



**UNIVERSITY OF NORTH BENGAL**  
B.Sc. Honours Part-III Examination, 2021

**ZOOLOGY**

**PAPER-X (New Syllabus 2015)**

**APPLIED ZOOLOGY, CONSERVATION BIOLOGY AND WILDLIFE AND GENERAL  
INFORMATICS AND BIOINFORMATICS**

Full Marks: 80

**ASSIGNMENT**

*The figures in the margin indicate full marks.*

**Answer any four questions taking at least one from each of the three Groups** 20×4 = 80

**GROUP-A**

**(APPLIED ZOOLOGY)**

1. Describe the life cycle of mulberry silkworm with suitable diagram and briefly describe the method of reeling and extraction of silk fibre from the cocoon.
2. With the help of a diagram, briefly describe the phases of growth of cells in culture medium and mention the advantages and disadvantages of primary and secondary cell culture. Add a note on cell lines.
3. Briefly describe the composite fish culture mentioning the scientific name of the fishes and their feeding habit in the 6 species polyculture and add a note on induced breeding by hypophysation and its advantages.

**GROUP-B**

**(CONSERVATION BIOLOGY AND WILDLIFE)**

4. Explain the *in situ* and *ex situ* conservation citing suitable example with a comparative account of National Park, Sanctuary and reserve forest.
5. Give an account of the categories of wildlife proposed by IUCN citing examples with notes on Rhino Project and Tiger Project.
6. Enumerate the causes of loss of Indian wildlife and give a brief account of the current status of threatened mammals, birds, reptiles and amphibians in India.

**GROUP-C**

**(GENERAL INFORMATICS AND BIOINFORMATICS)**

7. Enumerate the different classes of biopesticides and the mechanism of the insecticidal action of *Bacillus thuringiensis*.
8. Describe the principle, steps, applications and limitations of PCR with note on primer designing.
9. Give a brief description of different types and uses of biopolymers with a brief note on nucleotide sequence database.

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