



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 6th Semester Examination, 2023

DSE-P3-ZOOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

**The question paper contains two groups GROUP-A and GROUP-B.
The candidates are required to answer any *one* from *two* groups and
candidates should mention it clearly on the Answer Book.**

GROUP-A

MICROBIOLOGY

1. Answer any **five** of the following: 1×5 = 5
 - (a) What do you mean by viral shedding?
 - (b) What is acid fast staining?
 - (c) What is a magnetosome?
 - (d) Define antigenic-switching.
 - (e) Name the causative agent of typhoid in human.
 - (f) Name one pandemic disease.
 - (g) Name a microorganism present as normal flora in the urino-genital tract.
 - (h) Who proposed the “germ theory of disease”?

2. Answer any **three** of the following: 5×3 = 15
 - (a) What is an exotoxin? State its characteristics. 3+2
 - (b) Discuss Carl Woese’s three domain classification system.
 - (c) Briefly narrate the normal microbial flora of human body.
 - (d) Distinguish between Gram-positive and Gram-negative bacteria.
 - (e) Mention the chemical structure and function of bacterial capsule.

3. Answer any **two** of the following: 10×2 = 20
 - (a) Delineate various sorts of culture media that you have studied for growing microorganisms. Comment on Koch’s postulates. 6+4
 - (b) Define bacterial transformation. Give an account of transformation with emphasis on Griffith’s experiment. Draw a suitable diagram. 2+6+2

- (c) What is the causative agent of staphylococcal food poisoning? Discuss the symptoms, pathogenesis and preventive measures for staphylococcal food poisoning. 1+3+3+3
- (d) State the routes of entry for viral pathogens. How are the viral pathogens decimated to secondary sites? Add a note on "termination of acute infection". 4+3+3

GROUP-B

PARASITOLOGY

1. Answer any **five** of the following: 1×5 = 5
- (a) How can you identify the male and female *Ascaris* sp?
 - (b) What do you mean by hyperparasitoid?
 - (c) Define obligatory parasite.
 - (d) State the habitat of *Schistosoma haematobium*.
 - (e) Which parasitic infestation causes scabies?
 - (f) Differentiate between mechanical and biological vector.
 - (g) What is the gynaecophoric canal?
 - (h) Name the motile, feeding stage of Protozoans.
2. Answer any **three** of the following: 5×3 = 15
- (a) What is a vector? Differentiate between hard ticks and soft ticks. 1+4
 - (b) Write about the diagnosis and prophylaxis of Trichinellosis. 2+3
 - (c) Give a brief account of the parasitic behaviour of Vampire Bat.
 - (d) Explain what is meant by nocturnal periodicity of microfilaria of *Wuchereria bancrofti*. What is meant by elephantiasis? 3+2
 - (e) Briefly narrate the morphology and life cycle of *Xenopsylla cheopis*.
3. Answer any **two** of the following: 10×2 = 20
- (a) Describe the biology, life cycle, importance and control measures of *Cimex* sp. 2+3+3+2
 - (b) Delineate the life cycle of *Brugia malayi* with suitable diagram. Comment on its pathogenicity. 5+2+3
 - (c) Explain the prevalence, pathogenicity and treatment of *Ancylostoma duodenale*. 2+4+4
 - (d) Discuss the morphology of the various forms of *Trypanosoma gambiense*. Differentiate host and vector. Write a note on prevention and control of sleeping sickness. 6+2+2

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