

B.Sc. 6thSemester (Honours) Examination, 2022 (CBCS)

Subject: Zoology

Paper: DSE-3

(Animal Behaviour)

Full Marks: 40

Time: 2 Hrs.

The figures in the right hand margin indicate full marks.

Candidates are required to give the answers in their own words as far as practicable.

Group - A

- 1. Answer any five questions of the following:** $2 \times 5 = 10$
- a) What is ‘sexual conflict’?**
 - b) What is meant by lek polygyny?**
 - c) Define ‘inclusive fitness’.**
 - d) Differentiate between ‘honest signals’ and ‘dishonest signals’.**
 - e) What is reciprocal altruism?**
 - f) Differentiate between ‘vocalization’ and ‘mechanical call’ as mating calls.**
 - g) How does ‘reverse countershading’ help in increasing fitness?**
 - h) What is meant by sign stimulus?**

Group - B

- 2. Answer any two questions of the following:** $5 \times 2 = 10$
- a) Comment on sexual conflict in parental care with suitable examples.** 5
 - b) What are the factors influencing biological clock? What is jet lag?** $3+2=5$
 - c) Elaborate ‘Hamilton’s rule’ in Kin Selection.** 5
 - d) Briefly describe evolutionary disadvantages of Fixed Action Pattern (FAP).** 5

Group - C

- 3. Answer any two questions of the following:** $10 \times 2 = 20$
- a) Explain how waggle dance is helpful to determine the direction and distance of the food sources in honey bee. Write about the advantages of being social. What is queen substance?** $6+2+2=10$

- b)** Discuss the possible theories/hypotheses that could explain why female mate choice has evolved in nature. Illustrate male rivalry with an example. What is extra-pair copulation? 5+3+2
- c)** Describe the mechanisms of navigation in animals. 10
- d)** Describe with diagram the molecular mechanism of circadian rhythm in *Drosophila* following the PER/TIM and the CLK/CYC transcription-translation feedback loop. 10
-

B.Sc. 6thSemester (Honours) Examination, 2022 (CBCS)

Subject: Zoology

Paper: DSE-3

(Wildlife Conservation)

Full Marks: 40

Time: 2 Hrs.

The figures in the right hand margin indicate full marks.

Candidates are required to give the answers in their own words as far as practicable.

Group - A

1. *Answer any five questions of the following:* $2 \times 5 = 10$
- a) Differentiate between pug marks of dog and cat family.
 - b) Define wildlife according to Wildlife Protection Act, 1972.
 - c) What is ecesis?
 - d) What is community reserve?
 - e) Define ecology of perturbation.
 - f) Write down full form of NTCA and IBWL.
 - g) Mention two ways for mitigation of human-wildlife conflict.
 - h) What do you mean by Red Data Book?

Group - B

2. *Answer any two questions of the following:* $5 \times 2 = 10$
- a) Explain the *Ex-situ* mode of wildlife conservation with a suitable flowchart. Define Gene Bank. $4+1$
 - b) Why ‘Cover construction’ is important for habitat management of wildlife? Briefly describe different strategies for ‘cover construction’. $2+3$
 - c) Differentiate between National Park and Wildlife Sanctuary with suitable example. Name the Ramsar site of West Bengal. $4+1$
 - d) Describe the causes and consequences of human-wildlife conflicts. 5

Group - C

3. *Answer any two questions of the following:* $10 \times 2 = 20$
- a) Describe both positive and negative values of wildlife. Write down causes of wildlife depletion in India. $3+3+4$

- b)** What do you mean by eco-tourism? '*Reintroduction is necessary for population stability*'— Explain with example. 4+6
- c)** What is meant by census? How does the size of a population of carnivorous animals can be estimated through fecal analysis and from analysis of pug marks? 2+4+4
- d)** Define biodiversity hotspots. State the Role of remote sensing and GIS in wildlife management. Cite two examples from Schedule-I (Part-I). 1+7+2
-