

**2021**

**ZOOLOGY — HONOURS**

**Paper : DSE-B(2)-1**

**(Animal Behaviour and Chronobiology)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

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

Answer **any ten** questions.

1. (a) What do you mean by operant conditioning? Give example.  
(b) Distinguish between habituation and sensitization with suitable example. (2+1)+2
2. (a) What is the difference between 'motivation' and 'drive'?  
(b) Explain 'taxis' and 'kinesis' with suitable examples. 2+3
3. What do you mean by reciprocal altruism? Discuss with suitable example. 2+3
4. Briefly describe caste system in a termite colony. 5
5. (a) State the characteristic features of eusocial insects.  
(b) Describe waggle dance in honey bee. 2+3
6. What is sibling rivalry? Give two examples. State its significance. 2+2+1
7. Discuss with suitable example intrasexual and intersexual selection in the light of 'male-male competition' and 'female choice'. 2½+2½
8. Draw and describe the nest building behaviour of any five fishes. 5
9. (a) Comment on function of 'queen pheromone' in honeybee colony.  
(b) Justify altruistic behaviour in haplo-diploid insects. 2+3
10. (a) How does learning differ from instinct?  
(b) What specific role is played by sign stimulus in Fixed Action Pattern (FAP)? Elaborate with suitable example. 2+3
11. (a) Comment on endocrine control of bird migration.  
(b) Discuss the adaptive significance of bird migration. 3+2

**Please Turn Over**

12. What is imprinting? Elaborate the concept of sexual imprinting with example. 2+3
13. Discuss with suitable diagram the role of Supra Chiasmatic Nucleus in maintenance of circadian rhythm. Give one example of circadian rhythm in human and an invertebrate animal. 3+2
14. What is selfishness? Give one example of selfishness in animal kingdom. Comment on its adaptive significance. 2+1+2
15. Write short notes on *any two* : 2½×2
- (a) Zugunruhe
  - (b) Zeitgeber
  - (c) Entrainment
  - (d) Hamilton's rule.
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