



'समानो मन्त्रः समितिः समानी'

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 3rd Semester Examination, 2023

**GE2-P1-ZOOLOGY**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

**The question paper contains GROUP-A, B, and C.  
Candidates are required to answer any *one* from the *three* GROUPS and  
they should mention it clearly on the Answer Book.**

**GROUP-A**

**ANIMAL DIVERSITY**

1. Answer any **five** questions from the following: 1×5 = 5
  - (a) What is apical complex?
  - (b) Name the locomotory organelle of *Paramecium*.
  - (c) Give two examples of acoelomates.
  - (d) What is radula?
  - (e) What is venom?
  - (f) Ookinete stage of *Plasmodium* is found in \_\_\_\_\_ (Fill in the blank).
  - (g) Name different types of feathers.
  - (h) What is Laurer's canal?
  
2. Answer any **three** questions from the following: 5×3 = 15
  - (a) Write the general characteristics of the phylum Cnidaria with proper examples.
  - (b) Briefly describe the social life in honey bee.
  - (c) Describe briefly the process of pearl formation in molluscs with suitable diagram.
  - (d) Write the difference between cartilaginous and bony fish with proper examples.
  - (e) State the general characteristics of the phylum Annelida with suitable examples.
  
3. Answer any **two** questions from the following: 10×2 = 20
  - (a) Write the general characters of the phylum Echinodermata. What are Pollian vesicles and Tidemann's body? Write about Aristotle's Lantern. 6+2+2

- (b) Distinguish Acoelomate and Pseudocoelomate with proper examples. Name two parasitic nematodes. Write the general characters of the phylum Platyhelminthes. 2+2+6
- (c) Discuss on the parental care in Amphibia. Give examples of one limbless and one tailed amphibians. 8+2
- (d) Write the general characters of the class Reptilia. Differentiate between poisonous and non-poisonous snakes. 6+4

### GROUP-B

#### INSECT VECTORS AND DISEASES

1. Answer any **five** questions from the following: 1×5 = 5
- (a) What is zoonosis?
- (b) Ticks and Mites belong to order \_\_\_\_\_. (Fill in the blank)
- (c) What do you mean by definitive host?
- (d) What is trophozoite?
- (e) Which type of mouthparts do Siphunculata possess?
- (f) Name the disease caused by Rickettsia.
- (g) In which thoracic segments, a pterygote insect has wings?
- (h) Mention the insect order which has highest number of insect species.
2. Answer any **three** questions from the following: 5×3 = 15
- (a) Briefly describe the pathogenicity of phlebotomus fever.
- (b) Differentiate between *Anopheles* and *Culex* mosquitoes.
- (c) Explain the role of bed bug as mechanical vector. What features make them important disease vectors? 3+2
- (d) Briefly elucidate the distinguishing features of order Siphunculata with examples of vectors, pathogens they carry and diseases caused.
- (e) Which insect transmit the Chagas disease? Write down the symptoms and diagnostic features. 1+4
3. Answer any **two** questions from the following: 10×2 = 20
- (a) What is a carrier? Which organism carries pathogen for lymphatic filariasis? Briefly explain the infection pathway of filarial pathogen. 3+1+6
- (b) Define reservoir. How does it differ from a vector? Give a detailed description of adaptive features that a vector develops to achieve host-specificity. 1+2+7
- (c) Describe insect head and types of antennae with special reference to order Coleoptera.
- (d) Discuss the causative agent, major symptoms, epidemiology and control measures of Dengue Haemorrhagic fever. 2+3+2+3

**GROUP-C**  
**AQUATIC BIOLOGY**

1. Answer any *five* of the following: 1×5 = 5
- (a) What is bathymetry?
  - (b) What are wetlands?
  - (c) Name one marine zooplankton species.
  - (d) What is BOD?
  - (e) What is Van Dorn Bottle?
  - (f) Name two marine benthic animal species.
  - (g) Give an example of green algae.
  - (h) What is Zooxanthellae?
2. Answer any *three* of the following: 5×3 = 15
- (a) Discuss the energy flow in any aquatic ecosystem.
  - (b) What are important adaptations of deep sea animals?
  - (c) Explain the evil effects of agricultural pollution on freshwater ecosystem.
  - (d) Explain the need for an overall strategy for management of water resources.
  - (e) Write a short note on the water (Prevention and control of pollution) Act, 1974.
3. Answer any *two* of the following: 10×2 = 20
- (a) Describe Lake ecosystem and write about its morphometry.
  - (b) Describes the Corals and Coral reefs. Add a note on the theories of Coral reef formation. 6+4
  - (c) Describe the physico-chemical properties and biotic characteristics of inter-tidal zones.
  - (d) What are the major causes of water pollution? Name any one disease caused by water pollutants and add a note on its symptoms and control measures. 5+5

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