

M.Sc. Previous Degree Examination

Aug/Sept 2009

Directorate of Distance Education
(Freshers)**ZOOLOGY****Paper-I : Animal Forms and Functions and Ecobiology**

Time : 3 Hours

Max. Marks : 85

- Note :**
1. All questions carry equal marks.
 2. Answer any TWO questions from Part A and TWO from Part B and Part C is compulsory.
 3. Illustrate the answers wherever necessary.

PART-A**2x15=30**

1. Give an account of "Hydrostatic movement in annelids and echinoderms".
2. Explain the 'excretory organs in invertebrates' and add notes on the mechanism of excretion in these animals.
3. Write an essay on 'evolution of urinogenital system in vertebrates'.
4. Comment on "Protochordates and their inter-relations".

PART-B**2x15=30**

5. Define 'Ecosystem'. Explain the structure / components of an 'ecosystem'.
6. Explain the various types of 'ecological adaptations' seen in terrestrial animals, with suitable examples.
7. What is 'Family planning'? Give an account of the various techniques employed for this, with their advantages and disadvantages.
8. Define 'community'. Add a note on the main types of communities seen in aquatic environment.

PART-C**5x5=25**

9. Write short notes on any FIVE of the following.
 - a) Cilia & Flagella
 - b) Alveoli
 - c) Cerebellum
 - d) Aortic arches
 - e) Ecological niche
 - f) Laws of thermodynamics
 - g) Mutualism

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Paper-II : Physiology and Biological Chemistry

Time : 3 Hours

Max. Marks : 85

- Note :**
1. All questions carry equal marks.
 2. Answer any TWO questions from Part A. TWO questions from Part B and Part C is compulsory.
 3. Illustrate the answers wherever necessary.

PART-A

2x15=30

1. Explain structure and functions of muscles.
2. How heat transfers between body and Environment? Explain.
3. Describe the functions of central nervous system.
4. Give an account on gastrointestinal disorders.

PART-B

2x15=30

5. Discuss the disorders of lipid metabolism.
6. Explain the metabolic activity of prostaglandins.
7. Describe the urea cycle.
8. Give an account on protein folding.

PART-C

5x5=25

9. Write short notes on any FIVE of the following.
 - a) Glycosuria
 - b) De-amination
 - c) Cholesterol
 - d) Coenzymes
 - e) tRNA synthesis
 - f) Lipo proteins
 - g) Purine synthesis

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Paper-III : Parasitology & Animal Behaviour

Time : 3 Hours

Max. Marks : 85

- Note :**
1. All questions carry equal marks.
 2. Answer any TWO questions from Part A, TWO questions from Part B and Part C is compulsory.

PART-A

15x2=30

1. Explain the pathogenicity of Digestive tract parasites.
2. Give an account on morphology and pathogenicity of Ascaris.
3. Write a detail account on life cycle and pathogenicity of plasmodium.
4. Write an essay on parasiticides.

PART-B

15x2=30

5. Explain Instinctive behaviour.
6. Give an account on Memory.
7. Explain social organisation in insect.
8. Comment on hormones and sexual behaviour.

PART-C

5x5=25

9. Write short notes on any FIVE of the following.
 - a) Mites
 - b) Fasciola
 - c) Parasitism
 - d) Imprinting
 - e) Single gene behaviour
 - f) Fleas
 - g) Pheromonal

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Paper-IV : Cytogenetics and Developmental Biology

Time : 3 Hours

Max. Marks : 85

PART-A

Answer any TWO of the following.

2x15=30

1. Describe the chemistry and ultrastructural organization of microtubules.
2. Explain the mechanisms of crossing over.
3. Elucidate the mechanisms of sex determination in man.
4. Give a detailed note on molecular structure of chromosome.

PART-B

Answer any TWO of the following.

2x15=30

5. Describe different cleavage types and molecular mechanisms.
6. Elucidate the role of maternal contribution in early embryonic development.
7. Give a detailed account on regeneration.
8. Explain the mechanism of neurulation during development.

PART-C

9. Write short notes on any FIVE of the following.

5x5=25

- a) Microtubules
- b) Competence
- c) Mini bands
- d) Teratogens
- e) Nuclear transplantation in *Acetabularia*
- f) r II locus
- g) Law of segregation

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