



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 5th Semester Examination, 2023

DSE-P2-ZOOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

**The question paper contains 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

ANIMAL BEHAVIOUR AND CHRONOBIOLOGY

1. Answer any **five** questions from the following: 1×5 = 5
 - (a) Define interstimulus intervals (ISI).
 - (b) What is reciprocal altruism?
 - (c) Expand SCN.
 - (d) What is Zeitgeber?
 - (e) Define Associative learning.
 - (f) What is nuptial flight?
 - (g) Name the hormone controlling the 'dark-light' cycle in biological clock.
 - (h) Round dance is performed when the food source is located more than 100 m away. (True/False)

2. Answer any **three** questions from the following: 5×3 = 15
 - (a) What is fixed action pattern? Illustrate the phenomenon with suitable example. 2+3
 - (b) Give an account of the caste system of honey bee.
 - (c) Differentiate 'instinct' and 'learning'.
 - (d) Distinguish between photic and non-photoc zeitgebers.
 - (e) Write a note on biological clock. Mention its significance. 4+1

3. Answer any **two** questions from the following: 10×2 = 20
 - (a) Define stereotype behaviour. Write down the differences between 'Taxis' and 'Kinesis'. Explain different types of 'Kinesis' with example. 2+3+5
 - (b) What do you mean by intersexual selection? What is male rivalry? Write the importance of male rivalry in sexual selection. 4+2+4

- (c) Write short notes on: $2\frac{1}{2} \times 4 = 10$
(i) Sibling rivalry (ii) Sign stimulus (iii) Imprinting (iv) Hamilton's rule
- (d) Explain biological oscillation with 'Average', 'amplitude', 'phase' and 'period'. 6+4
Mention the significance of circadian rhythm in animal kingdom.

GROUP-B

WILDLIFE CONSERVATION AND MANAGEMENT

1. Answer any *five* questions from the following: $1 \times 5 = 5$
- (a) The first National Park of India was:
(i) Gir National Park
(ii) Jim Corbett National Park
- (b) What is fecundity rate?
- (c) Name a tiger reserve in West Bengal.
- (d) What is a gene bank?
- (e) What is the status of Red Panda according to IUCN Red list?
- (f) What is the full form of MIKE?
- (g) Conservation and management are synonymous. (True/False)
- (h) What do you mean by in-situ conservation?
2. Answer any *three* questions from the following: $5 \times 3 = 15$
- (a) Discuss the roles of remote sensing in Wildlife Conservation.
- (b) Write the values of wildlife to human kind.
- (c) Write a brief account on the importance of sex ratio in the management of wild animals.
- (d) Explain the standard evaluation procedures for management of wildlife.
- (e) Write a short note on the preservation of genetic diversity.
3. Answer any *two* questions from the following: $10 \times 2 = 20$
- (a) Describe the capture-mark-recapture (CMR) method of estimating abundance. $5+5$
Discuss about the closed and open population.
- (b) What is wildlife tourism? Briefly discuss the benefits and risks posed to wildlife due to wildlife tourism. $2+(4+4)$
- (c) State the objectives of Project Tiger. Describe in brief the Tiger reserves in India. Enlist its management challenges. $2+5+3$
- (d) Discuss the role of biological parameters in the evaluation and management of wildlife. $5+5$

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