



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours Part-III Examination, 2022

**ZOOLOGY**

**PAPER: ZOOA-VIII**

Time Allotted: 4 Hours

Full Marks: 100

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

1. Answer any **ten** questions from the following: 2×10 = 20
- What is delamination? Give an example.
  - What are extra-embryonic membranes?
  - What is xenobiotics?
  - What is the significance of round dance of honey bee?
  - Name one each of indigenous goat and lamb breed of India.
  - Which organ of human body has a major role in detoxification process?
  - What is the composition of lac?
  - What is Leydig cell? State its function.
  - What is acrosomal reaction?
  - What is voltinism in silk moth?
  - Write the scientific name of one fresh water and brackish water fish.
  - What is culling?
  - State the role of GnRH in spermatogenesis.
  - What is hypnozoite?
  - What is economic threshold?
  - Name two hormones released from pituitary gland used in fish breeding.
2. Answer any **five** questions from the following: 5×5 = 25
- What is sperm capacitation? How polyspermy can be prevented in mammals? 3+2
  - What are polar bodies? Describe the process of cleavage in telolecithal egg. 2+3
  - What are Hox genes? Discuss their role in development. 1+4
  - Discuss the process of gastrulation in zebra fish with suitable diagram. 5
  - Describe the Genic balance theory of sex-determination in *Drosophila*. 5
  - How the primitive streak is formed? Discuss the migration of cell through the primitive streak. 2+3

- (g) Describe various events of the development of brain in chick embryo with suitable diagram. 5
- (h) Write short notes on the following:  $2\frac{1}{2} \times 2$
- (i) Cell Potency
- (ii) Vitellogenesis.
3. Answer any **three** questions from the following:  $5 \times 3 = 15$
- (a) What is ozone hole? State the causes and adverse effects of ozone hole. 1+4
- (b) Write the full form of ELISA. Elaborate the role of ELISA as in-vitro toxicological test. 1+4
- (c) Explain dose-response relationship. What is xenobiotic metabolism? Name two enzymes take part in detoxification process. 2+2+1
- (d) What is bioremediation? Mention any one method adopted for bioremediation of water pollution. 1+4
- (e) Write short notes on any **two** of the following:  $2\frac{1}{2} \times 2$
- (i) EIA
- (ii) Arsenic Poisoning
- (iii) East Calcutta Wetland.
4. Answer any **two** questions from the following:  $5 \times 2 = 10$
- (a) Briefly narrate the pathogenicity of *Wuchereria bancrofti*. Comment on the periodicity of this parasite. 3+2
- (b) Define parasitism. Distinguish between infestation and infection. State the pathogenic symptoms of chikungunya. 1+2+2
- (c) Give an account on Erythrocyte Schizogony of malarial parasite. Why malarial fever appear at specific time interval? 3+2
- (d) Write short notes on the following:  $2\frac{1}{2} \times 2$
- (i) Pathogenicity
- (ii) Scrub typhus.
5. Answer any **six** questions from the following:  $5 \times 6 = 30$
- (a) Write the scientific name of lac insect. Distinguish between brood lac and seed lac. Mention their uses. 1+2+2
- (b) How is nectar changed into honey by honey bees? State the chemical composition of honey. Comment on the nutritive value of honey. 2+2+1
- (c) What are the principles of polyculture of fin fish? Mention briefly the procedure for the preparation of pituitary extract. 2+3
- (d) Write the scientific names of two cultivable fresh water prawns in West Bengal. State the reasons for use of hatchery seed for prawn farming. 2+3
- (e) Give a comparative account of extensive and intensive method of pisciculture. Why lime is used in fish culture pond? 3+2

- (f) Name two exotic cattle breeds. Mention pros and cons of exotic cattle breeds in Indian dairy farming. 2+3
- (g) Name different type of silk with respective silk moths and their host plants. What is Chandraki? 4+1
- (h) Name two indigenous table breed of chicken. How do you identify Rhode Island Red? What is semi-intensive system of chicken breeding? 1+2+2
- (i) Define exotic fish with example. Comment on merits and demerits of wild prawn seed collection in Sundarban. 2+3
- (j) Write notes on the following:  $2\frac{1}{2} \times 2$
- (i) Disease of silkworm
  - (ii) Eye stalk ablation.

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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