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4/12/17

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Roll No.

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S. No. of Question Paper : 6731

Unique Paper Code : 32231101

1200

HC

Name of the Paper : Non-Chordates I : Protists to  
Pseudocoelomates

Name of the Course : B.Sc. (H) Zoology

Semester : I

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any five questions including

Q. No. 1 which is compulsory.

Attempt various parts of question at one place only.

Draw well-labelled diagrams wherever necessary.

1 (a) Differentiate between the following pairs of terms (any four) :

8

(i) Primary host and Secondary host

(ii) Polyp and Medusa

(iii) Cilia and Flagella

P.T.O.

- (iv) Hermatypic corals and Ahermatypic corals
- (v) Encystation and Excystation
- (vi) Mature binucleate cyst and quadrinucleate cyst of *Entamoeba histolytica*.

(b) Define the following terms (any three) : 3

- (i) Cyclosis
- (ii) Metamerism
- (iii) Radial symmetry
- (iv) Polyembryony.

(c) Give one function of each of the following : 4

- (i) Renette cells
- (ii) Contractile vacuole
- (iii) Trichocysts
- (iv) Seminal receptacle.

(d) Give generic names of any five of the following organisms. Classify up to class and write one identifying feature of phylum in each case : 10

- (i) Glass rope sponge
- (ii) Pork tapeworm
- (iii) Filarial worm
- (iv) Mushroom Coral
- (v) Organ pipe coral
- (vi) Comb jelly.

- (e) Match the terms in Column 'A' with the organisms in Column 'B' : 2

## Column 'A'

## Column 'B'

- |                      |                    |
|----------------------|--------------------|
| (i) Amphids          | (1) <i>Amoeba</i>  |
| (ii) Pinacoderm      | (2) <i>Aurelia</i> |
| (iii) Statocyst      | (3) <i>Ascaris</i> |
| (iv) Circumvallation | (4) <i>Sycon</i>   |

- 2 (a) With the help of neat labelled diagrams explain the process of conjugation in *Paramecium*. Add a note on its significance. 8
- (b) Explain the sol-gel theory of amoeboid movement. Draw suitable diagrams to explain the movement. 4
3. Give a detailed account of the life cycle and pathogenicity of the filarial worm. Add a note on its nocturnal periodicity in human beings. 12
4. Explain the different types of canal system found in poriferans. Draw well labelled diagrams and add a note on the importance of canal system in sponges. 12
5. Give the scientific and common name of the parasite causing liver rot in sheep. Describe its life cycle in detail supported with neat and labelled diagrams. 12

6. (a) Write the general characteristics of phylum Ctenophora. Discuss its affinities with Phylum Cnidaria. 6
- (b) Give a brief account of the parasitic adaptations in cestodes. 6
7. Write short notes on any *three* of the following : 4,4,4
- (a) Coral reefs
- (b) Reproduction in *Euglena*
- (c) Erythrocytic life cycle of *Plasmodium vivax*
- (d) Metagenesis in *Obelia*
- (e) Segmentation in metazoans.

(17)

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Roll No.

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S. No. of Question Paper : 6732

Unique Paper Code : 32231102

HC

Name of the Paper : Perspectives/Principles of Ecology

Name of the Course : B.Sc. (Hons.) Zoology

Semester : I

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all, including

Question No. 1 which is compulsory.

1. (a) State whether the following statements are true or false : 4
- (i) Human population shows concave type of survivorship curve.
- (ii) All individuals of same species that can interact are known as community.
- (iii) Maximum theoretical production of new individuals under ideal conditions is known as exponential growth.
- (iv) The primary cause of loss of biodiversity is habitat loss.



(b) Name the scientists associated with the following terms : 6

(i) Exponential growth curve

(ii) Ecology

(iii) Trophic niche

(iv) Law of tolerance

(v) Logistic equation

(vi) Ecological efficiency.

(c) Define the following : 5

(i) Seral stage

(ii) Ecosystem

(iii) Mutualism

(iv) Food web

(v) Biodiversity.

(d) Differentiate between : 12

(i) Natality and Mortality

(ii) Concave and Convex survivorship curve

(iii) Commensalism and Mutualism.

(iv) Dispersal and Dispersion

(v) Autoecology and Synecology

(vi) Autogenic and Allogenic succession.

2. (a) Define population. Explain the density dependent factors that regulate the growth of a population. 9
- (b) Explain Gause's principle. 3
3. (a) What do you understand by succession ? Discuss in detail the process of ecological succession in any *one* ecosystem. 9
- (b) Briefly explain the vertical stratification in any *one* ecosystem. 3
4. Write in detail about wildlife conservation and management. 12
5. (a) Explain briefly the laws of limiting factors. 6+6
- (b) What are 'r' and 'k' strategies ?

6. (a) Explain Nitrogen cycle with the help of diagram. 8
- (b) Explain Ecotone and edge effect. 4
7. Write short notes on any *three* : 4+4+4
- (i) Linear and Y-shaped food chain
- (ii) Ecological pyramids
- (iii) Climax community
- (iv) Human Modified Ecosystem.



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Your Roll No.....

Sr. No. of Question Paper : 5823

H

Unique Paper Code : 223101

Name of the Paper : Biodiversity I (Non-Chordata)  
[ZOHT-101]

Name of the Course : B.Sc. (Hons.) Zoology

Semester : I

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any Five questions including Question No. 1 which is compulsory.
3. All the parts of a question must be attempted together.
4. Draw well-labelled diagrams wherever necessary.

1. (a) Define the following terms :

(i) Cyclosis

(ii) Acoelomate

P.T.O.

(iii) Polymorphism

(iv) Gemmule

(4)

(b) Differentiate between the following pairs :

(i) Statocyst and Nematocyst

(ii) Protostome and Deuterostome

(iii) Gastrozooids and Dactylozooids

(iv) Conjugation and Binary fission

(8)

(c) Write **one** function of the following :

(i) Contractile vacuole

(ii) Polian vesicle

(iii) Typhlosole

(3)

(d) Give the generic name and classify the following :

(i) Glass rope sponge

(ii) Cuttle fish

(iii) Sea cucumber

(iv) Leech

(8)

(e) Match the following :

<i>Pila</i>	:	Renette cell	
<i>Spongilla</i>	:	Infraciliary system	
<i>Ascaris</i>	:	Pinacocyte	
<i>Paramecium</i>	:	Mantle	(4)

2. Discuss the mechanism of torsion. Explain various theories of torsion and its significance in gastropods. (12)
3. (a) Write the general characteristic of Phylum Annelida.  
(b) Give the structural organization of *Sycon* body wall with the help of well labelled diagrams. (6,6)
4. (a) Give an account of social life in insects.  
(b) Discuss the sol-gel theory of locomotion in *Amoeba*. (6,6)
5. Describe the life cycle of *Ascaris lumbricoides* in detail and add a note on its parasitic adaptations. (12)
6. What is an ommatidium? Describe its structure and function in detail. (12)

7. Write short notes on **any three** of the following :

(a) Coelom

(b) Metamerism

(c) Coral reefs

(d) Water vascular system

(4+4+4)