

M.Sc. Previous (Zoology) Examination, August/September 2008

Directorate of Correspondence Course

Paper – I : ANIMAL FORMS AND FUNCTIONS AND ECOBIOLOGY
(Freshers)

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

(2×15=30)

1. Explain in detail about the various types of movement in the protozoa.
2. Write an essay on vertebrate integument.
3. Discuss the general pattern of brain in vertebrates.
4. Give an account on respiratory organs of invertebrates.

PART – B

(2×15=30)

5. Explain the concepts of habitat and niche and add a note on Guss's principle.
6. Write an account on arial adaptations.
7. Give an account on freshwater communities.
8. Discuss the extrinsic and intrinsic mechanism of population regulation.

P.T.O.

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ZOOLOGY

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 from Part B and Part C is compulsory.

3) Illustrate the answers wherever necessary.

PART – A

(2×15=30)

1. Explain the digestion processes in the animals and add a note on its regulatory mechanism.
2. Write an essay on osmoregulatory process in aquatic animals.
3. Give an account on neurotransmitters and functions of cholinergic and adrenergic synapses.
4. Discuss the mechanism involved in temperature regulation in Poikilotherm.

PART – B

(2×15=30)

5. Give a detailed account on regulation of blood sugar.
6. Explain the protein metabolism.
7. Write an account on biochemistry of RNA and DNA.
8. Write an essay on application of enzymes.

P.T.O.

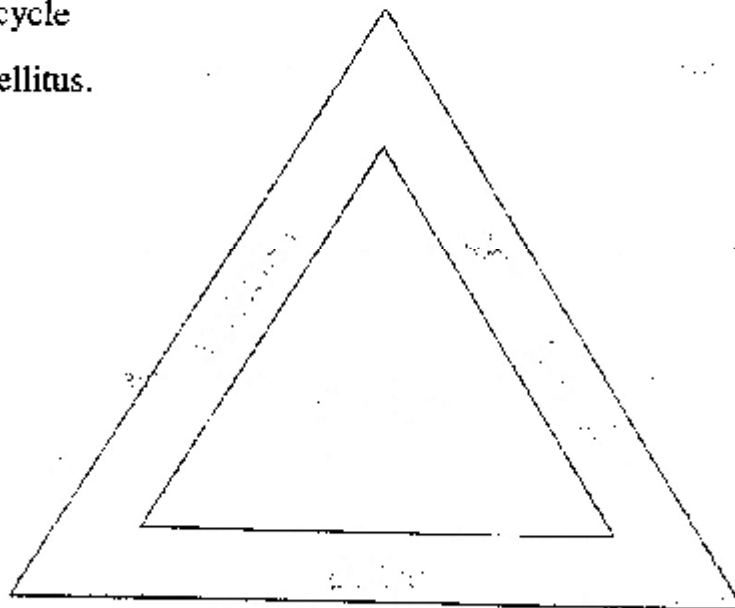


PART - C

(5x5=25)

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

- a) Skeletal muscles
- b) Peptic ulcer
- c) Reflex mechanisms
- d) Hydrogen bonds
- e) Glycolysis
- f) Citric acid cycle
- g) Diabetes mellitus.





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Paper – III : PARASITOLOGY AND ANIMAL BEHAVIOUR (Fresher)

Time: 3 Hours

Max. Marks : 85

Notes : 1) All questions carry equal marks.

2) Answer any TWO questions from Part A and TWO from Part B and Part C is compulsory.

PART - A

1. Write an essay on origin and evolution of parasites.
2. Explain distribution, morphology and pathogenicity of Leishmaniasis.
3. Describe the entry of pathogens through digestive tract.
4. Write an essay on culture techniques for parasites.

PART- B

5. Give an account of reflex and complex behaviour.
6. Describe biological clocks and biological rhythms.
7. Write an essay on genes and behaviour.
8. Give detailed account of social organization in primates.

PART - C

9. Write short notes on any **FIVE** of the following: (5×5=25)
- a) Tin Bergen's experiment
 - b) Hymenolepis
 - c) Flea.
 - d) Memory.
 - e) Sexual selection.
 - f) Ticks.
 - g) Drugs and memory.
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Paper – IV : CYTOGENETICS AND DEVELOPMENTAL BIOLOGY

Time : 3 Hours

Max. Marks : 85

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

PART - A

(2×15=30)

1. Give an account on organization of cell membrane and functions.
2. Explain in detail the sex determination in *Drosophila*.
3. Describe the role of microtubules in cell division.
4. With examples, discuss the split genes and their biological significance.

PART - B

(2×15=30)

5. Discuss in detail, the early embryonic development of *Drosophila*.
6. Give an account on Fate maps.
7. Discuss the mechanisms of neurulation and gastrulations with suitable examples.
8. Explain regeneration with suitable examples.

PART - C

(5×5=25)

9. Write short notes on any FIVE of the following :
 - a) Nuclear transplantation in Amphibia
 - b) Teratogens
 - c) Solenoid model
 - d) Law of independent assortment
 - e) Crossing over
 - f) Imaginal discs
 - g) Homeotic mutations.