



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 3rd Semester Examination, 2022

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 polian vesicle?
 - (b) Name two integumentary glands in mammals.
 - (c) What is coelom?
 - (d) Name the type of migration exhibited by Hilsa fish.
 - (e) What are the functions of ostia and osculum in sponges?
 - (f) What is madreporite?
 - (g) What do you mean by Homocercal tail?
 - (h) Give the scientific name of Pearl oyster.
2. Answer any *three* questions from the following: 5×3 = 15
- (a) Write down the general characteristic features of phylum Annelida.
 - (b) Give a brief description of the poison apparatus of snakes.
 - (c) Briefly describe the characteristic features of nematode with proper example.
 - (d) Write a short note on flight adaption in birds with suitable examples.
 - (e) Name the phylum of the following animals:
 - (i) Starfish
 - (ii) Silverfish
 - (iii) Hagfish
 - (iv) Jellyfish
 - (v) Dogfish

3. Answer any **two** questions from the following: 10×2 = 20
- (a) Write the characteristic features of class Mammalia with proper example. What are the functions of sweat gland and sebaceous gland? Give an example of oviparous mammal. 6+3+1
- (b) What is venom? Describe the different type of fangs in venomous snakes. Give examples of different types of venom in snakes. 1+6+3
- (c) Describe the life cycle of Plasmodium vivax. Add a note on preventive measures. 7+3
- (d) What is Metamerism? Describe different theories regarding origin of metamerism. Comment on significance of Metamerism in Annelida. 2+5+3

GROUP-B

INSECT VECTORS AND DISEASES

1. Answer any **five** questions from the following: 1×5 = 5
- (a) Define mechanical vector. Give an example.
- (b) What is Myiasis? Name one vector.
- (c) What is an ectoparasite? Give example.
- (d) Which disease is transmitted by “Kissing Bugs”?
- (e) How reservoirs are different from the carrier?
- (f) What do you understand by Tropical Splenomegaly?
- (g) Write one biological control measure of mosquito.
- (h) Write name of the vector for Typhus fever.
2. Answer any **three** questions from the following: 5×3 = 15
- (a) Write the control measures of the vectors responsible for Myiasis.
- (b) What do you understand by haematophagy? Give two examples of insects which follow this.
- (c) Write the important features of order Siphonaptera. What features make them important disease vectors?
- (d) Make a comparative account of Malarial fever, Phlebotomus fever and Dengue fever.
- (e) Describe the transmission and prevention of Bubonic Plague.
3. Answer any **two** questions from the following: 10×2 = 20
- (a) Discuss the major symptoms, epidemiology and treatment of encephalitis. 3+3+4
- (b) Briefly describe the Compound Eye of an insect. How do they visualize an object? Explain in detail. 6+4
- (c) How Public Health Sectors can tackle insect borne disease? Write the different measures that can be taken by individuals to minimize the spread of vector borne diseases. 5+5
- (d) Describe the major symptoms, epidemiology and treatment measures of Leishmaniasis. 4+3+3

GROUP-C
AQUATIC BIOLOGY

1. Answer any **five** questions from the following: 1×5 = 5
- (a) Expand C.O.D.
 - (b) Give an example of Wetland Ecosystem found in North Bengal.
 - (c) What is Bioremediation?
 - (d) Define sewage.
 - (e) State two possible causes of Eutrophication.
 - (f) Which nutrient cycle is known as sedimentary cycle?
 - (g) What is Bioturbation?
 - (h) Animals living in the bottom of the Aquatic system is known as _____ (Fill in the blank).
2. Answer any **three** questions from the following: 5×3 = 15
- (a) Write a short note on BOD.
 - (b) Write a short note on any two types of wetland ecosystem studied by you.
 - (c) Comment on pollution of aquatic ecosystem by oil spills. Name one organism used in oil spill Bioremediation.
 - (d) With suitable sketch illustrate Zonations of a Lake Ecosystem.
 - (e) How does the level of dissolved gases (O₂ and CO₂) affect the distribution of organisms in an aquatic ecosystem?
3. Answer any **two** questions from the following: 10×2 = 20
- (a) Discuss the impact of light, temperature, turbidity and dissolved gases on a lake ecosystem. 4+3+3
 - (b) Write a short essay on sources and causes of pollution of aquatic ecosystems. Describe the strategies to counter them. 6+4
 - (c) Write an account on the process of municipal waste-water treatment. Add a note on the possible uses of treated sewage water. 6+4
 - (d) Point out the morphological, physiological and behavioural adaptations of deep sea organisms. 4+3+3

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