Explain the principles of Mendel's Monohybrid cross.

2 ~~(A)~~ Explain the types and significance of Linkage.

or

(B) Describe the concept of crossing over.

3 ~~(A)~~ Describe the multiple alleles with examples.

or

(B) Describe the extrachromosomal inheritance in paramecium.

4 (A) Describe the chromosomal & genetic balance theory of sex determination.

or

~~(B)~~ Explain X-linked inheritance with human examples.

5. (A) Describe an autosomal recessive disorder in detail.

or

~~(B)~~ Human karyotyping is to find genetic disorders. Can you agree? If yes Justify.

SECTION-B

IL. Answer any FIVE of the following:

5x4-20M

Draw labeled diagrams wherever necessary.

6. Test cross & backcross

7. Pure lines & Inbreed lines

~~8.~~ Lethal Alleles

9. Epistasis & non-epistasis

~~10.~~ Polygenes

~~11.~~ Shell coiling in Snails

12. Hormonal & Environmental control of Sex determination

~~13.~~ Y- linked inheritance

~~14.~~ Pedigree Analysis

15. Genomics & Proteomics

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B.Sc (Regular) Semester-III
(2023-24 Admitted Batch)

Paper : Animal Diversity-II Biology of chordates
Marks : 60

Time : 3 Hrs
Date : 09-12-2024

SECTION-A

I. Answer ALL questions. Each question carries EIGHT Marks

5x8=40M

~~1. A). Describe the retrogressive metamorphosis seen in the life history of Herdmania.~~

(OR)

B). Compare the characteristics of Petromyzon and Myxine (any 16).

2. A). Describe the digestive system in Scoliodon

(OR)

~~B). Write an essay on the migration in fishes.~~

3. A). Describe the structure and functions of heart in Rana hexadactyla.

(OR)

B). Describe the identification of poisonous snakes.

4. A). Describe the respiratory system in Columba livia

(OR)

~~B). Write an essay on the flight adaptations in birds.~~

5. A). Classify the class Mammalia up to sub classes with examples.

(OR)

~~B). Describe the dentition in mammals.~~

SECTION-B

II. Answer any FIVE of the following. Draw diagrams wherever necessary.

5x4=20M

~~6. Cephalochordata~~

7. Cyclostomata

8. Placoid Scales.

~~9. Dipnoi.~~

~~10. Draw a neat labelled diagram of dorsal and ventral view of brain in Calotes.~~

11. Cutaneous respiration in frog.

12. General characters of Aves.

~~13. Reasons for migration in Birds.~~

~~14. Mammalia general characters.~~

15. Adaptations of aquatic mammals.
