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North Bengal St. Xavier's College
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Rajshahi, Post Box No.-1
Pin.- 735134, Dist.- Jalpaiguri

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 1st Semester Examination, 2019

CC1-ZOOLOGY

NON-CHORDATES

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

All symbols are of usual significance.

1. Answer any **five** questions from the following: 1×5 = 5
 - (a) Define systematics.
 - (b) Define Metagenesis.
 - (c) What is monaxon spicules?
 - (d) What is blepharoplast?
 - (e) What are the infective stages of *Plasmodium vivax* to man and mosquito?
 - (f) What are Lasso cells?
 - (g) Define Pseudometamerism.
 - (h) Write one diagnostic character of Platyhelminthes.

2. Answer any **three** questions from the following: 5×3 = 15
 - (a) Describe the Sol-gel theory of formation of pseudopodia.
 - (b) Write a note on cell types of porifera.
 - (c) Write a note on present threat of coral reef. What is coral bleaching? 3+2
 - (d) Write short note on symmetry of animals with their significance.
 - (e) Describe the general characteristics of phylum Ctenophora.

3. Answer any **two** questions from the following: 10×2 = 20
 - (a) Describe the different principle of ICZN. Write a note on Carl Woese concept of classification. 5+5
 - (b) Describe leuconoid type of canal system. Differentiate between asconoid and syconoid type of canal system. 7+3
 - (c) Define conjugation. Write the factor that promote conjugation in *Paramoecium*. Describe the process of conjugation in *Paramoecium* with labeled diagram. 2+2+6
 - (d) Define polymorphism. Describe the different medusoid forms of Cnidaria with examples. Write the significance of polymorphism. 2+5+3

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B.Sc. Honours 1st Semester Examination, 2019

CC2-ZOOLOGY

ECOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates should answer in their own words and adhere to the word limit as practicable.

All symbols are of usual significance.

1. Answer any **five** questions from the following:

1×5 = 5

(a) Eurythermal means:

- (i) Can tolerate wide range of temperature
- (ii) Cannot tolerate wide range of temperature
- (iii) Can tolerate both range of temperature
- (iv) None of the above.

(b) An one-way outward movement of an animal in groups is called—

- (i) Migration
- (ii) Emigration
- (iii) Dispersion
- (iv) Immigration

(c) What is meant by food web?

(d) Name the enzyme which is key to bixfixation of Nitrogen.

(e) Write the full form of NBWL.

(f) The geographic limits within which a population exists is its—

- (i) Niche
- (ii) Habitat
- (iii) Range
- (iv) Territory

(g) Transition zone between two ecosystems is termed—

- (i) Ecad
- (ii) Ecotone
- (iii) Edi
- (iv) None of these

(h) Energy and nutrients enter a community by the way of the—

- (i) Producer
- (ii) Consumer
- (iii) Scavenger
- (iv) Detritivores

2. Answer any **three** questions from the following:

5×3 = 15

(a) Write differences between *r*-selection and *k*-selection.

(b) Write a short note on vertical stratification of community.

(c) Write short note on Alpha, Beta and Gamma diversity.

(d) Write a note on management strategies of tiger conservation.

(e) Write a short note on limiting factor.

3. Answer any *two* questions from the following: 10×2 = 20
- (a) What do you understand by the term 'Climax' in ecology? Describe monocl原因 and polyclimax theory. Write briefly on climax community. 2+6+2
 - (b) Define competition. Write the differences between intraspecific and interspecific competition. Describe Lotka-Volterra model for competition. 1+3+6
 - (c) Describe three general types of survivorship curves with example. Write a short note on means of dispersal. Add a note on effects of dispersal on populations. 4+4+2
 - (d) What do you mean by gross primary productivity and net primary productivity? Discuss the basic features of energy flow in an ecosystem as proposed by Odum (1968) in "Universal Energy Flow Model". Elucidate the term ecological efficiency. 2+6+2

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