

The Assam Royal Global University, Guwahati

Royal School of Life Sciences

M.Sc Zoology , 1st Semester

Semester End Examination , December 2018

Course Title : BIOSYSTEMATICS AND TAXONOMY

Course Code: ZOO144C101

Time: 3 hours

Maximum Marks: 70

Note : Attempt all questions as per instructions given
The figure in the right hand margin indicate marks.

SECTION-A

1. Answer the following . (Maximum word limit 50)

2x8

- What is Cytotaxonomy ?
- Define biosystematics. Write one application of biosystematics.
- What do you mean by panmictic and apomictic species ?
- What is infra species group ? Name the different infra specific group .
- What is taxonomic character ? How many types of taxonomic characters are there ?
- What are the different taxonomic procedures ?
- What are the different kinds of publications ?
- Define ICZN. What is the function of ICZN.

SECTION-B

2. Answer the following : (any one)

10

- Calculate the similarity and dissimilarity index for the following two fish communities :

Community 1 :

<i>L. Rohita</i>	<i>C. carpio</i>	<i>M. vittatus</i>	<i>P. sarana</i>	<i>R. rita</i>
5	3	6	3	2

Community 2 :

<i>P. sarana</i>	<i>P. ticto</i>	<i>B. dario</i>	<i>M. vittatus</i>	<i>C. carpio</i>
6	10	6	5	4

- Write about the application of biosystematics and taxonomy.

3. Answer the following (any three)

4x 3

- a) What is Phyletic lineages? Give an account on different types of phyletic lineage
- b) Write a note on different species concept.
- c) Discuss the infra specific groups.
- d) what are the major hurdles in the biological species concept? Discuss.

4. Answer the following (any two)

6x2

- a) What are the different kinds of taxonomic key?
- b) Give a brief account on taxonomic procedures.
- c) Write a note physiological taxonomic character.

5. Answer the following : (any two)

6x2

- a) Write a note on the process of typication.
- b) Write a note on the formation of scientific name of different taxa in Zoological Nomenclature.
- c) Calculate the Shanon Weiner index for the following community.

[log values: $\ln 1=2$, $\ln 11= 2.39$, $\ln 10= 2.30$, $\ln 3= 1.09$, $\ln 5= 1.60$]

Grasshopper	Mice	Beetles	Wasp	Pigmy Hog
10	3	5	11	1

SECTION-C

6. Answer the following:

Discuss speciation and its mechanism in detail.

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